As filed with the Securities and Exchange Commission on November 30, 2020.

Registration No. 333-

# UNITED STATES
# SECURITIES AND EXCHANGE COMMISSION
**WASHINGTON, DC 20549**

## FORM S-1
## REGISTRATION STATEMENT
***UNDER***
***THE SECURITIES ACT OF 1933***

# Progenity, Inc.
**(Exact name of registrant as specified in its charter)**

| Delaware | 8071 | 27-3950390 |
|---|---|---|
| (State or other jurisdiction of incorporation or organization) | (Primary Standard Industrial Classification Code Number) | (I.R.S. Employer Identification Number) |

**4330 La Jolla Village Drive, Suite 200**
**San Diego, CA 92122**
**(855) 293-2639**
**(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)**

**Harry Stylli, Ph.D.**
**Chairman and Chief Executive Officer**
**Progenity, Inc.**
**4330 La Jolla Village Drive, Suite 200**
**San Diego, CA 92122**
**(855) 293-2639**
**(Name, address, including zip code, and telephone number, including area code, of agent for service)**

***With copies to:***

| Ryan A. Murr<br>Branden C. Berns<br>Gibson, Dunn & Crutcher LLP<br>3161 Michelson Drive<br>Irvine, CA 92612-4412<br>(949) 451-3954 | Clarke Neumann<br>General Counsel<br>Progenity, Inc.<br>4330 La Jolla Village Drive, Suite 200<br>San Diego, CA 92122<br>(855) 293-2639 | B. Shayne Kennedy<br>Michael E. Sullivan<br>Latham & Watkins LLP<br>650 Town Center Drive, 20th Floor<br>Costa Mesa, California 92626<br>(714) 540-1235 |
|---|---|---|

**Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.**

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated filer | ☐ |
| Non-accelerated filer | ☒ | Smaller reporting company | ☐ |
| | | Emerging growth company | ☒ |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

## CALCULATION OF REGISTRATION FEE

| Title of Each Class of Securities to be Registered | Proposed Maximum Aggregate Offering Price(1) | Amount of Registration Fee(1) |
|---|---|---|
| Common Stock, par value $0.001 per share | $28,750,000 | $3,136.63 |

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act of 1933, as amended (the "Securities Act").

**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.**

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**The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is declared effective. This prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**Subject to completion, dated November 30, 2020**

## $25,000,000

# PROGENITY, INC.

## Common Stock

## $ per share

- Progenity, Inc. is offering shares.
- On , 2020, the last sale price of the shares as reported on the Nasdaq Global Market was $ per share.
- Our Nasdaq Global Market trading symbol: "PROG."
- Concurrently with this offering, we are offering % convertible senior notes due 2025, which we refer to as the convertible notes, in an aggregate principal amount of $75,000,000, plus up to an additional $15,000,000 aggregate principal amount of convertible notes that the initial purchasers of the concurrent offering have the option to purchase from us. The concurrent offering is being made pursuant to a confidential offering memorandum (and not pursuant to this prospectus) only to qualified institutional buyers (as defined in Rule 144A under the Securities Act) in transactions that are exempt from the registration and prospectus-delivery requirements of the Securities Act. The completion of this offering is not contingent on the completion of the concurrent offering, and the completion of the concurrent offering is not contingent on the completion of this offering. This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, any of the convertible notes, or the shares of common stock issuable upon conversion of the convertible notes, we are offering in the concurrent offering.

**This investment involves risk. See "Risk Factors" beginning on page 18.**

We are an "emerging growth company" as defined under the federal securities laws and, as such, may elect to comply with certain reduced public company reporting requirements in future reports after the completion of this offering. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

| | Per Share | Total |
|---|---|---|
| Public offering price | $ | $ |
| Underwriting discount(1) | $ | $ |
| Proceeds, before expenses, to Progenity, Inc. | $ | $ |

(1) See "Underwriting" beginning on page 227 for additional information regarding underwriting compensation.

*The underwriters have a 30-day option to purchase up to additional shares of common stock from us at the public offering price less the underwriting discount.*

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering. The underwriters will receive the same underwriting discount and commissions on these shares of common stock as they will on any other shares of common stock sold to the public in this offering.

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved the securities described herein or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

The underwriters expect to deliver the shares of common stock to our investors on or about , 2020.

**Piper Sandler** **Wells Fargo Securities**

**BTIG**

**The date of this prospectus is , 2020.**

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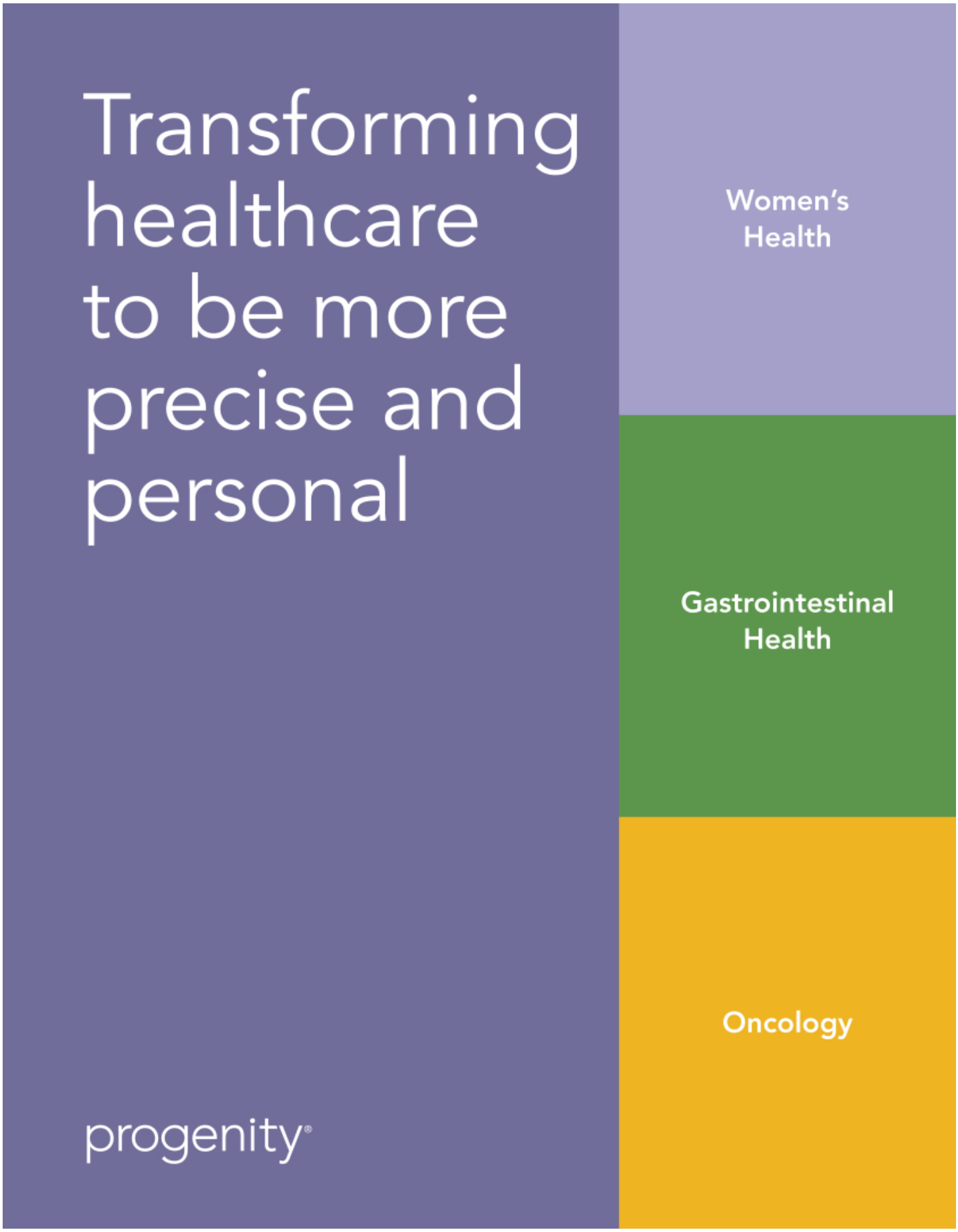

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We have not, and the underwriters have not, authorized anyone to provide you with information other than that contained in this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We take no responsibility for and cannot provide any assurance as to the reliability of any other information others may give you. We are not, and the underwriters are not, making an offer to sell shares of our common stock in any jurisdiction where the offer or sale is not permitted. The information in this prospectus or any free writing prospectus is accurate only as of its

date, regardless of its time of delivery or of any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering, or possession or distribution of this prospectus, in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

## PROSPECTUS SUMMARY

*This summary highlights selected information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read the entire prospectus carefully, including "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our financial statements and notes to those financial statements included elsewhere in this prospectus, before making an investment decision. Some of the statements in this summary constitute forward-looking statements, see "Special Note Regarding Forward-Looking Statements." In this prospectus, unless the context requires otherwise, references to "we," "us," "our," "Progenity" or the "company" refer to Progenity, Inc. and, where appropriate, its subsidiaries. Additionally, references to "Board" refer to the board of directors of Progenity, Inc.*

### Our Company

We are a biotechnology company with an established track record of success in developing and commercializing molecular testing products as well as innovating in the field of precision medicine. We believe that we are a market-leading provider of *in vitro* molecular tests designed to improve lives by providing actionable information that helps guide patients and physicians in making critical and timely medical decisions during various life stages, such as family planning, pregnancy, or navigating a complex disease diagnosis. Our vision is to transform healthcare to become more precise and personal by improving diagnoses of disease and improving patient outcomes through localized treatment with targeted therapies. We apply a multi-omics approach, combining genomics, epigenomics, proteomics, and metabolomics, to our molecular testing products and to the development of a suite of investigational ingestible devices and drug/device combinations designed to provide precise diagnostic sampling and drug delivery solutions.

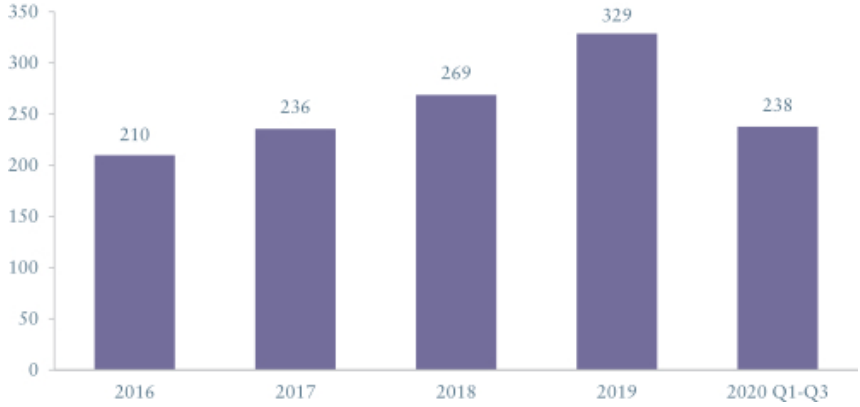
Since 2010, our molecular testing business has achieved consistent year-over-year test volume growth through our robust product portfolio and our strong commercial organization. Our internal core competencies, deep research and development pipeline and strategic acquisitions of novel technologies have fueled our innovation in women's health, supporting the development and launch of complementary molecular testing products that inform critical healthcare decision-making across a woman's lifetime.

In 2015, we launched both our Innatal Prenatal Screen, a Non-Invasive Prenatal Testing, or NIPT, offering, and our Preparent Carrier Test, followed by the launch of our Riscover Hereditary Cancer Test in 2017. We offer molecular tests with market-leading performance and turnaround times, supported by end-to-end workflow solutions that increase administrative efficiencies. Along with our comprehensive menu of molecular tests, we offer patients pre-test education, clear and timely results, and on-demand genetic counseling. We are committed to providing patients and physicians with empathetic communication and support during critical moments to help empower and prepare patients and their families to make critical life decisions.

Since our inception, we have accessioned approximately 1.9 million tests in the United States and the growth rate of our test volume was accelerating over a multi-year period, including early 2020. Beginning in March 2020, we began to observe declines in the volumes of both our molecular tests and the pathology tests conducted by Avero Diagnostics due to the impact of the COVID-19 pandemic and resulting work-from-home policies and other operational limitations mandated by federal, state and local governments. However, we believe our business is resilient and we have observed positive signs of
recovery in the latter part of the second quarter and in the third quarter. While we have implemented and

continue to monitor our mitigation strategies to address these limitations, such as supporting patients and physicians virtually, there can be no assurance that the rate of decline in our testing volumes will not continue or accelerate in future periods. Our current assessment of the impact of the COVID-19 pandemic is that our NIPT test volumes have proved more resilient than our carrier screening test volumes; however, the comparative impact may continue to change over time.

**Test Volume Growth**




Our commercial team of more than 150 individuals actively engages with physicians and their staff to emphasize the clinical need for our products, educate them on clinical value, and facilitate their ability to order our molecular tests. We place special emphasis on our customers' needs and journey with their patients. We ensure they are fully equipped with all the tools they need to discuss and educate their patients about the benefits of NIPT, carrier screening, and hereditary cancer screening, and also provide the added confidence that our genetic counselors are there to support them when needed.

We continue to innovate to drive the clinical and competitive differentiation of our molecular tests. For example, our next generation Innatal Prenatal Screen (Innatal 4th Generation) is designed to provide the same highly reliable results but with a faster turnaround time and at a much lower cost to us.

We are developing a rule-out test for preeclampsia. Based on our estimates, annually, over 700,000 pregnant women in the United States experience signs and symptoms that could be attributed to preeclampsia, which can cause serious, even fatal, complications for both mother and baby. Preeclampsia is the second most common cause of maternal death worldwide and is currently diagnosed by observing risk factors and common symptoms, such as high blood pressure, rather than diagnosing the actual condition itself. This approach often leads to false positive diagnoses and provides limited clinical utility, which can each lead to unnecessary hospitalizations and medical costs. We are developing a test that we believe has the potential to address these shortcomings by ruling out the condition itself (rather than merely detecting its symptoms) through testing for certain biomarkers. We believe that identifying non-preeclamptic pregnancies would improve patient outcomes while lowering the cost burden of preeclampsia to the U.S. healthcare system. We believe the total addressable market for our preeclampsia test is approximately $3 billion per year in the United States alone.

We believe our future success will be driven by continued capture of market share by our molecular testing business and new revenue streams resulting from our diversified product development pipeline, both within and beyond women's health. Our core expertise in complex assay development, bioinformatics, and scalable commercial laboratory operations lends itself to a variety of potential applications. We are also developing a novel pipeline of precision medicine product candidates designed to provide solutions for gastrointestinal, or GI, disorders. This pipeline includes both diagnostic applications, targeted drug delivery in the GI tract at the site of disease, and the oral delivery of biologics. We believe these product candidates, if successfully developed, have the potential to address unmet healthcare needs by more precisely identifying and treating chronic GI diseases, such as small intestinal bacterial overgrowth, or SIBO, and inflammatory bowel disease, or IBD.

**Our Strengths**

We attribute our commercial success and future growth prospects to the following:

- ***A leading molecular testing business with clinical and competitive product advantages***. Our products are built on a foundation of molecular genetic expertise, excellence in bioinformatics, and dedication to women's health and reproductive medicine. We have built a robust product portfolio through efficient in-house development, clinical laboratory partnerships, and strategic acquisitions. Our tests have achieved market-leading reliability and performance benchmarks within their respective market categories.
- ***Integrated product offering***. We offer integrated molecular tests and end-to-end support services that enable physicians to seamlessly incorporate genetic testing into their office workflow and offer the convenience of ordering multiple tests from one source. Our workflow solutions customize the experience of working with us for a range of physician practice sizes and capabilities, lowering barriers to adoption of genetic testing. We also utilize a specialized team dedicated to integrating our systems with our healthcare providers' electronic medical record, or EMR, systems, opening bidirectional connectivity to streamline test ordering and reporting. We deliver easy-to-understand results and our customer support services provide convenient access to board-certified genetic counselors. We believe that these services collectively create substantial value and lead to customer loyalty.
- ***Breadth and depth of R&D capabilities driving breakthrough innovation***. We have built a first class research and development, or R&D, organization capable of harnessing and translating novel technologies into innovative platforms and product solutions as we strive to remain at the forefront of customer needs. Our technical expertise along the product development spectrum includes assay design, bioinformatics, and analytical and clinical validation and enables us to leverage existing knowledge to solve new challenges.
- ***Precision medicine platform targeting a large, underserved market***. We are developing an innovative and potentially scalable product platform that we believe will support the advancement of our precision medicine pipeline. This platform approach is based on an innovative capsule, which we believe could represent a paradigm shift from existing diagnostic and therapeutic approaches. We believe this platform has the potential to address significant unmet medical needs in the GI space, including the challenges in diagnosing, treating, and monitoring diseases without the repeated use of invasive procedures, such as upper GI endoscopies, colonoscopies, and biopsies.
- ***Comprehensive intellectual property portfolio***. We have retained worldwide rights to our internally-developed and acquired molecular testing and precision medicine technologies. We hold rights to over 500 issued patents and pending patent applications that include claims that are directed to a range of molecular testing and precision medicine-related methods,

systems, and compositions surrounding our suite of current and future products. In addition, we believe that our trade secrets and other know-how provide additional barriers to entry.

- ***Proven leadership with industry expertise***. Our senior management team and board of directors consist of veteran biotechnology and molecular testing professionals with deep industry experience. These individuals have extensive experience with numerous well-regarded biotechnology and diagnostic companies. Through their many years of experience, they have developed strong relationships with key thought leaders and medical societies.

**Our Strategy**

Our vision is to build upon our expertise and core competencies in molecular testing to transform healthcare to become more precise and personal in our existing markets as well as in new developmental fields such as ingestible diagnostics and targeted therapeutics. To realize our vision, we intend to:

- ***Expand market opportunity for our existing molecular tests***. We believe there is a significant opportunity to expand and further penetrate the markets for each of our existing molecular tests. We intend to accomplish this by working with industry groups and payors to increase payor policy coverage, educating patients, physicians, and payors on the clinical utility of our tests, and highlighting the cost efficiency and time savings provided by our tests and workflow solutions.
- ***Leverage our robust R&D capabilities to drive breakthrough innovation***. We seek to combine innovation with the technologies underlying our existing platforms to disrupt the current diagnostics and treatment paradigms. Through our robust research and development pipeline, we seek to unlock novel approaches that will drive improvement of patient outcomes in prenatal and perinatal medicine, gastroenterology, and oncology, increase the precision of medical research and diagnosis through ingestible sampling technologies, and create a new category of treatment options through proprietary drug/device combinations.
- ***Continue to expand and strengthen our direct sales force***. We believe that our specialized sales force is key to educating our customers about the clinical need for our molecular tests and our end-to-end workflow solutions. We are continuously optimizing market coverage of our highly qualified sales force and identifying new growth opportunities using a customized and targeted account profiling and messaging approach that better reflects our value proposition.
- ***Enhance our customer support services***. Our goal is to be a trusted and valued partner to our customers by delivering market-leading test performance and service to further integrate genetic testing into their workflow. We intend to expand upon our Progenity Partnerships program, our proprietary customer support services platform, to further streamline patient identification and selection for testing and enhance our customized physician and patient management initiatives. In addition, we intend to expand upon our patient management tools, which streamline and enhance the patient experience, including patient education, payor pre-authorization, easy-to-read test results, and access to genetic counselors.
- ***Develop and commercialize a disruptive precision medicine platform of GI diagnostics and therapeutics***. Our precision medicine platform is focused on addressing an unmet medical need of patients with GI disorders or related diseases. Leveraging an autonomous localization technology, we are developing a noninvasive, ingestible capsule platform, with investigational devices and drug/device combinations designed for both diagnostic and therapeutic purposes. We believe our product candidates, if successfully developed and approved or cleared, could become the first precision medicine products to diagnose and

treat at the site of the disease within the GI tract. Ultimately, we intend to pursue commercialization of such product candidates ourselves or via strategic partnership.

**Our Molecular Tests**

We have developed proprietary, low-cost, high-throughput platforms for our Innatal, Preparent, and Riscover molecular testing products. Our platforms exploit proprietary developments in a number of key molecular biology applications, bioinformatic algorithms, and innovative clinical reporting. Our assay platforms are designed to deliver increased performance at lower costs compared to alternative methods and have a flexible architecture, designed to allow for rapid product development iteration cycles with best in class performance.

Our molecular tests provide accurate, reliable, and fast test results while simplifying ordering, pre-test education, processing, testing, reporting, counseling, and billing for physicians and patients. We currently offer tests with clinical utility that enable physicians to deliver clinical decision support for, and address the medical needs of, patients and their families. We complement these tests with our proprietary suite of end-to-end workflow solutions, enabling us to educate physicians, patients, and payors on the benefits and clinical utility of genetic testing. In addition, we offer physicians the convenience of ordering multiple tests from one source, integrate our services seamlessly into their practices, and deliver easy-to-understand results and genetic counseling support.

We own and operate a licensed Clinical Laboratory Improvement Amendments, or CLIA, certified and College of American Pathologists, or CAP, accredited laboratory located in Ann Arbor, Michigan specializing in the molecular testing market serving women's health providers in the obstetric, gynecological, fertility, and maternal fetal medicine specialty areas in the United States. Distribution is managed by a dedicated sales force and a field operations team who support all logistical functions in receiving clinical samples to the laboratory for analysis. Through our affiliation with Mattison Pathology, LLP, a Texas limited liability partnership doing business as Avero Diagnostics, located in Lubbock and Irving, Texas, our operations have expanded to provide anatomic and molecular pathology tests in the United States.

We support patients and physicians during patients' critical life decisions with our current suite of high-quality molecular tests:

- **Innatal Prenatal Screen:** A noninvasive prenatal test offered to women early in pregnancy to screen for risk of fetal chromosomal conditions, such as Down syndrome, trisomy 13, and trisomy 18, and sex chromosome disorders
- **Preparent Carrier Test:** An expanded carrier screen that is performed on women or couples before conception or early in a pregnancy to identify if they carry certain mutations that cause genetic diseases
- **Riscover Hereditary Cancer Test:** A hereditary cancer screen that looks for genetic mutations associated with elevated risk for certain hereditary cancers in an asymptomatic patient
- **Resura Prenatal Test for Monogenic Disease:** A test for monogenic diseases that is the first commercially available, custom-designed solution for families at-risk for rare diseases
- **Anatomic and Molecular Pathology Tests:** A broad portfolio of anatomic and molecular pathology tests and specialized genetic tests we offer through Avero Diagnostics

**Our Product Candidates in Development**

***Next Generation Innatal Prenatal Screen (Innatal 4th Generation)***

We are developing a proprietary single molecule DNA counting assay utilizing advanced optics with custom chemistry and molecular biology that we believe will represent a substantial improvement to our existing Innatal platform, with simplified and more cost-effective assay workflow resulting in the same high clinical quality and reliability but with an up to 50% reduction in turnaround time and a substantial reduction in cost of goods sold for our NIPT. We have completed the feasibility assessment for this test and are in the process of completing the optimization process. If successfully developed, we currently anticipate a commercial launch of this product by the end of 2021. However, we cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our commercial launch. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations."

***Preeclampsia Rule-Out Test, Preecludia™***

Preeclampsia is a hypertensive condition of pregnancy involving multiple pathways that usually occurs in the second half of pregnancy. According to the Preeclampsia Foundation, preeclampsia occurs in 5% to 8% of pregnancies in the United States and is one of the leading causes of premature birth and maternal and neonatal morbidity and mortality. The current standard of care evaluations for preeclampsia are often inconclusive and inaccurate. The only consensus treatment for preeclampsia is delivery of the baby, regardless of gestational age, which results in unnecessary hospital admissions, preterm births, and additional healthcare costs. Suspected preeclampsia before 37 weeks of gestation often results in preterm birth complications, thus a rule-out test with high negative predictive value for preeclampsia could provide the extra days and weeks of gestational development which are critical for positive infant health outcomes. While positive predictive testing is believed by some companies to be beneficial, the 2019 American College of Obstetricians and Gynecologists, or ACOG, bulletin on gestational hypertension and preeclampsia stated that due to the relatively low positive predictive values (8% to 33%) of diagnostic tools, those tools cannot predict preeclampsia and should remain investigational. Our preeclampsia rule-out test is not diagnostic, as it is designed to assist physicians in ruling out (exclude) the disorder and relies on a high negative predictive value, or NPV, to provide physicians and other care givers with a novel adjunctive laboratory assessment to manage patients suspected of having preeclampsia. Preeclampsia is often indistinguishable from chronic and gestational hypertension, which are treated and managed differently; and therefore must be differentiated from true preeclampsia to avoid unnecessary negative outcomes, including preterm births.

To address this problem, we are developing a proprietary proteomics platform to support novel clinical tests focused on the quantitative measurement of multiple proteins. This multi-analyte platform is designed to detect complications and diseases manifesting from multiple complex biological pathways to provide insight into disease progression and to assist in clinical management. The platform is built on automated instrumentation, which is a Class I, 510(k) exempt device commonly found in clinical laboratories, which we believe will enable expansion of the platform into multiple clinical sites. We have developed reagents, including high affinity and specific antibodies, which we believe will deliver a differentiating platform focused on performance, sensitivity, and specificity.

Through this proteomics platform, we are developing a noninvasive, high sensitivity, multi-analyte blood-based test designed to assist in the clinical assessment and medical care decision-making process of physicians who care for pregnant women presenting with signs and symptoms of preeclampsia between 28 to 37 weeks of gestational age. We believe a risk assessment test that exhibits high NPV could provide

a significant improvement in the ability to manage preeclampsia by ruling out the active condition, thereby obviating the cost and risk of further diagnosis and treatment in high-cost settings. We believe our preeclampsia test, if successfully developed, will have the potential to impact the cadence and amount of patient visits and timing of indicated delivery, potentially saving the healthcare system money while also improving patient care for both mother and baby. By designing the test to have high sensitivity and NPV rates, we expect the test, if and when offered, to be well suited to complement existing tools already part of the current standard of care, giving clinicians an additional strong, objective tool with which to better manage hypertensive disorders during pregnancy. To this end, we have completed the optimization phase of development for our preeclampsia rule-out test and have met the design specifications in a cohort of over 800 subjects. In addition, we have secured the clinical verification and validation sample sets for this test and we are in the process of processing and analyzing these samples for verification purposes. In October 2020, we completed validation of all the key operational methods of our preeclampsia rule-out test, or Preecludia™, including analytical accuracy, analytical precision, analytical sensitivity, analytical specificity, linearity and stability of the test.

The Preecludia test is being developed to serve as a potential triage and rule-out test to help providers differentiate between patients with symptoms who are at risk for preeclampsia. This proprietary test is a multi-analyte protein biomarker assay which is designed to be run from a simple blood draw. In the prospective, blinded PRO-129 clinical verification study, samples were collected and analyzed from over 400 pregnant women with substantial diversity, gathered from 24 U.S. clinical sites comprised of predominantly OB/GYN and Maternal Fetal Medicine practices. Subjects presented with possible signs and symptoms of preeclampsia, including new onset hypertension, but no clear diagnosis. Subject data were independently adjudicated by a third party, and subjects, for whom preeclampsia was not diagnosed at the time of enrollment, were followed longitudinally through delivery. In subjects sampled up to 37 weeks' gestational age, the Preecludia test showed an 88.0% sensitivity, 73.3% specificity, and NPV of 98.2% at a 10% prevalence to rule out a patient's risk of developing preeclampsia within the next 14 days from the date of specimen collection. These data were generally consistent with previous results observed in the test's feasibility and optimization studies.

We previously announced the successful completion of analytical verification, which evaluated the accuracy, precision, and stability of the test's biomarker assays. The final planned step in the development program is completion of the clinical validation study. We have already collected over 3,000 samples from more than 1,700 patients enrolled in the PRO-104 validation study, and this study is expected to begin in the first quarter of 2021. If successfully developed, we anticipate a targeted commercial launch of this product in the second half of 2021. However, we cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our commercial launch. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations."

***Precision Medicine for GI-Related Disorders***

We are also developing a proprietary ingestible capsule platform designed to help diagnose and treat GI disorders at the site of disease, with the goal of addressing significant unmet needs and supporting affected patient populations by improving patient outcomes through precision medicine. Our investigational capsules are being developed for both diagnostic and therapeutic applications in disorders such as SIBO and inflammatory disorders, such as IBD. Our precision medicine development pipeline includes:


(1) We cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our clinical trials and studies. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations."

Our approach is founded on the development of innovative technologies that are designed to diagnose and treat at the site of the disease. Using this platform, we intend to develop diagnostic and therapeutic solutions for a broad range of disorders, but our initial focus is on SIBO and inflammatory disorders such as IBD. These disorders are difficult to treat due to the challenges in diagnosing these conditions and monitoring the treatment response without the repeated use of invasive procedures such as upper GI endoscopies, colonoscopies, and biopsies. From the therapeutic perspective, the most effective approved therapies for IBDs such as ulcerative colitis and Crohn's disease, are currently potent immunomodulatory drugs such as Humira and Xeljanz. Unlike the efficacy seen with other immunological disorders such as rheumatoid arthritis and psoriasis, we believe the efficacy of these potent agents for IBD is suboptimal.

This can partly be explained by the inadequate bioavailability of the drug in the GI tract when administered by traditional oral capsules or by injection or infusion, even at high doses and because of the inability to increase dosage due to dose-limiting systemic toxicity. We believe a significant opportunity exists for a device that can diagnose GI-related disorders without an endoscopy or colonoscopy and a device that can deliver drugs in a targeted manner directly to the site of disease.

To address these GI-related disorders, we are currently developing four therapeutic solutions for use with our precision medicine drug/device combinations: PGN-001, which is a GI-targeted adalimumab for use with the Oral Biotherapeutic Delivery System and the Drug Delivery System, or DDS; PGN-300, which is a GI-targeted vedolizumab for use with DDS and potentially the Oral Biotherapeutic Delivery System; PGN-600, which is a GI-targeted tofacitinib for use with DDS; and PGN-OB2, which is a GLP-1 analog for use with the Oral Biotherapeutic Delivery System. We believe that both the Oral Biotherapeutic Delivery System and DDS will have the potential to be used in combination with other therapeutics in addition to those described above.

Our precision medicine product platform is based on our own multi-disciplinary research developed over the last five years and also in-licensed and acquired intellectual property from Medimetrics. Three of our four ingestible medical device product candidates utilize autonomous localization technology. This technology is designed to enable both diagnostic and therapeutic capsule types to autonomously determine their location within the GI tract. The autonomous localization technology is based on a proprietary LED light and photodetector sensor array that detects reflected light in the GI tract and uses a proprietary algorithm to determine anatomical locations of interest, for example, the pyloric and ileocecal transition. Of note, this technology differs from other GI tract localization technologies that rely on pH levels and other physiological factors which are not specific and are highly variable and also differs from delayed release drug delivery systems such as pH sensitive capsules and MMX technology. Our PIL Dx capsules are designed to work with a remote radio frequency, or RF, detector device that externally monitors all sensor measurements and can transmit results of GI tract testing. Our core technology is also designed to allow for precise sample collection of intestinal fluids at a predetermined location and analysis in the GI tract. Additionally, certain of the capsules we have under development have temperature sensors that are designed to measure the temperature of the surrounding environment and a microchip oscillator that is designed to keep time. See “Business—Precision Medicine for GI-Related Disorders” for more information on the anticipated regulatory pathway for the product candidates in our precision medicine capsule development pipeline.

We have a GI-focused laboratory in Irving, Texas to support our precision medicine platform. We believe that the technologies under development will provide quantitative analysis for the RSS capsule and the PIL Dx capsule, as well as for precision medicine-related studies. The team members located at the laboratory are developing and validating reagents and assays to analyze protein, nucleic acid, metabolite, and bacterial analytes. The assays will be used for a range of nonclinical and clinical studies in conditions including SIBO and IBD, and in oncology.

**Risks Associated with Our Business**

Investing in our common stock involves significant risks. You should carefully consider the risks described in “Risk Factors” before making a decision to invest in our common stock. If we are unable to successfully address these risks and challenges, our business, financial condition, results of operations, or prospects could be materially adversely affected. In such case, the trading price of our common stock would likely decline, and you may lose all or part of your investment.

- The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business.

- We currently receive and expect to continue to receive a significant portion of our revenues from our women's health-related NIPT and carrier screening products, and if our efforts to further increase the use and adoption of these products fail, our business will be harmed.
- We have incurred losses in the past, and we may not be able to achieve or sustain profitability in the future.
- We operate in a highly competitive business environment.
- Our success depends on our ability to improve and enhance our current products and develop new product candidates, which is complex and costly and the results are uncertain.
- We are still developing our precision medicine platform and to date have generated no products or product revenue. There can be no assurance that we will develop any precision medicine products that deliver diagnostic or therapeutic solutions, or, if developed, that such product candidates will be authorized for marketing by regulatory authorities, or will be commercially successful. This uncertainty makes it difficult to assess our future prospects and financial results.
- Although we have implemented compliance policies and have an internal audit function, we cannot ensure that our employees will fully adhere to such policies.
- Operating our business will require a significant amount of cash, and our ability to generate sufficient cash depends on many factors, some of which are beyond our control. We expect to need to raise additional capital after this offering, and if we cannot raise additional capital when needed, we may have to curtail or cease operations.
- We may not be able to obtain and maintain the third-party relationships that are necessary to develop, commercialize, and manufacture some or all of our product candidates.
- We rely on a limited number of suppliers or, in some cases, single suppliers, for some of our laboratory instruments and materials and may not be able to find replacements or immediately transition to alternative suppliers.
- We have increased the size of our organization and expect to further increase it in the future, and we may experience difficulties in managing this growth. If we are unable to manage the anticipated growth of our business, our future revenue and operating results may be adversely affected.
- If third-party payors do not adequately reimburse us or our customers for any new products, they might not be purchased or used, which may adversely affect our revenue and profits.
- We may be unable to expand or maintain third-party payor coverage and reimbursement for our Innatal, Preparent, and other tests, or may be required to refund any reimbursements already received.
- If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected.
- Third-party claims of intellectual property infringement could result in litigation or other proceedings, which would be costly and time-consuming, and could limit our ability to commercialize our products.

**Corporate and Other Information**

We were incorporated in Delaware in January 2012 under the name Ascendant MDx, Inc., and we later changed our name in August 2013 to Progenity, Inc. Through our predecessor, Ascendant MDx, a

California corporation, we commenced our operations in 2010. Our corporate office is located at 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122, and our telephone number is (855) 293-2639. Our website is *www.progenity.com*. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference herein.

The Progenity logo, "Innatal®," "Preecludia™," "Preparent®," "Riscover®," "Resura®," and other trademarks, trade names or service marks of Progenity appearing in this prospectus are the property of Progenity, as is the Progenity corporate name. All other service marks, trademarks, and trade names appearing in this prospectus are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this prospectus appear without the ® and TM symbols, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights, or that the applicable owner will not assert its rights, to these service marks, trademarks, and trade names.

**Implications of Being an Emerging Growth Company**

We are an emerging growth company, as defined in Section 2(a) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, less extensive disclosure obligations regarding executive compensation in our registration statements, periodic reports and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation, and exemptions from stockholder approval of any golden parachute payments not previously approved. In particular in this prospectus, we expect to provide only two years of audited consolidated financial statements and have not included all of the executive compensation-related information that would be required if we were not an emerging growth company. As a result, our stockholders may not have access to certain information that they may deem important. We may also elect to take advantage of other reduced reporting requirements in future filings. We could be an emerging growth company for until December 31, 2025, although circumstances could cause us to lose that status earlier, including if our total annual gross revenues exceed $1.07 billion, if we issue more than $1.0 billion in non-convertible debt during any three-year period, or if the market value of our common stock held by non-affiliates exceeds $700 million as of June 30 of any year.

In addition, the JOBS Act also provides that an emerging growth company may take advantage of the extended transition period provided in the Securities Act for complying with new or revised accounting standards. An emerging growth company may therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, as a result, will not be subject to the same implementation timing for new or revised accounting standards as are required of other public companies that are not emerging growth companies, which may make comparison of our consolidated financial information to those of other public companies more difficult.

**Recent Developments**

***Concurrent Offering***

Concurrently with this offering, we are offering % convertible senior notes due 2025, which we refer to as the convertible notes, in an aggregate principal amount of $75,000,000, plus up to an additional $15,000,000 aggregate principal amount of convertible notes that the initial purchasers of the concurrent offering have the option to purchase from us. The concurrent offering is being made pursuant to a confidential offering memorandum (and not pursuant to this prospectus) only to qualified institutional

buyers (as defined in Rule 144A under the Securities Act) in transactions that are exempt from the registration and prospectus-delivery requirements of the Securities Act. The completion of this offering is not contingent on the completion of the concurrent offering, and the completion of the concurrent offering is not contingent on the completion of this offering. Accordingly, you should not assume that the concurrent offering will be consummated on the terms described in this prospectus, if at all. This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, any of the convertible notes, or the shares of common stock issuable upon conversion of the convertible notes, we are offering in the concurrent offering. See "The Concurrent Offering."

***Payor Dispute***

As previously disclosed in our filings with the U.S. Securities and Exchange Commission, the regulations governing commercial payor reimbursement programs are complex and may be subject to varying interpretations. As a provider of services to patients covered under commercial payor programs, we are routinely subject to post-payment review audits and other forms of reviews and investigations. If a third-party payor successfully challenges that a payment to us for prior testing was in breach of contract or otherwise contrary to policy or law, they may seek to recoup such payment. We may also decide to negotiate and settle with a third-party payor in order to resolve an allegation of overpayment. In the ordinary course of business, we address and evaluate a number of such claims from payors. In the past, we have negotiated and settled these types of claims with third-party payors and we expect that it will be necessary to resolve further disputes in the future.

In our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2020, we disclosed that we were aware of a commercial payor that was reviewing historical payments and could make a claim for recoupment in the future. On November 16, 2020, we received a letter from Anthem, Inc., or Anthem, informing us that Anthem is seeking recoupment for historical payments made by Anthem in an aggregate amount of approximately $27.4 million. The historical payments for which Anthem is seeking recoupment are claimed to relate primarily to discontinued legacy billing practices for our NIPT and microdeletion tests and secondarily to the implementation of the new Current Procedure Terminology, or CPT, code for reimbursement for our Preparent expanded carrier screening tests.

As noted above, we have historically negotiated and settled similar claims with third-party payors. Although our practice in resolving disputes with other similar large commercial payors has generally led to agreed settlement amounts substantially less than the originally claimed amount, there can be no assurance that we will be successful in a similar settlement amount in any ongoing or future dispute. In our experience with negotiations with similarly situated commercial payors, a settlement may take six to twelve months to negotiate, and the time period over which a negotiated settlement payment may be paid could extend from one to two years, or longer. Historical settlement amounts and payment time periods may not be indicative of the final settlement terms with Anthem, if any. We intend to negotiate and/or dispute this claim of recoupment with Anthem and seek to offset any amounts owed by Anthem to us. Anthem has indicated a willingness to engage in contract negotiations for in-network status separately and in parallel to discussions regarding its recoupment claim. The resolution of this dispute may or may not include our moving in network with Anthem. As a potential means of making recoupment payments, if any, we may negotiate to apply temporarily lowered contracted rates for a specific period. As stated previously, such provider-payor disputes are not uncommon and we expect to approach this dispute with an aim to resolve in a mutually satisfactory manner. We are unable to predict the outcome of this matter and we are unable to make a meaningful estimate of the amount or range of loss, if any, that could result from any unfavorable outcome related to this matter.

In addition, we were informed by Anthem on November 12, 2020 that our claims will no longer be subject to pre-payment review. As a result, we believe that our reimbursement will increase significantly from Anthem although there can be no assurance that an increase, if any, will occur.

## THE OFFERING

| | |
|---|---|
| Common stock offered by us | shares. |
| Option to purchase additional shares of common stock | The underwriters have a 30-day option to purchase up to additional shares of our common stock. |
| Common stock to be outstanding immediately after this offering | shares (or shares if the underwriters exercise in full their option to purchase the additional shares of our common stock). |
| Concurrent Offering | Concurrently with this offering, we are offering % convertible senior notes due 2025, which we refer to as the convertible notes, in an aggregate principal amount of $75,000,000, plus up to an additional $15,000,000 aggregate principal amount of convertible notes that the initial purchasers of the concurrent offering have the option to purchase from us.<br><br>The concurrent offering is being made pursuant to a confidential offering memorandum (and not pursuant to this prospectus) only to qualified institutional buyers (as defined in Rule 144A under the Securities Act) in transactions that are exempt from the registration and prospectus-delivery requirements of the Securities Act. The completion of this offering is not contingent on the completion of the concurrent offering, and the completion of the concurrent offering is not contingent on the completion of this offering. Accordingly, you should not assume that the concurrent offering will be consummated on the terms described in this prospectus, if at all. This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, any of the convertible notes, or the shares of common stock issuable upon conversion of the convertible notes, we are offering in the concurrent offering. See “The Concurrent Offering.” |
| Use of proceeds | We expect that our net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise in full their option to purchase additional shares), based on an assumed public offering price of $ per share (the last reported sale price on The Nasdaq |

| | |
|---|---|
| | Global Market on , 2020), and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the proceeds of this offering to support our operations, to invest in our molecular testing research and development program, to invest in research and development with respect to our precision medicine platform, and for working capital and general corporate purposes. See "Use of Proceeds" for additional information. |
| Risk factors | You should carefully read and consider the information set forth in "Risk Factors," together with all of the other information set forth in this prospectus, before deciding whether to invest in our common stock. |
| Nasdaq Global Market symbol | "PROG" |

The number of shares of common stock to be outstanding after this offering is based on 46,976,277 shares of our common stock outstanding as of September 30, 2020 and excludes the following:

- 3,531,577 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2020 under our 2011 Incentive Stock Plan, Second Amended and Restated 2012 Stock Plan, 2015 Consultant Stock Plan, and Third Amended and Restated 2018 Equity Incentive Plan, or the 2018 Plan, at a weighted average exercise price of $9.01 per share;
- 1,194,077 shares of our common stock issuable upon the settlement of restricted stock units outstanding as of September 30, 2020;
- 145,978 restricted stock units and 368,937 options to purchase shares of our common stock granted subsequent to September 30, 2020 at a weighted-average exercise price of $5.82 per share;
- 4,109,953 shares of our common stock reserved for future issuance pursuant to future awards under our 2018 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 510,000 shares of our common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 400,160 shares of our common stock issuable upon exercise of an outstanding Series B Preferred Stock Purchase Warrant at an exercise price of $13.90 per share; and
- Any shares of common stock issuable upon conversion of the convertible notes offered in the concurrent offering.

Except as otherwise noted, we have presented the information in this prospectus based on the following assumptions:

- no exercise by the underwriters of their option to purchase additional shares of our common stock in this offering;

- no exercise by the underwriters of their option to purchase additional convertible notes in the concurrent offering; and
- no exercise of the outstanding stock options or vesting of the restricted stock units described above.

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering. The underwriters will receive the same underwriting discount and commissions on these shares of common stock as they will on any other shares of common stock sold to the public in this offering.

## SUMMARY CONSOLIDATED FINANCIAL DATA

The following summary consolidated statement of operations data for the years ended December 31, 2018 and 2019 are derived from our audited consolidated financial statements included elsewhere in this prospectus. The following summary consolidated statement of operations data for the nine months ended September 30, 2019 and 2020 and the summary consolidated balance sheet data as of September 30, 2020 are derived from our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited interim condensed consolidated financial statements were prepared on the same basis as our audited consolidated financial statements and, in our opinion, reflect all adjustments, consisting only of normal recurring adjustments, that are necessary for the fair statement of our unaudited interim condensed consolidated financial statements.

The historical results presented below are not necessarily indicative of the results to be expected for any future period, and our interim results are not necessarily indicative of the results to be expected for the full year or any future period. This information should be read in conjunction with "Risk Factors," "Capitalization," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Selected Consolidated Financial Data," and our financial statements and the related notes included elsewhere in this prospectus. Our financial statements are prepared in accordance with generally accepted accounting principles in the United States, or GAAP.

| | Year Ended December 31, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2018 | 2019 | 2019 | 2020 |
| | (in thousands, except share and per share data) | | (in thousands, except share and per share data) (unaudited) | |
| Revenue | $ 127,974 | $ 143,985 | $ 123,509 | $ 60,037 |
| Cost of sales | 92,076 | 100,492 | 75,531 | 72,006 |
| Gross profit | 35,898 | 43,493 | 47,978 | (11,969) |
| Operating expenses: | | | | |
| Research and development | 48,712 | 63,400 | 48,791 | 36,517 |
| Selling and marketing | 50,187 | 58,888 | 45,510 | 40,416 |
| General and administrative | 51,238 | 61,324 | 44,823 | 54,915 |
| Total operating expenses | 150,137 | 183,612 | 139,124 | 131,848 |
| Loss from operations | (114,239) | (140,119) | (91,146) | (143,817) |
| Interest expense | (9,091) | (9,199) | (6,872) | (7,285) |
| Equity loss of equity method investee | (2,327) | — | — | — |
| Interest and other income, net | 1,801 | 575 | 457 | (3,594) |
| Loss before taxes | (123,856) | (148,743) | (97,561) | (154,696) |
| Income tax expense (benefit) | 5,250 | (706) | — | (37,696) |
| Net loss | $ (129,106) | $ (148,037) | $ (97,561) | $ (117,000) |
| Dividend paid to preferred stockholders | — | (3,652) | (3,652) | (268) |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | (27,637) | (27,637) | — |
| Stock dividend on Series B Preferred Stock | — | (49,501) | (13,137) | — |
| Net loss attributable to common stockholders | $ (129,106) | $ (228,827) | $ (141,987) | $ (117,268) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (27.72) | $ (46.87) | $ (29.27) | $ (5.80) |
| Weighted average number of shares outstanding, basic and diluted | 4,657,337 | 4,882,662 | 4,851,603 | 20,201,325 |

| | As of September 30, 2020 | |
|---|---|---|
| | Actual | As Adjusted(1) |
| | (in thousands) | (unaudited) |
| **Selected Balance Sheet Data:** | | |
| Cash and cash equivalents | $ 60,013 | $ |
| Total assets | 119,617 | |
| Total indebtedness(2) | 82,488 | |
| Total liabilities | 180,037 | |
| Preferred stock | — | |
| Accumulated deficit | (465,746) | |
| Total stockholders' equity (deficit) | (60,420) | |

(1) The as-adjusted column reflects $ million in net proceeds from the issuance and sale of shares of our common stock in this offering, based on an assumed public offering price of $ per share (the last reported sale price of our common stock on The Nasdaq Global Market on , 2020), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each $1.00 increase (decrease) in the assumed public offering price would increase (decrease) the as-adjusted amount of each of cash and cash equivalents, total assets, and total stockholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover of this prospectus, would increase (decrease) the as-adjusted amount of each of cash and cash equivalents, total assets, and total stockholders' equity (deficit) by $ million, assuming no change in the assumed public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(2) Total indebtedness includes mortgages payable of $3.1 million, insurance premium financing payable of $4.4 million, and a note payable with principal amount of $75 million, each as of September 30, 2020.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this prospectus, including our financial statements and related notes, before deciding whether to purchase shares of our common stock. If any of the following risks actually occurs, our business, financial condition, operating results, reputation, and prospects could be materially and adversely affected. In that event, the price of our common stock could decline and you could lose part or all of your investment. Additional risks not presently known to us, or that we presently deem immaterial, may also negatively impact us. Below is a summary of some of the key risks that we face.*

***Risk Factor Summary***

- The recent and ongoing COVID-19 pandemic could further materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations.
- We currently receive and expect to continue to receive a significant portion of our revenues from our women's health-related NIPT and carrier screening products, and if our efforts to further increase the use and adoption of these products fail, our business will be harmed.
- We have incurred losses in the past, and we may not be able to achieve or sustain profitability in the future.
- We operate in a highly competitive business environment.
- Our success depends on our ability to improve and enhance our current products and develop new product candidates, which is complex and costly and the results are uncertain.
- We are still developing our precision medicine platform and to date have generated no products or product revenue. There can be no assurance that we will develop any precision medicine products that deliver diagnostic or therapeutic solutions, or, if developed, that such product candidates will be authorized for marketing by regulatory authorities, or will be commercially successful. This uncertainty makes it difficult to assess our future prospects and financial results.
- Although we have implemented compliance policies and have an internal audit function, we cannot ensure that our employees will fully adhere to such policies.
- Operating our business will require a significant amount of cash, and our ability to generate sufficient cash depends on many factors, some of which are beyond our control. We expect to need to raise additional capital, and if we cannot raise additional capital when needed, we may have to curtail or cease operations.
- We may not be able to obtain and maintain the third-party relationships that are necessary to develop, commercialize, and manufacture some or all of our product candidates.
- We rely on a limited number of suppliers or, in some cases, single suppliers, for some of our laboratory instruments and materials and may not be able to find replacements or immediately transition to alternative suppliers.
- We have increased the size of our organization and expect to further increase it in the future, and we may experience difficulties in managing this growth. If we are unable to manage the anticipated growth of our business, our future revenue and operating results may be adversely affected.

- If third-party payors do not adequately reimburse us or our customers for any new products, they might not be purchased or used, which may adversely affect our revenue and profits.
- We may be unable to expand or maintain third-party payor coverage and reimbursement for our Innatal, Preparent, and other tests, or may be required to refund any reimbursements already received.
- If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected.
- Third-party claims of intellectual property infringement could result in litigation or other proceedings, which would be costly and time-consuming, and could limit our ability to commercialize our products.

**Risks Related to Our Business and Industry**

*The recent and ongoing COVID-19 pandemic could further materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations.*

Our business and its operations, including but not limited to our laboratory operations, sales and marketing efforts, supply chain operations, research and development activities, and capital raising activities, could be adversely affected by health epidemics in regions where we have business operations, and such health epidemics could also cause significant disruption in the operations of third parties with whom we do business, including third parties upon whom we rely. For example, in December 2019, a novel strain of coronavirus, SARS-CoV-2, causing a disease referred to as COVID-19, was reported to have surfaced in Wuhan, China. Since then, COVID-19 has spread to other countries and throughout the United States. In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic, and the U.S. government imposed restrictions on travel between the United States, Europe, and certain other countries. Since March 2020, numerous state and local jurisdictions, including the jurisdictions where our headquarters and laboratories are located, have imposed, and others in the future may impose, quarantines, shelter-in-place orders, executive, and similar government orders for their residents to control the spread of COVID-19.

In response to these public health directives and orders, we have implemented work-from-home policies for most of our employees. The effects of the executive orders, the shelter-in-place orders, and our work-from-home policies have negatively impacted, and may further negatively impact, productivity, and our preclinical and clinical programs and timelines, and disrupt our business in other ways, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course. These and similar, and perhaps more severe, disruptions in our operations could negatively impact our business, operating results and financial condition. We continue to monitor state and local quarantine, shelter-in-place, executive, and similar government orders and will reopen our offices to allow employees to return to the office, as needed, in accordance with our reopening plan, which is based on a phased approach that is appropriately tailored for each of our offices, with a focus on state and local orders, employee safety and optimal work environment.

Quarantines, shelter-in-place, executive, and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations could occur, related to COVID-19 or other infectious diseases, could impact personnel at third-party manufacturing facilities in the United States and other countries, or the availability or cost of materials we use or require to conduct our business, including product development, which would disrupt our supply chain. In particular, some

of our suppliers of certain materials used in our laboratory operations and research and development activities are located in areas that are subject to executive orders and shelter-in-place orders. While many of these materials may be obtained from more than one supplier, port closures and other restrictions resulting from the COVID-19 pandemic or future pandemics may disrupt our supply chain or limit our ability to obtain sufficient materials to operate our business. To date, we are aware of certain suppliers for our research and development activities who have experienced operational delays directly related to the COVID-19 pandemic.

The spread of COVID-19, which has caused a broad impact globally, has affected and may further materially affect us economically, including a continuing and significant reduction in laboratory testing volumes. In addition, reimbursements for our tests have been delayed and may continue to be delayed if third-party payors' processing continues to be impacted by the COVID-19 pandemic and work-from-home policies and other operational limitations mandated by federal, state, and local governments as a result of the pandemic. While the potential economic impact brought by COVID-19, and the duration of such impact, may be difficult to assess or predict, the widespread pandemic has resulted in significant disruption of global financial markets, which could reduce our ability to access capital and negatively affect our future liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 and related government orders and restrictions could materially affect our business and the value of our common stock.

In addition, we expect our preclinical and clinical trials may be affected by the COVID-19 pandemic. For example, while we originally intended to commence our pilot clinical study for PIL Dx in 2020, we now expect that timeline will be delayed due to circumstances and uncertainties created by the COVID-19 pandemic and expect to instead commence this study in 2021. If COVID-19 continues to spread in the United States and elsewhere, we may experience additional disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- delays in receiving authorization from local regulatory authorities to initiate our planned clinical trials;
- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- delays in clinical sites receiving the supplies and materials needed to conduct our clinical trials, including interruption in global shipping that may affect the transport of clinical trial materials;
- changes in local regulations as part of a response to the COVID-19 pandemic which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others, or interruption of clinical trial subject visits and study procedures, the occurrence of which could affect the integrity of clinical trial data;
- risk that participants enrolled in our clinical trials will acquire COVID-19 while the clinical trial is ongoing, which could impact the results of the clinical trial, including by increasing the number of observed adverse events;

- interruptions or delays in preclinical studies due to restricted or limited operations at our research and development laboratory facilities;
- delays in necessary interactions with local regulators, ethics committees, and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- limitations in employee resources that would otherwise be focused on the conduct of our clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- refusal of the U.S. Food and Drug Administration, or FDA, to accept data from clinical trials in affected geographies; and
- interruption or delays to our sourced discovery and clinical activities.

The COVID-19 pandemic continues to evolve rapidly. The ultimate impact of the COVID-19 pandemic or a similar health epidemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, our clinical trials, healthcare systems, or the global economy as a whole.

***We currently receive and expect to continue to receive a significant portion of our revenues from our women's health-related NIPT and carrier screening products, and if our efforts to further increase the use and adoption of these products fail, our business will be harmed.***

We currently receive and expect to continue to receive a significant portion of our revenues from the sales of our women's health-related NIPT product, Innatal, and our carrier screening products, including Preparent. We undertake efforts to increase the awareness and adoption of Innatal and Preparent among laboratories, clinics, clinicians, physicians, payors, and patients. Continued and additional market acceptance of Innatal and Preparent and our ability to attract new customers are key elements to our future success. The market demand for NIPT and carrier screening tests has grown in recent years and is evolving. For example, in August 2020, ACOG issued a new set of guidelines recommending that prenatal aneuploidy screening be offered to all pregnant women regardless of their age or other risk factors. However, this market trend may not continue. Demand for Innatal and Preparent is affected by a number of factors, many of which are beyond our control, including the recommendation of our products by physicians, the timing and development of new products by our competitors, and reimbursement from payors. Despite the recent ACOG guidelines, payors may elect not to cover prenatal aneuploidy screening for average risk women and such recommendations may not result in an increase in market demand.

Our ability to increase sales of our products and establish greater levels of adoption and reimbursement for our products is uncertain for many reasons, including, among others:

- we may be unable to demonstrate to laboratories, clinics, clinicians, physicians, payors, and patients that our products are superior to alternatives with respect to value, convenience, accuracy, scope of coverage, and other factors;
- third-party coverage and reimbursement are currently primarily limited to high-risk pregnancies and may not gain acceptance for use in the average-risk pregnancy population or for the screening of microdeletions, limiting the overall addressable market;
- third-party payors may set the amounts of reimbursement at prices that reduce our profit margins or do not allow us to cover our expenses;
- we may not be able to maintain and grow effective sales and marketing capabilities;
- our sales and marketing efforts may fail to effectively reach customers or communicate the benefits of our products;

- superior alternatives to our products may be developed and commercialized;
- we may experience supply constraints, including due to the failure of our key suppliers to provide required sequencing instruments and reagents;
- the FDA may initiate rulemaking to impose premarket review, clearance, or approval or other requirements over laboratory developed tests, or LDTs; and
- the FDA or other U.S. or foreign regulatory or legislative bodies may adopt new regulations or policies or take other actions that impose significant restrictions on our ability to market our products.

If the market and our market share for our women's health-related NIPT and carrier screening products fail to grow or grow more slowly than expected, our business, operating results, and financial condition would be adversely affected.

In addition, as our products may have different reimbursement rates and reimbursement amounts, a change in product mix could negatively impact our average selling price and total revenue. For example, during the COVID-19 pandemic, which has caused an overall decrease in demand for our products, demand for our NIPT product has been more resilient than for our carrier screening products, leading to a higher proportion of NIPT tests in our product mix. The average reimbursement rate for our NIPT product tends to be slightly lower than for our carrier screening products. In addition, we added COVID-19 testing to our product mix, which has a lower reimbursement amount per test. As a result, our average selling price and revenue was negatively impacted.

***We have incurred losses in the past, and we may not be able to achieve or sustain profitability in the future.***

In the future, we expect to incur significant costs in connection with the development, approval, and commercialization of enhanced, improved, or new products. Even if we succeed in creating such products from these investments, those innovations still may fail to result in commercially successful products.

Other than revenues from our laboratory testing business, we do not expect to generate revenues from other sources in the immediate future. It is possible that we will not generate sufficient revenue from the sale of our products to cover our costs, including research and development expenses related to furthering our product pipeline, and achieve or sustain profitability. A significant element of our business strategy is to increase and maintain our in-network coverage with third-party payors; however, the negotiated fees under our contracts with third-party payors are typically lower than the list price of our tests, and in some cases the third-party payors with whom we contract may have negative coverage determinations for some of our offerings. Therefore, being in-network with third-party payors has had, and may continue to have, an adverse impact on our revenues especially if we are unable to increase the adoption of, and obtain favorable coverage determinations and reimbursement for, our products.

Since we or any collaborators or licensees may not successfully develop additional products, obtain required regulatory authorizations, manufacture products at an acceptable cost or with appropriate quality, or successfully market and sell such products with desired margins, our expenses may continue to exceed any revenues we may receive. Our operating expenses also will increase as and if, among other things:

- our earlier-stage product candidates move into later-stage clinical development, which is generally more expensive than early-stage development;
- additional technologies or products are selected for development;
- we pursue development of our molecular tests or other product candidates for new uses;

- we increase the number of patents we are prosecuting or otherwise expend additional resources on patent prosecution or defense; or
- we acquire or in-license additional technologies, product candidates, products, or businesses.

***We operate in a highly competitive business environment.***

The industries in which we operate are highly competitive and require an ongoing, extensive search for technological innovation. They also require, among other things, the ability to effectively develop, test, commercialize, market, and promote products, including communicating the effectiveness, safety, and value of products to actual and prospective healthcare providers. Other competitive factors in our industries include quality and price, product technology, reputation, customer service, and access to technical information.

Our women's health-related NIPT and carrier screening tests are molecular tests, which are used by obstetricians and gynecologists, maternal fetal medicine specialists, and *in vitro* fertilization specialists. The principal competition for our NIPT and carrier screening tests comes from existing testing methods, technologies, and products, including other molecular NIPT and carrier screening tests offered by our competitors. The molecular testing field is characterized by rapid technological changes, frequent new product introductions, changing customer preferences, emerging competition, evolving industry standards, reimbursement uncertainty, and price competition. Many companies in this market are offering, or may soon offer, products and services that compete with our tests, in some cases at a lower cost than ours, and healthcare providers may choose to recommend the tests of our competitors. Moreover, established, traditional first-line testing prenatal methods, such as serum protein measurement, where doctors measure certain hormones in the blood, and invasive prenatal diagnostics tests like amniocentesis, have been used for many years and are therefore practices that are difficult to change or supplement. Our conception and pre-implantation genetic screening products face competition from various laboratories that offer or seek to offer similar solutions. We also compete against companies providing hereditary cancer screening tests. For more information on our molecular testing competitors, see "Business—Competition in Molecular Testing."

We expect any of our future precision medicine products to face substantial competition from major pharmaceutical companies, biotechnology companies, academic institutions, government agencies, and public and private research institutions. The larger competitors have substantially greater financial and human resources, as well as a much larger infrastructure than we do. For more information on our precision medicine competitors, see "Business—Competition in Precision Medicine."

Additionally, we compete to acquire the intellectual property assets that we require to continue to develop and broaden our product portfolio. In addition to our in-house research and development efforts, we may seek to acquire rights to new intellectual property through corporate acquisitions, asset acquisitions, licensing, and joint venture arrangements. Competitors with greater resources may acquire intellectual property that we seek, and even where we are successful, competition may increase the acquisition price of such intellectual property or prevent us from capitalizing on such acquisitions, licensing opportunities, or joint venture arrangements. If we fail to compete successfully, our growth may be limited.

It is possible that developments by our competitors could make our products or technologies less competitive or obsolete. Our future growth depends, in part, on our ability to provide products that are more effective than those of our competitors and to keep pace with rapid medical and scientific change. Sales of our existing products and any future products may decline rapidly if a new product is introduced by a competitor, particularly if a new product represents a substantial improvement over any of our existing products. In addition, the high level of competition in our industry could force us to reduce the price at which we sell our products or require us to spend more to market our products.

Many of our competitors have greater resources than we have. This enables them, among other things, to spread their marketing and promotion costs over a broader revenue base. In addition, we may not be able to compete effectively against our competitors because their products and services are superior. Our current and future competitors could have greater experience, technological and financial resources, stronger business relationships, broader product lines and greater name recognition than us, and we may not be able to compete effectively against them. Increased competition is likely to result in pricing pressures, which could harm our revenues, operating income, or market share. If we are unable to compete successfully, we may be unable to increase or sustain our revenues or achieve or sustain profitability.

***Our success depends on our ability to improve and enhance our current products and new product candidates, which is complex and costly and the results are uncertain.***

Effective execution of research and development activities and the timely introduction of enhanced, improved, or new products and product candidates to the market are important elements of our business strategy. However, the development of enhanced, improved, or new products and product candidates is complex, costly, and uncertain and requires us to, among other factors, accurately anticipate patients', clinicians', and payors' needs, and emerging technology trends. For more information on our current research and development efforts, see "Business—Our Research and Development Activities."

In the development of enhanced, improved, or new products and product candidates, we can provide no assurance that:

- we will develop any products that meet our desired target product profile and address the relevant clinical need or commercial opportunity;
- any products that we develop will prove to be effective in clinical trials, platform validations, or otherwise;
- we will obtain necessary regulatory authorizations, in a timely manner or at all;
- any products that we develop will be successfully marketed to and ordered by healthcare providers;
- any products that we develop will be produced at an acceptable cost and with appropriate quality;
- our current or future competitors will not introduce products similar to ours that have superior performance, lower prices, or other characteristics that cause healthcare providers to recommend, and consumers to choose, such competitive products over ours; or
- third parties do not or will not hold patents in any key jurisdictions that would be infringed by our products.

These and other factors beyond our control could delay our launch of enhanced, improved, or new products and product candidates.

The research and development process in our industries generally requires a significant amount of time from the research and design stage through commercialization. The launch of such new products requires the completion of certain clinical development and/or assay validations in the commercial laboratory. This process is conducted in various stages, and each stage presents the risk that we will not achieve our goals and will not be able to complete clinical development for any planned product in a timely manner. Such development and/or validation failures could prevent or significantly delay our ability to obtain FDA clearance or approval as may be necessary or desired, obtain approval by entities that provide oversight over LDTs, such as the State of New York, or launch any of our planned products and product candidates. At times, it may be necessary for us to abandon a product in which we have invested

substantial resources. Without the timely introduction of new product candidates and improvements or enhancements of our current products, our products may become obsolete over time and our competitors may develop products that are more competitive, in which case our business, operating results, and financial condition will be harmed.

***We are still developing our precision medicine platform and to date have generated no precision medicine products or product revenue. There can be no assurance that we will develop any precision medicine products that deliver diagnostic or therapeutic solutions, or, if developed, that such product candidates will be authorized for marketing by regulatory authorities, or will be commercially successful. This uncertainty makes it difficult to assess our future prospects and financial results.***

Our operations with respect to our precision medicine platform to date have been limited to developing our platform technology, undertaking preclinical studies and clinical trials, and conducting research to identify potential product candidates. To date, we have only conducted clinical trials to evaluate whether our platform technology enables identification of the location of our ingestible medical device, which we refer to as an ingestible capsule, within the gastrointestinal tract.

We seek to develop a suite of ingestible capsules for both diagnostic and therapeutic solutions. However, medical device and related diagnostic and therapeutic product development is a highly speculative undertaking and involves a substantial degree of uncertainty. Our precision medicine platform has not yet demonstrated an ability to generate revenue or successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields such as ours for precision medicine. Consequently, the ability to accurately assess the future operating results or business prospects of our precision medicine platform is significantly more limited than if we had an operating history or approved commercial precision medicine products. Our success in developing commercial products that are based on our precision medicine platform will depend on a variety of factors, many of which are beyond our control, including, but not limited to:

- the outcomes from our product development efforts;
- competition from existing products or new products;
- the timing of regulatory review and our ability to obtain regulatory marketing authorizations of our product candidates;
- potential side effects of our product candidates that could delay or prevent receipt of marketing authorizations or cause an approved or cleared product to be taken off the market; and
- the ability of third-party manufacturers to manufacture our product candidates in accordance with current good manufacturing practices, or cGMP, for the conduct of clinical trials and, if approved or cleared, for successful commercialization.

Even if we are able to develop one or more commercial precision medicine products, we expect that the operating results of these products will fluctuate significantly from period to period due to the factors above and a variety of other factors, many of which are beyond our control, including, but not limited to:

- the entry of products that compete with our products;
- market acceptance of our product candidates, if approved or cleared;
- our ability to establish and maintain an effective sales and marketing infrastructure for our products;
- the ability of patients or healthcare providers to obtain coverage or sufficient reimbursement for our products;

- our ability, as well as the ability of any third-party collaborators, to obtain, maintain and enforce intellectual property rights covering our products, product candidates and technologies, and our ability to develop, manufacture and commercialize our products, product candidates, and technologies without infringing on the intellectual property rights of others; and
- our ability to attract and retain key personnel with the appropriate expertise and experience to manage our business effectively.

Accordingly, the likelihood of the success of our precision medicine platform must be evaluated in light of these many potential challenges and variables.

***The development of new product candidates will require us to undertake clinical trials, which are costly, time-consuming, and subject to a number of risks.***

The development of new product candidates, including development of the data necessary to obtain clearance or approval for such product candidates, is costly, time-consuming, and carries with it the risk of not yielding the desired results. The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of clinical trials do not necessarily predict success in future clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and even if we achieve positive results in earlier trials, we could face similar setbacks. The design of a clinical trial can determine whether its results will support a product candidate's marketing authorization, to the extent required, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing authorization for the product candidates. Furthermore, limited results from earlier-stage studies may not predict results from studies in larger numbers of subjects drawn from more diverse populations over a longer period of time. Unfavorable results from ongoing preclinical studies and clinical trials could result in delays, modifications, or abandonment of ongoing or future analytical or clinical trials, or abandonment of a product development program, or may delay, limit, or prevent marketing authorizations, where required, or commercialization of our product candidates. Even if we, or our collaborators, believe that the results of clinical trials for our product candidates warrant marketing authorization, the FDA and other regulatory authorities may disagree and may not grant marketing authorizations for our product candidates.

Moreover, the FDA requires us to comply with regulatory standards, commonly referred to as the Good Clinical Practice, or GCP, requirements, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, safety, and welfare of trial participants are protected. Other countries' regulatory agencies also have requirements for clinical trials with which we must comply. We also are required to register certain ongoing clinical trials and post the results of certain completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within specified timeframes. Failure to do so can result in fines, enforcement action, adverse publicity, and civil and criminal sanctions.

The initiation and completion of any clinical studies may be prevented, delayed, or halted for numerous reasons. We may experience delays in initiation or completion of our clinical trials for a number of reasons, which could adversely affect the costs, timing or success of our clinical trials, including related to the following:

- we may be required to submit an investigational device exemption, or IDE, application to the FDA with respect to our medical device product candidates, which must become effective

prior to commencing certain human clinical trials of medical devices, and the FDA may reject our IDE application and notify us that we may not begin clinical trials;

- regulators and other comparable foreign regulatory authorities may disagree as to the design or implementation of our clinical trials;
- regulators and/or institutional review boards, or IRBs, or other reviewing bodies may not authorize us or our investigators to commence a clinical trial, or to conduct or continue a clinical trial at a prospective or specific trial site;
- we may not reach agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of subjects or patients required for clinical trials may be larger than we anticipate, enrollment in these clinical trials may be insufficient or slower than we anticipate, and the number of clinical trials being conducted at any given time may be high and result in fewer available patients for any given clinical trial, or patients may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors, including those manufacturing products or conducting clinical trials on our behalf, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we might have to suspend or terminate clinical trials for various reasons, including a finding that the subjects are being exposed to unacceptable health risks;
- we may have to amend clinical trial protocols or conduct additional studies to reflect changes in regulatory requirements or guidance, which we may be required to submit to an IRB and/or regulatory authorities for re-examination;
- regulators, IRBs, or other parties may require or recommend that we or our investigators suspend or terminate clinical research for various reasons, including safety signals or noncompliance with regulatory requirements;
- the cost of clinical trials may be greater than we anticipate;
- clinical sites may not adhere to the clinical protocol or may drop out of a clinical trial;
- we may be unable to recruit a sufficient number of clinical trial sites;
- regulators, IRBs, or other reviewing bodies may fail to approve or subsequently find fault with our manufacturing processes or facilities of third-party manufacturers with which we enter into agreement for clinical and commercial supplies, the supply of devices or other materials necessary to conduct clinical trials may be insufficient, inadequate or not available at an acceptable cost, or we may experience interruptions in supply;
- marketing authorization policies or regulations of the FDA or applicable foreign regulatory agencies may change in a manner rendering our clinical data insufficient for authorization; and
- our products may have undesirable side effects or other unexpected characteristics.

In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting, or completing our planned and ongoing clinical trials.

Any of these occurrences may significantly harm our business, financial condition, and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Patient enrollment in clinical trials and completion of patient follow-up depend on many factors, including the size of the patient population, the nature of the trial protocol, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, patient compliance, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the product being studied in relation to other available therapies, including any new treatments that may be approved for the indications we are investigating. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and efficacy of a product candidate, or they may be persuaded to participate in contemporaneous clinical trials of a competitor's product candidate. In addition, patients participating in our clinical trials may drop out before completion of the trial or experience adverse medical events unrelated to our products. Delays in patient enrollment or failure of patients to continue to participate in a clinical trial may delay commencement or completion of the clinical trial, cause an increase in the costs of the clinical trial and delays, or result in the failure of the clinical trial.

Clinical trials must be also conducted in accordance with the laws and regulations of the FDA and other applicable regulatory authorities' legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and IRBs at the medical institutions where the clinical trials are conducted. We rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials and while we have agreements governing their committed activities, we have limited influence over their actual performance. We depend on our collaborators and on medical institutions and CROs to conduct our clinical trials in compliance with the FDA's GCP requirements. To the extent our collaborators or the CROs fail to enroll participants for our clinical trials, fail to conduct the study to GCP requirements, or are delayed for a significant time in the execution of trials, including achieving full enrollment, we may be affected by increased costs, program delays, or both. In addition, clinical trials that are conducted in countries outside the United States may subject us to further delays and expenses as a result of increased shipment costs, additional regulatory requirements and the engagement of non-U.S. CROs, as well as expose us to risks associated with clinical investigators who are unknown to the FDA, and different standards of diagnosis, screening and medical care.

***The clinical trial process is lengthy and expensive with uncertain outcomes. We have limited data and experience regarding the safety and efficacy of our products. Results of earlier studies may not be predictive of future clinical trial results, or the safety or efficacy profile for such products.***

Clinical testing is difficult to design and implement, can take many years, can be expensive, and carries uncertain outcomes. The results of preclinical studies and clinical trials of our products conducted to date and ongoing or future studies and trials of our current, planned, or future products and product candidates may not be predictive of the results of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Our interpretation of data and results from our clinical trials do not ensure that we will achieve similar results in future clinical trials. In addition, preclinical and clinical data are often susceptible to various interpretations and analyses, and many companies that have believed their products performed satisfactorily in preclinical studies and earlier clinical trials have nonetheless failed to replicate results in later clinical trials. Products in later stages of clinical trials may fail to show the desired safety and efficacy despite having progressed through nonclinical studies and earlier clinical trials. Failure can occur at any stage of clinical testing. Our clinical studies may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical and non-clinical testing in addition to those we have planned.

***Interim "top-line" and preliminary data from studies or trials that we announce or publish from time to time may change as more data become available and are subject to audit and verification procedures that could result in material changes in the final data.***

From time to time, we may publish interim "top-line" or preliminary data from preclinical studies or clinical trials. Interim data are subject to the risk that one or more of the outcomes may materially change as more data become available. We also make assumptions, estimations, calculations, and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Preliminary or "top-line" data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Additionally, interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between preliminary or interim data and final data could seriously harm our business.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product, and our results of operations, liquidity and financial condition. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure. Any information we determine not to disclose may ultimately be deemed significant by others with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. If the top-line data that we report differ from final results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain marketing authorization for, and commercialize, product candidates may be harmed, which could seriously harm our business.

***The results of our clinical trials may not support the use of our tests and other product candidates, or may not be replicated in later studies required for marketing authorizations.***

As the healthcare reimbursement system in the United States evolves to place greater emphasis on comparative effectiveness and outcomes data, we cannot predict whether we will have sufficient data, or whether the data we have will be presented to the satisfaction of any payors seeking such data for determining coverage for our tests, particularly in the average-risk pregnancy population for which such data is expected to be of particular interest, in new test areas such as preeclampsia, or in precision medicine diagnostic or therapeutic applications.

The administration of clinical and economic utility studies is expensive and demands significant attention from certain members of our management team. Data collected from these studies may not be positive or consistent with our existing data, or may not be statistically significant or compelling to the medical community or payors. If the results obtained from our ongoing or future studies are inconsistent with certain results obtained from our previous studies, adoption of our products would suffer and our business would be harmed.

Peer-reviewed publications regarding our products and product candidates may be limited by many factors, including delays in the completion of, poor design of, or lack of compelling data from clinical studies, as well as delays in the review, acceptance, and publication process. If our products or product candidates or the technology underlying our current or future products or product candidates do not receive sufficient favorable exposure in peer-reviewed publications, or are not published, the rate of

healthcare provider adoption of our tests and positive reimbursement coverage decisions for our tests and other products could be negatively affected. The publication of clinical data in peer-reviewed journals can be a crucial step in commercializing and obtaining reimbursement for tests, diagnostic and therapeutic products and other products, and our inability to control when, if ever, results are published may delay or limit our ability to derive sufficient revenues from any test, diagnostic or therapeutic product that is the subject of a study. The performance achieved in published studies may not be repeated in later studies that may be required to obtain FDA clearance or marketing authorizations should we decide for business reasons, or be required to submit applications to the FDA or other health authorities seeking such authorizations.

***In response to the COVID-19 pandemic, we are providing molecular testing for diagnosing COVID-19 through Avero Diagnostics. The demand for such testing may decrease in the future and our investment in such testing capabilities may not pay off.***

The COVID-19 pandemic has created an opportunity for our diagnostic tests and the Avero Diagnostics laboratory is providing molecular testing for diagnosing COVID-19. Avero Diagnostics' molecular testing utilizes certain third-party in-vitro diagnostics that have received Emergency Use Authorization, or EUA, from the FDA. The FDA has the authority to issue an EUA during a public health emergency if it determines that based on the totality of the scientific evidence that it is reasonable to believe that the product may be effective, that the known and potential benefits of a product outweigh the known and potential risks, that there is no adequate, approved, and available alternative, and if other regulatory criteria are met. These standards for marketing authorization are lower than if FDA had reviewed these tests under its traditional marketing authorization pathways, and we cannot assure you that these would be cleared or approved under those more onerous clearance and approval standards. Moreover, FDA's policies regarding EUAs can change unexpectedly, and FDA may revoke an EUA where it determines that the underlying health emergency no longer exists or warrants such authorization or if problems are identified with the authorized product. We cannot predict how long these authorizations will remain in place. FDA policies regarding diagnostic tests, therapies and other products used to diagnose, treat or mitigate COVID-19 remain in flux as the FDA responds to new and evolving public health information and clinical evidence. Changes to FDA regulations or requirements could require changes to authorized tests, necessitate additional measures, or make it impractical or impossible for Avero to continue utilizing these tests. The termination of any of the EUAs for the COVID-19 testing being run by Avero Diagnostics could adversely impact our business, financial condition and results of operations. We are expecting to increase our testing capacity for our COVID-19 diagnostic testing program in the near term to meet the rising demand for rapid and accurate testing. We expect that this expansion will contribute significantly to our revenue and test volumes for the remainder of 2020 and for 2021. However, there is no assurance that our COVID-19 diagnostic testing program will continue to be accepted by the market or that other diagnostic tests will become more accepted, produce quicker results, or be more accurate. Further, the longevity and extent of the COVID-19 pandemic is uncertain. If the pandemic were to dissipate, whether due to a significant decrease in new infections, due to the availability of vaccines, or otherwise, the need for a COVID-19 diagnostic test could decrease significantly and this could have an adverse effect on our results of operations and profitability. As a result, the increase in revenue due to any increase in demand for these diagnostic tests may not be indicative of our future revenue.

***Operating our business will require a significant amount of cash, and our ability to generate sufficient cash depends on many factors, some of which are beyond our control. We expect to need to raise additional capital after this offering and the concurrent offering, and if we cannot raise additional capital when needed, we may have to curtail or cease operations.***

In the future, we expect to incur significant costs in connection with our operations, including but not limited to the development, marketing authorization, and commercialization of new tests, medical devices, therapeutics, and other products. These development activities generally require a substantial investment before we can determine commercial viability, and the proceeds of this offering and the

concurrent offering will not be sufficient to fully fund these activities. We expect to need to raise additional funds through public or private equity or debt financings, collaborations or licensing arrangements to continue to fund or expand our operations.

Our actual liquidity and capital funding requirements will depend on numerous factors, including:

- the scope and duration of and expenditures associated with our discovery efforts and research and development programs, including for our precision medicine platform;
- the costs to fund our commercialization strategies for any product candidates for which we receive marketing authorization or otherwise launch and to prepare for potential product marketing authorizations, as required;
- the costs of any acquisitions of complementary businesses or technologies that we may pursue;
- potential licensing or partnering transactions, if any;
- our facilities expenses, which will vary depending on the time and terms of any facility lease or sublease we may enter into, and other operating expenses;
- the scope and extent of the expansion of our sales and marketing efforts;
- the settlement of the government investigation described below, potential and pending litigation, potential payor recoupments of reimbursement amounts, and other contingencies;
- the commercial success of our products;
- our ability to obtain more extensive coverage and reimbursement for our tests and therapeutic products, if any, including in the general, average-risk patient population; and
- our ability to collect our accounts receivable.

The availability of additional capital, whether from private capital sources (including banks) or the public capital markets, fluctuates as our financial condition and market conditions in general change. There may be times when the private capital sources and the public capital markets lack sufficient liquidity or when our securities cannot be sold at attractive prices, or at all, in which case we would not be able to access capital from these sources. In addition, a weakening of our financial condition or deterioration in our credit ratings could adversely affect our ability to obtain necessary funds. Even if available, additional financing could be costly or have adverse consequences.

Additional capital, if needed, may not be available on satisfactory terms or at all. Furthermore, any additional capital raised through the sale of equity or equity-linked securities will dilute our stockholders' ownership interests and may have an adverse effect on the price of our common stock. In addition, the terms of any financing may adversely affect stockholders' holdings or rights. Debt financing, if available, may include restrictive covenants. To the extent that we raise additional funds through collaborations and licensing arrangements, it may be necessary to relinquish some rights to our technologies or grant licenses on terms that may not be favorable to us.

If we are not able to obtain adequate funding when needed, we may be required to delay development programs or sales and marketing initiatives. If we are unable to raise additional capital in sufficient amounts or on satisfactory terms, we may have to make reductions in our workforce and may be prevented from continuing our discovery, development, and commercialization efforts and exploiting other corporate opportunities. In addition, it may be necessary to work with a partner on one or more of our tests or products under development, which could lower the economic value of those products to us. Each of the foregoing may harm our business, operating results, and financial condition, and may impact our ability to continue as a going concern.

***Our outstanding debt, and any new debt, may impair our financial and operating flexibility.***

As of each of December 31, 2019 and September 30, 2020, we had approximately $72.3 million and $77.1 million of outstanding indebtedness, respectively, composed of mortgages payable and a note payable. Certain of our debt agreements contain various restrictive covenants and are secured by substantially all of our assets, excluding our intellectual property.

Our existing debt permits us to incur significant additional debt. Our existing debt and any additional debt we incur could:

- make it more difficult for us to satisfy our obligations under our existing debt instruments;
- increase our vulnerability to general adverse economic and industry conditions;
- limit our ability to obtain additional financing to fund our research, development, and commercialization activities, particularly when the availability of financing in the capital markets is limited;
- require a substantial portion of our cash flows from operations for the payment of principal and interest on our debt, reducing our ability to use our cash flows to fund working capital, research and development, and other general corporate requirements;
- limit our flexibility in planning for, or reacting to, changes in our business and the industries in which we operate;
- further dilute our current stockholders, to the extent that such debt is convertible into equity; and
- place us at a competitive disadvantage to less leveraged competitors or competitors with a lower cost of capital.

Our ability to make principal and interest payments will depend on our ability to generate cash in the future. If we do not generate sufficient cash to meet our debt service requirements and other operating requirements, we may need to seek additional financing. In that case, it may be more difficult, or we may be unable, to obtain financing on terms that are acceptable to us or at all.

In addition, we will incur $ million (or, if the initial purchasers of the concurrent offering fully exercise their option to purchase additional convertible notes, $ million) principal amount of additional indebtedness as a result of the concurrent offering, if it is consummated. The indenture for the convertible notes will not contain any meaningful restrictive covenants and will not prohibit us or our subsidiaries from incurring additional indebtedness in the future. See “Risk Factors—The indenture governing the convertible notes will not restrict us from incurring additional indebtedness, and the incurrence of the convertible notes and any additional indebtedness could limit the cash flow available for our operations, expose us to risks that could adversely affect our business, financial condition and results of operations.”

***Although we have implemented compliance policies and have an internal audit function, we cannot ensure that our employees have adhered or will fully adhere to such policies.***

We have implemented compliance policies and procedures intended to train and monitor our sales, billing, marketing and other personnel. Our efforts to implement appropriate monitoring of such personnel are ongoing and we have identified and are analyzing situations in which employees may have failed to fully adhere to our policies and applicable laws in the past. For example, as part of our work to improve our compliance program and our obligations under our Corporate Integrity Agreement (as defined below), including our internal auditing and monitoring function, we commissioned a third-party analysis of our coding and billing processes. In connection with that audit, we identified that we had not timely and appropriately transitioned to the implementation of a new CPT code in 2019, and as a result we received an overpayment of approximately $10.0 million from government payors during 2019 and

early 2020. We also conducted a similar review of our historic practices regarding the collection of patient responsibility amounts, including copayments and deductibles, from government health program beneficiaries between May 2018 and May 2020. We reported the overpayments identified in both audits to the Office of Inspector General of the Department of Health and Human Services, or the OIG, in compliance with our Corporate Integrity Agreement. For additional information on our transition for this CPT code, see Notes 4 and 9 to our unaudited condensed consolidated financial statements. There can be no assurance that we will not identify further compliance, billing, or other failures or experience similar issues in the future. Failure by our sales, billing, marketing, or other personnel to follow our policies and comply with applicable laws may subject us to administrative, civil, and criminal actions, penalties, damages, fines, individual imprisonment, exclusion from participation in federal healthcare programs, refunding of payments received by us, and curtailment or cessation of our operations. For additional information regarding recent government investigations regarding our compliance with certain policies and laws, see "Business—Legal Proceedings." In addition, in the event of failure by our sales, billing, marketing, or other personnel to follow our policies and comply with applicable laws, commercial third-party payors may refuse to provide all or any reimbursement for tests administered and seek repayment from us of amounts previously reimbursed, which failures may harm our ability to secure network contracts with third-party payors. For additional information regarding recent settlement agreements with commercial payors, see "Business—Reimbursement—Commercial Third-Party Payors." Any of the foregoing could adversely affect our revenue, cash flow, and financial condition, and reduce our growth prospects. For additional information regarding these risks, see the risk factor titled "If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected."

***Compliance with the terms and conditions of our Corporate Integrity Agreement requires significant resources and, if we fail to comply, we could be subject to penalties or excluded from participation in government healthcare programs, which could harm our results of operations, liquidity and financial condition.***

In connection with settlement of the government investigations described in "Business—Legal Proceedings," effective July 21, 2020, we entered into a five-year corporate integrity agreement, or the Corporate Integrity Agreement, with the OIG. The Corporate Integrity Agreement requires, among other matters, that we maintain a Compliance Officer, a Compliance Committee, board review and oversight of healthcare compliance matters, compliance programs, and disclosure programs; provide management certifications and compliance training and education; engage an independent review organization to conduct claims and arrangements reviews; implement a risk assessment and internal review process; and submit periodic reports to the OIG regarding our compliance program and Corporate Integrity Agreement implementation. The Corporate Integrity Agreement requires us to report substantial overpayments that we discover we have received from federal health care programs, as well as probable violations of federal health care laws. See "Risk Factors—Although we have implemented compliance policies and have an internal audit function, we cannot ensure that our employees have adhered or will fully adhere to such policies." We are in the process of implementing the processes, policies and procedures required under the Corporate Integrity Agreement. Implementing and administering such processes, policies and procedures will require significant management attention and cash and other resources. Furthermore, while we have developed and instituted a corporate compliance program, we cannot guarantee that we, our employees, our consultants or our contractors are or will be in compliance with all potentially applicable federal healthcare laws or all requirements of the Corporate Integrity Agreement. Our failure to comply with our obligations under the Corporate Integrity Agreement could result in monetary penalties and our exclusion from participating in federal healthcare programs. The costs associated with compliance with the Corporate Integrity Agreement, or any liability or consequences associated with its breach, could have an adverse effect on our operations, liquidity and financial condition.

***Actual or perceived failures to comply with applicable data protection, privacy and security laws, regulations, standards and other requirements could adversely affect our business, results of operations, and financial condition.***

The global data protection landscape is rapidly evolving, and we are or may become subject to numerous state, federal, and foreign laws, requirements, and regulations governing the collection, use, disclosure, retention, and security of personal information. Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet determine the impact future laws, regulations, standards, or perception of their requirements may have on our business. This evolution may create uncertainty in our business, affect our ability to operate in certain jurisdictions or to collect, store, transfer, use and share personal information, necessitate the acceptance of more onerous obligations in our contracts, result in liability or impose additional costs on us. The cost of compliance with these laws, regulations, and standards is high and is likely to increase in the future. Any failure or perceived failure by us to comply with federal, state or foreign laws or regulations, our internal policies and procedures or our contracts governing our processing of personal information could result in negative publicity, government investigations and enforcement actions, claims by third parties and damage to our reputation, any of which could have a material adverse effect on our operations, financial performance and business.

As our operations and business grow, we may become subject to or affected by new or additional data protection laws and regulations and face increased scrutiny or attention from regulatory authorities. In the United States, the manner in which we collect, use, access, disclose, transmit and store protected health information, or PHI, is subject to the Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and the health data privacy, security and breach notification regulations issued pursuant to these statutes.

HIPAA establishes a set of national privacy and security standards for the protection of PHI, by health plans, healthcare clearinghouses, and certain healthcare providers, referred to as covered entities, and the business associates with whom such covered entities contract for services that involve the use or disclosure of PHI. HIPAA requires healthcare providers like us to develop and maintain policies and procedures with respect to PHI that is used or disclosed, including the adoption of administrative, physical, and technical safeguards to protect such information.

HIPAA further requires covered entities to notify affected individuals “without unreasonable delay and in no case later than 60 calendar days after discovery of the breach” if their unsecured PHI is subject to an unauthorized access, use or disclosure. If a breach affects 500 patients or more, covered entities must report it to the U.S. Department of Health and Human Services, or HHS, and local media without unreasonable delay (and in no case later than 60 days after discovery of the breach), and HHS will post the name of the entity on its public website. If a breach affects fewer than 500 individuals, the covered entity must log it and notify HHS at least annually. HIPAA also implemented the use of standard transaction code sets and standard identifiers that covered entities must use when submitting or receiving certain electronic healthcare transactions, including activities associated with the billing and collection of healthcare claims.

Penalties for failure to comply with a requirement of HIPAA and HITECH vary significantly depending on the failure and could include requiring corrective actions, and/or imposing civil monetary or criminal penalties. HIPAA also authorizes state attorneys general to file suit under HIPAA on behalf of state residents. Courts can award damages, costs and attorneys’ fees related to violations of HIPAA in such cases. While HIPAA does not create a private right of action allowing individuals to sue us in civil court for HIPAA violations, its standards have been used as the basis for a duty of care claim in state civil suits such as those for negligence or recklessness in the misuse or breach of PHI.

Certain states have also adopted comparable privacy and security laws and regulations, some of which may be more stringent than HIPAA. Such laws and regulations will be subject to interpretation by various courts and other governmental authorities, thus creating potentially complex compliance issues for us and our future customers and strategic partners. In addition, California enacted the California Consumer Privacy Act, or CCPA, on June 28, 2018, which went into effect on January 1, 2020. The CCPA creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal data. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability, and many similar laws have been proposed at the federal level and proposed or enacted in other states. Any liability from failure to comply with the requirements of these laws could adversely affect our financial condition.

In Europe, the European Union General Data Protection Regulation (2016/679), or the GDPR, went into effect in May 2018 and introduces strict requirements for processing the personal data of European Union data subjects. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. Moreover, the United Kingdom leaving the European Union could also lead to further legislative and regulatory changes. It remains unclear how the United Kingdom data protection laws or regulations will develop in the medium to longer term and how data transfer to the United Kingdom from the European Union will be regulated, especially following the United Kingdom's departure from the European Union on January 31, 2020 without a deal. However, the United Kingdom has transposed the GDPR into domestic law with the Data Protection Act 2018, which remains in force following the United Kingdom's departure from the European Union. In addition to the GDPR, individual countries in Europe, and elsewhere in the world, including but not limited to Brazil, have enacted similar data privacy legislation that applies to data subjects in those countries. This legislation imposes increased compliance obligations and regulatory risk, including the potential for significant fines for noncompliance.

Although we work to comply with applicable laws, regulations and standards, our contractual obligations and other legal obligations, these requirements are evolving and may be modified, interpreted and applied in an inconsistent manner from one jurisdiction to another, and may conflict with one another or other legal obligations with which we must comply. Any failure or perceived failure by us or our employees, representatives, contractors, consultants, CROs, collaborators, or other third parties to comply with such requirements or adequately address privacy and security concerns, even if unfounded, could result in additional cost and liability to us, damage our reputation, and adversely affect our business and results of operations.

***Security breaches, loss of data, and other disruptions could compromise sensitive information related to our business or prevent us from accessing critical information and expose us to liability, which could adversely affect our business and reputation.***

In the ordinary course of our business, we collect and store sensitive data, including PHI (such as patient medical records, including test results), and personally identifiable information. We also store business and financial information, intellectual property, research and development information, trade secrets and other proprietary and business critical information, including that of our customers, payors, and collaboration partners. We manage and maintain our data utilizing a combination of on-site systems, managed data center systems and cloud-based data center systems. We are highly dependent on information technology networks and systems, including the internet, to securely process, transmit, and store critical information. Although we take measures to protect sensitive information from unauthorized access or disclosure, our information technology and infrastructure, and that of our third-party billing and collections provider and other service providers, may be vulnerable to attacks by hackers, viruses, disruptions and breaches due to employee error or malfeasance.

A security breach or privacy violation that leads to unauthorized access, disclosure or modification of, or prevents access to, patient information, including PHI, could compel us to comply with state and federal breach notification laws, subject us to mandatory corrective action and require us to verify the correctness of database contents. Such a breach or violation also could result in legal claims or proceedings brought by a private party or a governmental authority, liability under laws and regulations that protect the privacy of personal information, such as HIPAA, HITECH, and laws and regulations of various U.S. states and foreign countries, as well as penalties imposed by the Payment Card Industry Security Standards Council for violations of the Payment Card Industry Data Security Standards. If we are unable to prevent such security breaches or privacy violations or implement satisfactory remedial measures, we may suffer loss of reputation, financial loss and civil or criminal fines or other penalties because of lost or misappropriated information. In addition, these breaches and other forms of inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above.

Unauthorized access, loss or dissemination of information could disrupt our operations, including our ability to perform tests, provide test results, bill payors or patients, process claims and appeals, provide customer assistance services, conduct research and development activities, develop and commercialize tests, collect, process and prepare company financial information, provide information about our tests, educate patients and healthcare providers about our service, and manage the administrative aspects of our business, any of which could damage our reputation and adversely affect our business. Any breach could also result in the compromise of our trade secrets and other proprietary information, which could adversely affect our competitive position.

In addition, health-related, privacy, and data protection laws and regulations in the United States and elsewhere are subject to interpretation and enforcement by various governmental authorities and courts, resulting in complex compliance issues and the potential for varying or even conflicting interpretations, particularly as laws and regulations in this area are in flux. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our practices. If so, this could result in government-imposed fines or orders requiring that we change our practices, which could adversely affect our business and our reputation. Complying with these laws could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business, operating results, and financial condition.

Any failure or perceived failure by us or any third-party collaborators, service providers, contractors or consultants to comply with our privacy, confidentiality, data security or similar obligations, or any data security incidents or other security breaches that result in the accidental, unlawful or unauthorized access to, use of, release of, processing of, or transfer of sensitive information, including personally identifiable information, may result in negative publicity, harm to our reputation, governmental investigations, enforcement actions, regulatory fines, litigation or public statements against us, could cause third parties to lose trust in us or could result in claims by third parties, including those that assert that we have breached our privacy, confidentiality, data security or similar obligations, any of which could have a material adverse effect on our reputation, business, financial condition or results of operations. We could be subject to fines and penalties (including civil and criminal) under HIPAA for any failure by us or our business associates to comply with HIPAA's requirements. Moreover, data security incidents and other security breaches can be difficult to detect, and any delay in identifying them may lead to increased harm. While we have implemented data security measures intended to protect our information, data, information technology systems, applications and infrastructure, and recently hired a Chief Information Officer to supervise such measures, there can be no assurance that such measures will successfully prevent service interruptions or data security incidents.

***We have increased the size of our organization and expect to further increase it in the future, and we may experience difficulties in managing this growth. If we are unable to manage the anticipated growth of our business, our future revenue and operating results may be adversely affected.***

As of September 30, 2020, we had 702 full-time employees worldwide. We have significantly expanded the size of our organization over the past several years, particularly personnel within our sales and marketing and research and development groups, and we expect to continue to do so in the future. As we transition into operating as a public company, we expect to need additional managerial, operational, sales, marketing, financial, and other personnel. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, and motivating additional employees;
- managing our internal development efforts effectively, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial, and management controls, reporting systems, and procedures.

Our future financial performance and our ability to successfully develop, market, and sell our products and product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities. As we continue to grow our sales force, the impact of such growth on our revenue may be delayed as a result of time needed for onboarding and training of new sales force members.

We are engaged in extensive research and development activities, including innovation within our molecular testing business as well as furthering our novel pipeline of precision medicine product candidates. Conducting these activities will entail significant organizational complexity and require extensive effort on the part of our personnel. If we are unable to execute on our operational goals it would have a material and adverse effect on our business, financial condition, results of operations, and prospects.

***If we lose the services of members of our senior management team or other key employees, we may not be able to execute our business strategy.***

Our success depends in large part upon the continued service of our senior management team and certain other key employees who are important to our vision, strategic direction, and culture. Our current long-term business strategy was developed in large part by our senior management team and depends in part on their skills and knowledge to implement. We may not be able to offset the impact on our business of the loss of the services of any member of our senior management or other key officers or employees or attract additional talent. The loss of any members of our senior management team or other key employees could have a material and adverse effect on our business, operating results, and financial condition.

***An inability to attract and retain highly skilled employees could adversely affect our business.***

To execute our business plan, we must attract and retain highly qualified personnel. Competition for qualified personnel is intense, especially for sales, scientific, medical, laboratory, and technical personnel and especially in the areas where our headquarters and laboratory facilities are located. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees have breached their legal obligations to their former employees, resulting in a diversion of our time and resources. In

addition, job candidates and existing employees often consider the value of the stock awards they receive in connection with their employment. If the perceived value of our stock awards declines, it may adversely affect our ability to attract and retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business, operating results, and financial condition could be adversely affected.

***We may not be able to obtain and maintain the third-party relationships that are necessary to develop, commercialize, and manufacture some or all of our product candidates.***

We expect to depend on collaborators, partners, licensees, manufacturers, and other third parties to support our product candidate development efforts, to manufacture our product candidates and to market, sell, and distribute any products we successfully develop. Any problems we experience with any of these third parties could delay the development, commercialization, and manufacturing of our product candidates, which could harm our results of operations.

We cannot guarantee that we will be able to successfully negotiate agreements for, or maintain relationships with, collaborators, partners, licensees, manufacturers, and other third parties on favorable terms, if at all. If we are unable to obtain or maintain these agreements, we may not be able to clinically develop, manufacture, obtain regulatory authorizations for, or commercialize any future product candidates, which will in turn adversely affect our business.

We expect to expend substantial management time and effort to enter into relationships with third parties and, if we successfully enter into such relationships, to manage these relationships. In addition, substantial amounts will be paid to third parties in these relationships. However, we cannot control the amount or timing of resources our future contract partners will devote to our research and development programs, product candidates, or potential product candidates, and we cannot guarantee that these parties will fulfill their obligations to us under these arrangements in a timely fashion, if at all. In addition, while we manage the relationships with third parties, we cannot control all of the operations of and protection of intellectual property by such third parties.

***We rely on third-party laboratories to perform some of our testing and further rely on third parties for sample collection, including phlebotomy services, and commercial courier delivery services, and if these services are disrupted, our business will be harmed.***

A portion of our tests are performed by third-party CLIA certified laboratories. These third-party laboratories are subject to contractual obligations but are not otherwise under our control. We, therefore, do not control the capacity and quality control efforts of these third-party laboratories other than through our ability to enforce contractual obligations on volume and quality systems. In the event of any adverse developments with these third-party laboratories or their ability to perform this testing in accordance with the legal, regulatory, or commercial standards, our ability to provide test results to customers may be delayed, interrupted, or suspended. Any natural or other disasters, pandemics, acts of war or terrorism, shipping embargoes, labor unrest, or political instability or similar events at our third-party laboratories' facilities that cause a loss of testing capacity would heighten the risks that we face. Changes to or termination of our agreements or inability to renew our agreements with these parties or enter into new agreements with other laboratories that are able to perform such testing could impair, delay, or suspend our efforts to market and commercialize our tests. Such interruption could harm our reputation and lead to the loss of customers, and we may be unable to regain those customers in the future. In addition, certain third-party payors may take the position that sending out this testing to third-party laboratories is contrary to the terms of their coverage policies and/or our contract in cases where we are in-network with the payor, and may refuse to pay us for testing that we have outsourced. If any of these events occur, our business, operating results, and financial condition could suffer.

Federal and certain state laws impose anti-markup restrictions that prevent an entity from realizing a profit margin on outsourced testing. Whether we will be able to realize a profit margin on outsourced

testing will be determined by the application of those laws. If we or our subsidiaries are unable to markup outsourced testing, our operating results would suffer.

Our molecular testing business depends on our ability to quickly and reliably deliver test results to our customers. We rely on third parties to perform sample collection, including phlebotomy services, and to transport samples to our laboratory facility or the third-party laboratories that we contract with in a timely and cost-efficient manner. Disruptions in these services, whether due to any natural or other disasters, pandemics, acts of war or terrorism, shipping embargoes, labor unrest, political instability, or similar events, could adversely affect specimen integrity and our ability to process samples in a timely manner and to service our customers, and ultimately our reputation and our business. In addition, if we are unable to continue to obtain expedited delivery services on commercially reasonable terms, our operating results may be adversely affected.

In addition, our relationships with these third-party providers could be scrutinized under federal and state healthcare laws such as the federal Anti-Kickback Statute and the Stark Law to the extent these services provide a financial benefit to or relieve a financial burden for a potential referral source, or are subsequently found not to be for fair market value. If our operations are found to be in violation of any of these laws and regulations, we may be subject to administrative, civil and criminal penalties, damages, fines, individual imprisonment, exclusion from participation in federal healthcare programs, refunding of payments received by us, and curtailment or cessation of our operations, any of which could harm our reputation and adversely affect our business, operating results, and financial condition. For additional information regarding these risks, see the risk factor titled “If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected.”

***We rely on a limited number of suppliers or, in some cases, single suppliers, for some of our laboratory instruments and materials and may not be able to find replacements or immediately transition to alternative suppliers on a cost-effective basis, or at all.***

We source components of our technology from third parties and certain components are sole sourced. Obtaining substitute components may be difficult or require us to re-design our products or, for any product candidates for which we may obtain marketing authorization from the FDA, obtain new marketing authorization from the FDA to use a new supplier. Any natural or other disasters, acts of war or terrorism, shipping embargoes, labor unrest or political instability or similar events at our third-party manufacturers’ facilities that cause a loss of manufacturing capacity or a reduction in the quality of the items manufactured would heighten the risks that we face. Changes to, failure to renew or termination of our existing agreements or our inability to enter into new agreements with other suppliers could result in the loss of access to important components of our tests and could impair, delay or suspend our commercialization efforts. Our failure to maintain a continued and cost-effective supply of high-quality components could materially and adversely harm our business, operating results, and financial condition.

For example, Illumina, Inc., or Illumina, in San Diego, California, is currently the sole supplier of our sequencing instruments and certain reagents for Innatal and Preparent, pursuant to a supply agreement that, unless extended by mutual agreement, expires in June 2022. Without such inputs, we would be unable to run our tests and commercialize our products. In early 2013, prior to our entering into our agreement with Illumina, Illumina completed its acquisition of Verinata Health Inc., or Verinata, a direct competitor in the NIPT market. We understand Illumina supplies the same or similar instruments and related reagents to Verinata. As a result, we face heightened risk and uncertainty regarding our supply relationship with Illumina. If required, alternative sequencing platforms may not perform as well or may be more expensive and we may be unsuccessful employing such platforms in a commercially sustainable way. Any disruptions to our laboratory performance and ability to deliver our products could adversely

affect our business, operating results, financial condition, and reputation. In addition, if we were required by the FDA to obtain approval for Innatal or Preparent through a pre-market approval application, or PMA, we may also be required to obtain approval of a PMA supplement prior to making any changes to Innatal or Preparent as a result of implementing an alternative sequencing platform.

***The manufacturing of our products, including our precision medicine product candidates, is highly exacting and complex, and we depend on third parties to supply materials and manufacture all our products and product candidates.***

Manufacturing is highly exacting and complex due, in part, to strict regulatory requirements governing the manufacture of our current and future products and product candidates, including medical devices, diagnostic products, and pharmaceutical products. We have limited personnel with experience in, and we do not own facilities for, manufacturing any products. We depend upon our collaborators and other third parties, including sole source suppliers, to provide raw materials meeting FDA quality standards and related regulatory requirements, manufacture devices, diagnostic products, and drug substances, produce drug products and provide certain analytical services with respect to our products and product candidates. The FDA and other regulatory authorities require that many of our products be manufactured according to cGMP regulations and that proper procedures be implemented to assure the quality of our sourcing of raw materials and the manufacture of our products. Any failure by us, our collaborators, or our third-party manufacturers to comply with cGMP and/or scale-up manufacturing processes could lead to a delay in, or failure to obtain, marketing authorizations. In addition, such failure could be the basis for action by the FDA, including issuing a warning letter, initiating a product recall or seizure, fines, imposing operating restrictions, total or partial suspension of production or injunctions and/or withdrawing marketing authorizations for products previously granted to us. To the extent we rely on a third-party manufacturer, the risk of noncompliance with cGMPs may be greater and the ability to effect corrective actions for any such noncompliance may be compromised or delayed.

Moreover, we expect that certain of our precision medicine product candidates, including PGN-600, PGN-001, PGN-300, and PGN-OB2, are drug/device combination products that will be regulated under the drug and biological product regulations of the Federal Food, Drug, and Cosmetic Act, or the FD&C Act, and Public Health Service Act, or PHSA, based on their primary modes of action as drugs and biologics. Third-party manufacturers may not be able to comply with cGMP regulations, applicable to drug/device combination products, including applicable provisions of the FDA's drug and biologics cGMP regulations, device cGMP requirements embodied in the Quality System Regulation, or QSR, or similar regulatory requirements outside the United States.

In addition, we or third parties may experience other problems with the manufacturing, quality control, storage or distribution of our products, including equipment breakdown or malfunction, failure to follow specific protocols and procedures, problems with suppliers and the sourcing or delivery of raw materials and other necessary components, problems with software, labor difficulties, and natural disaster-related events or other environmental factors. These problems can lead to increased costs, lost sales, damage to customer relations, failure to supply penalties, time and expense spent investigating the cause and, depending on the cause, similar losses with respect to other batches of products. If problems are not discovered before the product is released to the market, recalls, corrective actions, or product liability-related costs also may be incurred. Problems with respect to the manufacture, storage, or distribution of products could materially disrupt our business and have a material and adverse effect on our operating results and financial condition.

For additional information regarding our third-party suppliers and manufacturers, see "Business—Laboratories—Laboratory Supplies."

***We rely on third parties to design our product candidates and conduct our preclinical research and clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.***

We rely and expect to continue to rely on third parties, such as engineering firms, CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct and manage our molecular testing and therapeutic product candidate design, preclinical testing, and clinical trials. Our reliance on these third parties for research and development activities reduces our control over these activities but does not relieve us of our responsibilities. For example, we remain responsible for ensuring that each of our clinical trials is conducted in accordance with GCP requirements, the general investigational plan, and the protocols established for such trials.

These third parties may be slow to recruit patients and complete the studies. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, do not meet expected deadlines, experience work stoppages, terminate their agreements with us or need to be replaced, or do not conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we may need to enter into new arrangements with alternative third parties, which could be difficult, costly or impossible, and our clinical trials may be extended, delayed, or terminated or may need to be repeated. If any of the foregoing occur, we may not be able to obtain, or may be delayed in obtaining, marketing authorizations for our product candidates and may not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

***If our laboratory facilities become inoperable, we will be unable to perform our tests and our business will be harmed.***

Our laboratory or other facilities may be harmed or rendered inoperable (or samples could be damaged or destroyed) by natural or manmade disasters, including earthquakes, flooding, power outages, disease outbreaks and contamination, which may render it difficult or impossible for us to perform our tests for some period of time. The inability to perform our tests or the backlog of tests that could develop if any of our laboratory or other facilities is inoperable for even a short period of time may result in the loss of customers or harm to our reputation, and we may be unable to regain those customers in the future.

***Our tests may not perform as expected and may result in reduced confidence in our products or legal claims.***

Our success depends on the market's confidence that we can provide timely, reliable, high-quality test results. There is no guarantee that the accuracy and reproducibility we have demonstrated to date will continue as our business grows. We believe that our customers (healthcare providers and their patients) are likely to be particularly sensitive to test limitations and errors, including inaccurate test results and the need on occasion to perform redraws on patients. As a result, if our tests do not perform as expected, our business, operating results, financial condition, and reputation will suffer. In addition, we may be subject to legal claims arising from such limitations, errors, or inaccuracies.

Our tests use a number of complex and sophisticated biochemical and bioinformatics processes, many of which are highly sensitive to external factors. An operational or technology failure in one of these complex processes or fluctuations in external variables may result in sensitivity and specificity rates that are lower than we anticipate or that vary between test runs or in a higher than anticipated number of tests which fail to produce results. In addition, we regularly evaluate and refine our testing process. These refinements may initially result in unanticipated issues that may reduce our sensitivity and specificity rates.

***Even if our newly developed product candidates receive marketing authorizations, to the extent required, they may fail to achieve market acceptance.***

If we can develop enhanced, improved, or new product candidates that receive marketing authorizations, they may nonetheless fail to gain sufficient market acceptance by healthcare providers, patients, third-party payors, and others in the medical community to be commercially successful. The degree of market acceptance of any of our new product candidates following receipt of marketing authorizations, if any, will depend on a number of factors, including:

- our ability to anticipate and meet customer and patient needs;
- the timing of regulatory approvals or clearances, to the extent such are required for marketing;
- the efficacy, safety and other potential advantages, such as convenience and ease of administration, of our product candidates as compared to alternative tests or treatments;
- the clinical indications for which our product candidates are approved or cleared, or in the case of our LDTs, validated;
- concordance with clinical guidelines established by relevant professional colleges;
- compliance with state guidelines and licensure, if applicable;
- our ability to offer our product candidates for sale at competitive prices;
- the willingness of the target patient population to try our new products, and of physicians to prescribe these products;
- the strength of our marketing and distribution support;
- the availability and requirements of third-party payor insurance coverage and adequate reimbursement for our product candidates;
- the prevalence and severity of side effects and the overall safety profiles of our product candidates;
- any restrictions on the use of our product candidates together with other products and medications;
- our ability to manufacture quality products in an economic and timely manner;
- interactions of our product candidates with other medications patients are taking; and
- for ingestible product candidates, the ability of patients to take and tolerate our product candidates.

If our newly developed product candidates are unable to achieve market acceptance, our business, operating results, and financial condition will be harmed.

***Additional time may be required to obtain marketing authorizations for certain of our precision medicine product candidates because they are combination products.***

Some of our precision medicine product candidates are drug/device combination products that require coordination within the FDA and similar foreign regulatory agencies for review of their device and drug components. Although the FDA and similar foreign regulatory agencies have systems in place for the review and approval of combination products such as ours, we may experience delays in the development and commercialization of our product candidates due to regulatory timing constraints and uncertainties in the product development and approval process.

***Our precision medicine product candidates under development include complex medical devices that, if authorized for marketing, will require training for qualified personnel and care for data analysis.***

Our precision medicine product candidates under development include complex medical devices that, if authorized for marketing, will require training for qualified personnel, including physicians, and care for data analysis. Although we will be required to ensure that our precision medicine product candidates are prescribed only by trained professionals, the potential for misuse of our precision medicine product candidates, if authorized for marketing, still exists due to their complexity. Such misuse could result in adverse medical consequences for patients that could damage our reputation, subject us to costly product liability litigation, and otherwise have a material and adverse effect on our business, operating results, and financial condition.

***The successful discovery, development, manufacturing, and sale of biologics is a long, expensive, and uncertain process and carries unique risks and uncertainties. Moreover, even if successful, our biologic products may be subject to competition from biosimilars.***

We may develop product candidates regulated as biologics in the future in connection with our precision medicine platform. The successful development, manufacturing, and sale of biologics is a long, expensive, and uncertain process. There are unique risks and uncertainties with biologics. For example, access to and supply of necessary biological materials, such as cell lines, may be limited and governmental regulations restrict access to and regulate the transport and use of such materials. In addition, the testing, development, approval, manufacturing, distribution, and sale of biologics is subject to applicable provisions of the FD&C Act, PHSA, and regulations issued thereunder that are often more complex and extensive than the regulations applicable to other pharmaceutical products, to medical devices, or to the LDTs we currently commercialize. Manufacturing biologics, especially in large quantities, is often complicated and may require the use of innovative technologies. Such manufacturing also requires facilities specifically designed and validated for this purpose and sophisticated quality assurance and quality control procedures. Biologics are also frequently costly to manufacture because production inputs are derived from living animal or plant material, and some biologics cannot be made synthetically. Failure to successfully discover, develop, manufacture, and sell biologics could adversely impact our business, operating results, and financial condition.

Even if we are able to successfully develop biologics in the future, the Biologics Price Competition and Innovation Act, or BPCIA, created a framework for the approval of biosimilars in the United States that could allow competitors to reference data from any future biologic products for which we receive marketing approvals and otherwise increase the risk that any product candidates for which we intend to seek approval as biologic products may face competition sooner than anticipated. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the original biologic was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full Biologics License Application, or BLA, for the competing product containing the sponsor’s own preclinical data and data from adequate and well- controlled clinical trials to demonstrate the safety, purity, and potency of their product. The BPCIA is complex and is still being interpreted and implemented by the FDA. As a result, the law’s ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement the BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biological product candidates.

In addition, there is a risk that any of our product candidates regulated as a biologic and licensed under a BLA would not qualify for the 12-year period of exclusivity or that this exclusivity could be shortened due to congressional action or otherwise, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity

provisions, have been the subject of litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

In Europe, the European Commission has granted marketing authorizations for several biosimilars pursuant to a set of general and product class-specific guidelines for biosimilar approvals issued over the past few years. In addition, companies are developing biosimilars in other countries that could compete with any biologic products that we develop. If competitors are able to obtain marketing approval for biosimilars referencing any biologic products that we develop, our products may become subject to competition from such biosimilars, with the attendant competitive pressure and consequences. Expiration or successful challenge of our applicable patent rights could also trigger competition from other products, assuming any relevant exclusivity period has expired. As a result, we could face more litigation and administrative proceedings with respect to the validity and/or scope of patents relating to our biologic products.

***If our future pharmaceutical product candidates are not approved by regulatory authorities, including the FDA, we will be unable to commercialize them.***

In the future, we may develop pharmaceutical product candidates using our precision medicine platform that require FDA approval of a New Drug Application, or NDA, or a BLA before marketing or sale in the United States. In the NDA or BLA process, we, or our collaborative partners, must provide the FDA and similar foreign regulatory authorities with data from preclinical and clinical studies that demonstrate that our product candidates are safe and effective, or in the case of biologics, safe, pure, and potent, for a defined indication before they can be approved for commercial distribution. The FDA or foreign regulatory authorities may disagree with our clinical trial designs and our interpretation of data from preclinical studies and clinical trials. The processes by which regulatory approvals are obtained from the FDA and foreign regulatory authorities to market and sell a new product are complex, require a number of years, depend upon the type, complexity, and novelty of the product candidate, and involve the expenditure of substantial resources for research, development, and testing. The FDA and foreign regulatory authorities have substantial discretion in the drug approval process and may require us to conduct additional nonclinical and clinical testing or to perform post-marketing studies. Further, the implementation of new laws and regulations, and revisions to FDA clinical trial design guidance, may lead to increased uncertainty regarding the approvability of new drugs.

Applications for our drug or biologic product candidates could fail to receive regulatory approval for many reasons, including but not limited to the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design, implementation or results of our or our collaborators' clinical trials;
- the FDA or comparable foreign regulatory authorities may determine that our product candidates are not safe and effective, only moderately effective or have undesirable or unintended side effects, toxicities or other characteristics;
- the population studied in the clinical program may not be sufficiently broad or representative to assure efficacy and safety in the full population for which we seek approval;
- we or our collaborators may be unable to demonstrate to the FDA, or comparable foreign regulatory authorities that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our or our collaborators' interpretation of data from preclinical studies or clinical trials;

- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of a BLA, NDA, or other submission or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes, test procedures and specifications, or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our or our collaborators' clinical data insufficient for approval.

This lengthy approval process, as well as the unpredictability of the results of clinical trials, may result in our failing to obtain regulatory approval to market any of our product candidates, which would seriously harm our business. In addition, the FDA may recommend advisory committee meetings for certain new molecular entities, and if warranted, require a Risk Evaluation and Mitigation Strategy, or REMS, to assure that a drug's benefits outweigh its risks. Even if we receive regulatory approval of a product, the approval may limit the indicated uses for which the drug may be marketed or impose significant restrictions or limitations on the use and/or distribution of such product.

In addition, in order to market any pharmaceutical or biological product candidates that we develop in foreign jurisdictions, we, or our collaborative partners, must obtain separate regulatory approvals in each country. The approval procedure varies among countries and can involve additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Conversely, failure to obtain approval in one or more jurisdictions may make approval in other jurisdictions more difficult. These laws, regulations, additional requirements and changes in interpretation could cause non-approval or further delays in the FDA's or other regulatory authorities' review and approval of our and our collaborative partner's product candidates, which would materially harm our business and financial condition and could cause the price of our securities to fall.

***The marketing authorization process is expensive, time-consuming, and uncertain, and we may not be able to obtain or maintain authorizations for the commercialization of some or all of our product candidates.***

The product candidates associated with our precision medicine platform and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, and distribution, export, and import, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the European Medicines Agency and comparable regulatory authorities in other countries. We have not received authorization to market any of our product candidates from regulatory authorities in any jurisdiction. Failure to obtain marketing authorization for a product candidate will prevent us from commercializing the product candidate.

Securing marketing authorizations may require the submission of extensive preclinical and clinical data and other supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy, or in the case of product candidates regulated as biologics, such product candidate's safety, purity, and potency. Securing regulatory authorization generally requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing authorization or prevent or limit commercial use.

The process of obtaining marketing authorizations, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if authorization is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. Changes in marketing authorization policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application we submit, or may decide that our data is insufficient for approval and require additional preclinical, clinical, or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing authorization of a product candidate. Any marketing authorization we or our collaborators ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved medicine not commercially viable.

Accordingly, if we or our collaborators experience delays in obtaining authorization or if we or they fail to obtain authorization of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenue will be materially impaired.

***Our products or product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory authorization, limit the commercial profile of an approved label or result in significant negative consequences following marketing approval, if granted.***

The use of our current products and precision medicine product candidates could be associated with side effects or adverse events, which can vary in severity (from minor reactions to death) and frequency (infrequent or prevalent). Side effects or adverse events associated with the use of our product candidates may be observed at any time, including in clinical trials or when a product is commercialized. Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory authorization by the FDA or other comparable foreign authorities. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects such as toxicity or other safety issues and could require us or our collaboration partners to perform additional studies or halt development or sale of these product candidates or expose us to product liability lawsuits, which would harm our business and financial results. In such an event, we may be required by regulatory agencies to conduct additional animal or human studies regarding the safety and efficacy of our product candidates, which we have not planned or anticipated or our studies could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny or withdraw approval of our product candidates for any or all targeted indications. There can be no assurance that we will resolve any issues related to any product-related adverse events to the satisfaction of the FDA or any other regulatory agency in a timely manner, if ever, which could harm our business, operating results, financial condition and prospects.

Additionally, product quality characteristics have been shown to be sensitive to changes in process conditions, manufacturing techniques, equipment or sites and other such related considerations, hence any manufacturing process changes we implement prior to or after regulatory authorization could impact product safety and efficacy.

Product-related side effects could affect patient recruitment for clinical trials, the ability of enrolled patients to complete our studies or result in potential product liability claims. We currently carry product liability insurance and we are required to maintain product liability insurance pursuant to certain of our license agreements. We believe our product liability insurance coverage is sufficient in light of our current clinical programs; however, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability, or such insurance coverage may not be

sufficient to cover all losses. A successful product liability claim or series of claims brought against us could adversely affect our business, operating results, and financial condition. In addition, regardless of merit or eventual outcome, product liability claims may result in impairment of our business reputation, withdrawal of clinical study participants, costs due to related litigation, distraction of management's attention from our primary business, initiation of investigations by regulators, substantial monetary awards to patients or other claimants, the inability to commercialize our product candidates and decreased demand for our product candidates, if authorized for commercial sale.

Additionally, if one or more of our product candidates receives marketing authorization, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including but not limited to:

- regulatory authorities may suspend, limit or withdraw marketing authorizations for such products, or seek an injunction against their manufacture or distribution;
- regulatory authorities may require additional warnings on the label including "boxed" warnings, or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product;
- we may be required to change the way the product is administered or conduct additional clinical trials or post-approval studies;
- we may be required to create a REMS plan, which could include a medication guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers and/or other elements to assure safe use;
- the product may become less competitive;
- we may be subject to fines, injunctions or the imposition of criminal penalties;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of a particular product candidate, if approved, and could significantly harm our business, operating results, financial condition, and prospects.

If we receive marketing authorization, regulatory agencies including the FDA and foreign authorities enforce requirements that we report certain information about adverse medical events. For example, under FDA medical device reporting regulations, medical device manufacturers are required to report to the FDA information that a device has or may have caused or contributed to a death or serious injury or has malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction of our device (or any similar future product) were to recur. We may fail to appreciate that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of our products. If we fail to investigate and report these events to the FDA within the required timeframes, or at all, the FDA could take enforcement action against us. Any such adverse event involving our products also could result in future corrective actions, such as recalls or customer notifications, or agency action, such as inspection or enforcement action. Any corrective action, whether voluntary or involuntary, including any legal action taken against us, will require us to devote significant time and capital to the matter, distract management from operating our business, and may harm our reputation and financial results.

***Our products, including our precision medicine product candidates under development, if authorized for marketing, may be subject to product recalls.***

The FDA and similar foreign governmental authorities have the authority to require the recall of certain commercialized products over which they exercise oversight in the event of material deficiencies or

defects in design or manufacture or a public health/safety issue. In addition, foreign governmental bodies have the authority to require the recall of our products in the event of material deficiencies or defects in design or manufacture or a public health/safety issue. Manufacturers may, under their own initiative, recall a product if any material deficiency is found. The FDA requires that certain recalls of medical devices be reported to the FDA within 10 working days after the recall is initiated. We may initiate voluntary recalls involving our products in the future that we determine do not require us to notify the FDA. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. If the FDA disagrees with our determinations, they could require us to report those actions as recalls. In addition, the FDA could bring an enforcement action against us based on our failure to report the recalls when they were conducted. A government-mandated or voluntary recall by us or one of our distributors could occur as a result of component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. Once marketed, recalls of any of our products, including our precision medicine products, would divert managerial and financial resources and could have a material and adverse effect on our business, operating results, and financial condition. A future recall announcement could harm our reputation with customers and negatively affect our sales.

***Our relationship with Avero Diagnostics may be challenged, and a successful challenge could adversely affect our operating structure.***

We provide anatomic and molecular pathology testing through our affiliation with Mattison Pathology, LLP, a Texas limited liability partnership doing business as Avero Diagnostics, located in Lubbock and Irving, Texas. The laws of certain states in which we operate or may operate in the future prohibit non-physician entities from practicing medicine, exercising control over physicians or engaging in certain practices such as fee-splitting with physicians. Although we believe that we have structured our affiliation with Avero Diagnostics to ensure that the physicians maintain exclusive authority regarding the delivery of medical care, there can be no assurance that these laws will be interpreted in a manner consistent with our practices or that other laws or regulations will not be enacted in the future that could have a material and adverse effect on our business, operating results, and financial condition. Regulatory authorities and other parties, including our associated physicians, may assert that, despite the management service agreement and other arrangements through which we operate, we are engaged in the prohibited corporate practice of medicine, and/or that our arrangement with Avero Diagnostics constitutes unlawful fee-splitting. If a corporate practice of medicine or fee-splitting law is interpreted in a manner that is inconsistent with our practices, we would be required to restructure or terminate our relationship with Avero Diagnostics to bring its activities into compliance with such law. A determination of noncompliance, the termination of or failure to successfully restructure this relationship could result in disciplinary action, penalties, damages, fines, and/or a loss of revenue, any of which could have a material and adverse effect on our business, operating results, and financial condition. See “Business—Government Regulation—Avero Diagnostics Relationship and the Corporate Practice of Medicine” for more information regarding our relationship with Avero Diagnostics.

***Defects or failures associated with our products could lead to recalls or safety alerts and negative publicity.***

Manufacturing flaws, component failures, design defects, off-label uses, or inadequate disclosure of product-related information could result in an unsafe condition or the injury or death of a patient. These problems could lead to a recall of, or issuance of a safety alert relating to, our commercialized products, and result in significant costs and negative publicity. A material adverse event involving one of our products could result in reduced market acceptance and demand for all products within that brand, and could harm our reputation and our ability to market our products in the future. In some circumstances, material adverse events arising from or associated with the design, manufacture or marketing of our products could result in among other things, labeling changes reflecting the updated safety information, regulatory requirements to issue communications to prescribers and/or conduct additional studies, or the suspension or delay of regulatory reviews of our applications for new marketing authorizations. We also

may undertake a voluntary recall of products, or temporarily shut down production lines based on performance relative to our own internal safety and quality monitoring and testing data. Any of these problems could disrupt our business and have a material and adverse effect on our business, operating results, and financial condition.

***We may not comply with laws regulating the protection of the environment and health and human safety.***

Our research and development involves, or may in the future involve, the use of hazardous materials and chemicals and certain radioactive materials and related equipment. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. Insurance may not provide adequate coverage against potential liabilities, and we do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us. Additional federal, state, and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

***Our failure to comply with radio frequency regulations could impair our ability to commercially distribute and market our precision medicine product candidates in the applicable country or region.***

Our PIL Dx precision medicine product candidate under development includes a wireless radio frequency transmitter and receiver, and is therefore subject to equipment authorization requirements in the United States and elsewhere. In the United States and certain other countries, authorities often require advance clearance of radio frequency devices before they can be sold or marketed in these jurisdictions, subject to limited exceptions. Modifications to our precision medicine product candidate's design and specifications may require new or further marketing authorizations before we are permitted to market and sell modified precision medicine products. If we are unable to obtain any required marketing authorizations from the authorities responsible for the radio frequency regulations, the sale or use of our precision medicine product candidate could be prevented in such countries. Any such action could negatively affect our business, operating results, and financial condition.

***The marketing, sale, and use of our products could result in substantial damages arising from product liability or professional liability claims that exceed our insurance coverage and resources.***

The marketing, sale and use of our products could lead to product liability claims against us if someone were to allege that our test or other product failed to perform as it was designed, or caused harm to an individual, or if someone were to misinterpret test results. We may be subject to liability for errors in, a misunderstanding of, or inappropriate reliance upon, the information we provide as part of the results generated by our tests. For example, Innatal could provide a low-risk result for a chromosomal abnormality upon which a patient or physician may rely to make a conclusion about the health of the fetus, which may, in fact, have the condition because the Innatal result was a false negative. As another example, Preparent could provide a low-risk result regarding the carrier status of a disorder of an expectant parent upon which a patient or physician may rely to make a conclusion about the health of the fetus, which may, in fact, have the condition because the Preparent result was a false negative. If the resulting baby is born with the condition, the family may file a lawsuit against us claiming product liability or professional liability.

In addition, we may be subject to product liability claims and lawsuits, including potential class actions, alleging that our products have resulted in or could result in an unsafe condition or injury. The product candidates we are developing using our precision medicine platform are designed to be ingested, and there are a number of factors that could result in an unsafe condition or injury to, or death of, a patient

with respect to these or other products that we sell. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend. Although we maintain product and professional liability insurance, our insurance may not fully protect us from the financial impact of defending against product liability or professional liability claims or any judgments, fines or settlement costs arising out of any such claims. Any product liability or professional liability claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability or professional liability lawsuit could harm our reputation, result in a cessation of our testing, or cause our partners to terminate existing agreements and potential partners to seek other partners, any of which could adversely impact our business, operating results, and financial condition.

***Our operating results may fluctuate significantly, which could adversely impact the value of our common stock.***

Our operating results, including our revenues, gross margin, profitability, and cash flows, have varied in the past and may vary significantly in the future, and period-to-period comparisons of our operating results may not be meaningful. Accordingly, our results should not be relied upon as an indication of future performance. Our operating results, including quarterly financial results, may fluctuate as a result of a variety of factors, many of which are outside of our control. Fluctuations in our results may adversely impact the value of our common stock. Factors that may cause fluctuations in our financial results include, without limitation, those listed elsewhere in this “Risk Factors” section. In addition, our results may fluctuate due to the fact that we recognize costs as they are incurred, but there is typically a delay in the related revenue recognition as we record most revenue only upon receipt of payment. Accordingly, to the extent our revenues increase, we may experience increased costs unless and until the related revenues are recognized. In addition, as we increase our internal sales and marketing and research and development efforts, we expect to incur costs in advance of achieving the anticipated benefits of such efforts. We also may face competitive pricing or reimbursement rate pressures, and we may not be able to maintain our sales volume and/or reimbursement rates in the future, which would adversely affect our business, operating results, and financial condition.

***We may engage in acquisitions that could disrupt our business, cause dilution to our stockholders, or reduce our financial resources.***

We have in the past entered into, and may in the future enter into, transactions to acquire other businesses, products, or technologies. Successful acquisitions require us to correctly identify appropriate acquisition candidates and to integrate acquired products or operations and personnel with our own. Should we make an error in judgment when identifying an acquisition candidate, should the acquired operations not perform as anticipated, or should we fail to successfully integrate acquired technologies, operations, or personnel, we will likely fail to realize the benefits we intended to derive from the acquisition and may suffer other adverse consequences. Acquisitions involve a number of other risks, including:

- we may not be able to make such acquisitions on favorable terms or at all;
- the acquisitions may not strengthen our competitive position, and these transactions may be viewed negatively by customers or investors;
- we may decide to incur debt with debt repayment obligations that we are unable to satisfy or that could otherwise require the use of a significant portion of our cash flow;
- we may decide to issue our common stock or other equity securities to the stockholders of the acquired company, which would reduce the percentage ownership of our existing stockholders;
- we may incur losses resulting from undiscovered liabilities of the acquired business that are not covered by any indemnification we may obtain from the seller;

- the acquisitions may reduce our cash available for operations and other uses;
- the acquisitions may divert of the attention of our management from operating our existing business; and
- the acquisitions may result in charges to earnings in the event of any write-down or write-off of goodwill and other assets recorded in connection with acquisitions.

We cannot predict the number, timing or size of future acquisitions or the effect that any such transactions might have on our business, operating results, and financial condition.

The development and expansion of our business through joint ventures, licensing and other strategic transactions may result in similar risks that reduce the benefits we anticipate from these strategic alliances and cause us to suffer other adverse consequences.

***Ethical, legal, and social issues related to the use of genetic information could reduce demand for our tests.***

DNA testing, such as testing that is conducted using Innatal, Preparent and our other products, has raised ethical, legal and social issues regarding privacy and the appropriate uses of the resulting information. Governmental authorities could, for social or other purposes, limit or regulate the use of genomic information or genomic testing or prohibit testing for genetic predisposition to certain conditions, particularly for those that have no known cure. Patients may also refuse to use genetic tests even if permissible, for similar reasons; they may also refuse genetic testing due to concerns regarding eligibility for life or other insurance. Ethical and social concerns may also influence U.S. and foreign patent offices and courts with regard to patent protection for technology relevant to our business. Although the Genetic Information Non-discrimination Act has criminalized the disallowance of health insurance on the basis of genetic information, modification or retraction of this federal law could dramatically reduce public demand for genetic testing. These and other ethical, legal and social issues may limit market acceptance of our tests or reduce the potential markets for products enabled by our technology platform, either of which could harm our business, operating results, and financial condition.

***We may be significantly impacted by changes in tax laws and regulations or their interpretation.***

U.S. and foreign governments continue to review, reform and modify tax laws. Changes in tax laws and regulations could result in material changes to the domestic and foreign taxes that we are required to provide for and pay. In addition, we are subject to regular audits with respect to our various tax returns and processes in the jurisdictions in which we operate. Errors or omissions in tax returns, process failures, or differences in interpretation of tax laws by tax authorities and us may lead to litigation, payments of additional taxes, penalties, and interest. On December 22, 2017, the Tax Cuts and Jobs Act of 2017, or TCJA, was passed into law. The TCJA has given rise to significant one-time and ongoing changes, including but not limited to a federal corporate tax rate decrease to 21% for tax years beginning after December 31, 2017, limitations on interest expense deductions, the immediate expensing of certain capital expenditures, the adoption of elements of a partially territorial tax system, new anti-base erosion provisions, a reduction to the maximum deduction allowed for net operating losses generated in tax years after December 31, 2017 and providing for indefinite carryforwards for losses generated in tax years after December 31, 2017. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections, and will be subject to interpretations and implementing regulations by the Treasury and Internal Revenue Service, any of which could mitigate or increase certain adverse effects of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation. Generally, future changes in applicable tax laws and regulations, or their interpretation and application, could have a material and adverse effect on our business, operating results, and financial condition. We urge the purchasers of our common stock in this offering to consult with their legal and tax advisors with respect to such legislation and the potential tax consequences of investing in our common stock.

***Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.***

As of December 31, 2019, we had net operating loss, or NOL, carryforwards of approximately $173.6 million for federal income tax purposes, and $94.7 million for state income tax purposes. The federal NOLs will be carried forward indefinitely and the state NOLs began expiring in 2019. Utilization of these NOLs depends on many factors, including our future income, which cannot be assured. Some of these NOLs could expire unused and be unavailable to offset our future income tax liabilities. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50 percentage point change, by value, in its equity ownership by 5% stockholders over a rolling three-year period, the corporation's ability to use its pre-change NOLs and other pre-change tax attributes to offset its post-change income may be limited. If we determine that an ownership change has occurred and our ability to use our historical NOLs is materially limited, it could harm our future operating results by effectively increasing our future tax obligations. In addition, under the TCJA, federal NOLs incurred in 2018 and in future years may be carried forward indefinitely but generally may not be carried back and the deductibility of such NOLs is limited to 80% of taxable income. On March 27, 2020, Congress enacted the Coronavirus Aid, Relief and Economic Security Act, known as the CARES Act, which provides some relief from the limitations on the utilization of NOLs and certain other tax attributes described above. During the three months ended March 31, 2020, we recorded a discrete tax benefit of $37.7 million related to the NOL carryback provisions available under the CARES Act for taxes paid in years 2013, 2014, 2015, and 2017, which we refer to as the CARES Act Tax Benefit. If any tax refund is received that is more than $5.0 million in a single year, along with other civil settlements, damages awards, and tax refunds, we have agreed to pay 65% of all such amounts received to accelerate payments to the government in connection with our government settlement. During the three months ended September 30, 2020 we received a tax refund of $15.7 million related to the NOL carryback provisions available under the CARES Act. See "Business—Legal Proceedings—Federal Investigation."

**Reimbursement Risks Related to Our Business**

***If third-party payors do not adequately reimburse for our products, they might not be purchased or used, which may adversely affect our revenue and profits.***

Our future revenues and profitability will depend heavily upon the availability of coverage and adequate reimbursement from governmental and other third-party payors, both in the United States and in foreign markets, for the use of our products, including any potential products such as a test for preeclampsia, precision medicine devices, and pharmaceutical products. Coverage and reimbursement by governmental and commercial third-party payors may depend upon a number of factors, including the determination that the product and its use or administration for a particular patient is:

- a covered benefit;
- safe, effective, and medically necessary;
- appropriate for the specific patient;
- supported by guidelines established by the relevant professional college;
- approved in any states where specific assay approval is necessary;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement approval for a product from each third-party payor is a time-consuming and costly process that could require us to provide supporting scientific, clinical, and cost-

effectiveness data for the use of our products to each payor. We may not be able to provide data sufficient to satisfy third-party payors that the product should be covered and reimbursed. There is substantial uncertainty whether any particular payor will cover and reimburse the use of any product incorporating new technology. Even when a payor determines that a product is eligible for reimbursement, the payor may impose coverage limitations that preclude payment for some uses that are approved by the FDA or a comparable authority. Moreover, eligibility for coverage does not imply that any product will be reimbursed in all cases or at a rate that allows us to make a profit or even cover our costs. Interim payments for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. In some instances, payment may only be obtained by engaging in lengthy and costly appeals processes. Reimbursement rates may vary according to the use of the product and the clinical setting in which it is used, may be based on payments allowed for lower-cost products that are already reimbursed, may be incorporated into existing payments for other products, may reflect budgetary constraints and/or imperfections in Medicare, Medicaid or other data used to calculate these rates. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or by any future relaxation of laws that restrict imports of certain medical products from countries where they may be sold at lower prices than in the United States.

There have been, and we expect that there will continue to be, federal and state proposals to constrain expenditures for medical products, which may affect payments for our products. Governmental and private entities that establish reimbursement policies, including the Centers for Medicare and Medicaid Services, or CMS, frequently change product descriptors, coverage policies, product and service codes, payment methodologies and reimbursement values. Third-party payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates, and both CMS and other third-party payors may have sufficient market power to demand significant price reductions. Due in part to actions by third-party payors, the healthcare industry is experiencing a trend toward containing or reducing costs through various means, including lowering reimbursement rates, limiting therapeutic class coverage, and negotiating reduced payment schedules with service providers for certain products.

Our inability to promptly obtain coverage and profitable reimbursement rates from third-party payors for our products could have a material and adverse effect on our business, operating results, and financial condition.

***We may be unable to expand or maintain third-party payor coverage and reimbursement for our Innatal, Preparent, and other tests or other products.***

Our business depends on our ability to obtain or maintain adequate reimbursement coverage from third-party payors. Third-party reimbursement for our testing represents a significant portion of our revenues, and we expect third-party payors such as third-party commercial payors and government healthcare programs to continue to be our most significant sources of payments in the foreseeable future. In particular, we believe that for us to achieve commercial success it will be necessary to gain acceptance from third-party payors for the screening of microdeletions and for use of NIPT in the average-risk pregnancy population, which population represents roughly 80% of the U.S. pregnancy market, and to obtain positive coverage determinations and favorable reimbursement rates from third-party payors for our tests. We did not receive reimbursement for a significant number of Innatal tests for average-risk patients that we performed in the year ended December 31, 2019. In addition, it is to be determined whether and to what extent certain of our other products, including those under development, will be covered or reimbursed. If we are unable to obtain or maintain coverage or adequate reimbursement from, or achieve in-network status with, third-party payors for our existing or future tests or other products, our ability to generate revenues will be limited. For example, healthcare providers may be reluctant to order our tests or other products due to the potential of a substantial cost to the patient if coverage or reimbursement is unavailable or insufficient.

***Leading professional societies may recommend alternatives to our tests in average-risk patient populations, which may provide a basis for third-party payors not to cover or reimburse our tests in those populations.***

In making coverage determinations, third-party payors often rely on practice guidelines issued by professional societies. ACOG has issued updated guidelines recommending informing pregnant women that Non-Invasive Prenatal Screening, or NIPS, is the most sensitive screening option for trisomy 13, trisomy 18, and Down syndrome, as well as of the availability of the expanded use of NIPT to screen for clinically relevant copy number variants, or CNVs, in the context of counseling that includes the risks/benefits and limitations of screening for CNVs.

A CNV is a genetic mutation in which a segment of the genome has been deleted or duplicated, including microdeletions in which a small segment of a chromosome is deleted. The International Society for Prenatal Diagnosis has issued guidelines that are supportive of performing NIPT in average-risk pregnancies, as well as high-risk pregnancies. ACOG and the American College of Medical Genetics, or ACMG, have also provided support for the use of NIPT in the general population, with ACOG noting, however, that NIPT is not equivalent to diagnostic testing because of its potential for false-positive and false-negative results. However, the Society for Maternal Fetal Medicine, or SMFM, has issued guidelines for NIPT stating that, while all pregnant women should be informed of the option to receive NIPT, conventional screening methods, such as traditional serum screening, rather than NIPT, remain the most appropriate choice for first-line screening for average-risk pregnancies. Therefore, while we expect the ACOG and SMFM guidelines to result in an increase in the number of average-risk women who are informed of NIPT and that may request it as a result, not all third-party payors reimburse for NIPT for these average-risk patients.

Currently, Aetna has determined that it will reimburse for NIPT for patients in the average-risk population through the end of 2020. However, UnitedHealthcare and a number of other third-party payors have negative coverage determinations for NIPT in average-risk patient populations, meaning that their policy is not to reimburse for NIPT for patients in the average-risk or general population. The SMFM guidelines also echoed a previous statement from SMFM that routine screening for microdeletions should not be performed. Many third-party payors do not cover microdeletions screening. We have experienced, and may continue to experience, a negative impact on third-party payors' coverage for Innatal for microdeletions, at least until additional validation data on the sensitivity and specificity of our tests becomes available. We may not be able to obtain positive coverage determinations for our tests. If third-party payors do not reimburse for NIPT for average-risk pregnancies or microdeletions in the future, our operating results would be adversely affected, particularly to the extent that we continue to perform large volumes of tests for which third-party payors do not cover.

***New reimbursement methodologies applicable to our tests, including new CPT codes, may decrease reimbursement rates from third-party payors.***

In the United States, the American Medical Association, or AMA, generally assigns specific billing codes for laboratory tests under a coding system known as Current Procedure Terminology, or CPT, which we and our ordering healthcare providers must use to bill and receive reimbursement for our tests. Once the CPT code is established, CMS establishes payment levels and coverage rules under Medicare while private payors independently establish rates and coverage rules. A CPT code specific to NIPT for aneuploidies was implemented, effective January 1, 2015, and a CPT code for microdeletions was implemented, effective January 1, 2017. CMS has established a pricing benchmark of $802 for aneuploidy and microdeletions testing. However, our microdeletions reimbursement has decreased under this new code because third-party payors are declining to reimburse under this new code or reimbursing at a much lower rate than we had previously received. Furthermore, we cannot guarantee that we will be able to negotiate favorable rates for this code or receive reimbursement at all if we are unable to collect and publish additional data and obtain positive coverage determinations for Innatal for microdeletions.

In addition, effective January 1, 2019, the AMA approved the use of a CPT code for expanded carrier screening tests, which may similarly cause reimbursement for our Preparent expanded carrier screening tests to decline. We do not currently have assay-specific CPT codes assigned for all of our tests, and there is a risk that we may not be able to obtain such codes or, if obtained, we may not be able to negotiate favorable rates for such codes.

We currently submit for reimbursement using CPT codes based on the guidance of outside coding experts and legal counsel. There is a risk that the codes we currently submit may be rejected or withdrawn, including as a result of a change in the applicable code due to the use of a new technology for our tests, or that third-party payors will seek refunds of amounts that they claim were inappropriately billed based on either the CPT code used, or the number of units billed. In addition, third-party payors may not establish positive coverage policies for our tests or adequately reimburse for any CPT code we may use, or may seek recoupment for testing previously performed, which have occurred in the past.

***Billing disputes with third-party payors may decrease realized revenue and may lead to requests for recoupment of past amounts paid.***

Payors dispute our billing or coding from time to time and we deal with requests for recoupment from third-party payors from time to time in the ordinary course of our business, and we expect these disputes and requests for recoupment to continue. Third-party payors may decide to deny payment or recoup payment for testing that they contend to have been not medically necessary, against their coverage determinations, or for which they have otherwise overpaid, and we may be required to refund reimbursements already received. We have entered into settlement agreements with government and commercial payors in order to settle claims related to past billing practices that have since been discontinued. For additional information regarding these disputes, see “Business—Reimbursement—Commercial Third-Party Payors.” Additionally, the Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Reconciliation Act of 2010, or collectively, the ACA, enacted in March 2010, requires providers and suppliers to report and return any overpayments received from government payors under the Medicare and Medicaid programs within 60 days of identification. Failure to identify and return such overpayments exposes the provider or supplier to liability under federal false claims laws and the OIG’s healthcare enforcement authorities, and would be a potential violation of our obligations under our Corporate Integrity Agreement to report substantial overpayments to the OIG. Claims for recoupment also require the time and attention of our management and other key personnel, which can be a distraction from operating our business.

If third-party payors deny payment for testing, reimbursement revenue for our testing could decline. If a third-party payor successfully challenges that payment to us for prior testing was in breach of contract or otherwise contrary to policy or law, they may recoup payment, which amounts could be significant and would impact our operating results and financial condition, and it may decrease reimbursement going forward. We may also decide to negotiate and settle with a third-party payor in order to resolve an allegation of overpayment. In the past, we have negotiated and settled these types of claims with third-party payors. We may be required to resolve further disputes in the future. For example, on November 16, 2020, we received a letter from Anthem informing us that Anthem is seeking recoupment for historical payments made by Anthem in an aggregate amount of approximately $27.4 million. The historical payments for which Anthem is seeking recoupment are claimed to relate primarily to discontinued legacy billing practices for our NIPT and microdeletion tests and secondarily to the implementation of the new CPT code for reimbursement for our Preparent expanded carrier screening tests. We can provide no assurance that we will not receive similar claims for recoupment from other third-party payors in the future. Any of these outcomes, including recoupment or reimbursements, might also require us to restate our financials from a prior period, any of which could have a material and adverse effect on our business, operating results, and financial condition.

***"Most favored nation" provisions in contracts with third-party payors may limit potential for revenue growth and may lead to claims for recoupment.***

Some of our contracts with third-party payors contain "most favored nation" provisions, pursuant to which we have agreed that we will not bill the third-party payor more than we bill any other third-party payor. These contract provisions limit the amount we are able to charge for our products. These most favored nation provisions may require us to forego revenues from some third-party payors or reduce the amount we bill to each third-party payor with a most favored nation clause in its contract, which could have a material and adverse effect on our business, operating results, and financial condition. We monitor our billing and claims submissions for compliance with these contractual requirements with third-party payors. If we do not successfully manage compliance with these provisions, this could also subject us to claims for recoupment, which could result in an obligation to repay amounts previously earned.

***When third-party payors deny coverage, we are often unable to collect from the patient or any other source and risk disputes if we attempt to do so.***

If a third-party payor denies coverage, or if the patient has a large deductible or co-insurance amount, it may be difficult for us to collect from the patient, and we may not be successful in doing so. If we are in-network, we are often contractually prohibited from seeking payment from the patient. If we are out-of-network, we are often unable to collect the full amount of a patient's responsibility, despite our good faith efforts to collect. As a result, we cannot always collect the full amount due for our tests when third-party payors deny coverage, cover only a portion of the invoiced amount or the patient has a large deductible, which may cause payors to raise questions regarding our billing policies and patient collection practices. We have in the past received, and we may in the future receive, inquiries from third-party payors regarding our billing policies and collection practices in these circumstances. Guidance from third-party payors regarding billing and patient collection practices will continue to evolve and may also impact our compliance with applicable requirements. While we have addressed these inquiries as and when they have arisen, there is no guarantee that we will be successful in addressing such concerns, and if we are unsuccessful, this may result in a third-party payor deciding to reimburse for our tests at a lower rate or not at all, seeking recoupment of amounts previously paid to us, or bringing legal action to seek reimbursement of previous amounts paid. Any of such occurrences could cause reimbursement revenue for our testing, which constitutes the large majority of our revenue, to decline. Additionally, if we were required to make a repayment, such repayment could be significant, which could have a material and adverse effect on our business, operating results, and financial condition.

***Our revenues may be adversely impacted if third-party payors withdraw coverage or provide lower levels of reimbursement due to changing policies, billing complexities or other factors.***

We are in-network, or under contract, with some of the third-party payors from whom we receive reimbursement; this means that we have agreements with such third-party payors that govern approval or payment terms. However, these contracts do not guarantee reimbursement for all testing we perform. For example, many third-party payors with whom we have written agreements have policies that state they will not reimburse for use of NIPT for average-risk pregnancies or for the screening of microdeletions, or do not have a policy in place to reimburse for microdeletions screening. In addition, the terms of certain of our agreements require a physician or qualified practitioner's signature on test requisitions or require other controls and procedures prior to conducting a test. In particular, third-party payors have been increasingly requiring prior authorization to be obtained prior to conducting a test as a condition to reimbursing for the test. This has placed a burden on our billing operations as we have to dedicate resources to monitor that these prior authorization requirements are met and to conduct follow-up and address issues as they arise, and has also impacted our operating results, including our gross margins, since these requirements began to take effect in 2017. To the extent we or the healthcare providers ordering our tests do not follow the prior authorization requirements, we may be subject to

claims for recoupment of reimbursement amounts previously paid to us, or may not receive some or all of the reimbursement payments to which we would otherwise be entitled. This has occurred in some cases in the past and may occur in the future, which could have a material and adverse effect on our business, operating results, and financial condition.

We have experienced, and may continue to experience, delays in reimbursement when we transition to being an in-network provider with a third-party payor. In addition, while we expect to gradually see an increase in test volume through broader access to in-network patients and an increase in percentage of tests paid upon transitioning to in-network status with a payor, we also expect to experience a negative impact in revenues per test due to lower rates. We can provide no assurance that we will see the benefits of this transition to in-network status and that the increase in volume of tests and tests paid will be sufficient to compensate for the decrease in per test revenues.

Where we are considered to be an out-of-network provider, which is the case with some larger third-party payors from whom we currently receive reimbursement, such third-party payors could withdraw coverage and decline to reimburse for our tests in the future, for any reason. They can also impose prior authorization requirements through the terms of the patients' health plans. Managing reimbursement on a case-by-case basis is time-consuming and contributes to an increase in the number of days it takes us to collect on accounts, which also increases our risk of non-payment. Negotiating reimbursement on a case-by-case basis also typically results in the receipt of reimbursement at a significant discount to the list price of our tests.

Even if we are being reimbursed for our tests, third-party payors may unilaterally review and adjust the rate of reimbursement, require co-payments from patients or stop paying for our tests. Government healthcare programs and other third-party payors continue to increase their efforts to control the cost, utilization, and delivery of healthcare services by demanding price discounts or rebates and limiting coverage of, and amounts they will pay for, molecular tests. These measures have resulted in reduced payment rates and, in some instances, decreased utilization in the clinical laboratory industry. Because of these cost-containment measures, governmental and commercial third-party payors—including those that currently reimburse our tests—may reduce, suspend, revoke or discontinue payments or coverage at any time. Reduced reimbursement of our tests may harm our business, operating results, and financial condition.

Billing for clinical laboratory testing services is complex. We perform tests in advance of payment and without certainty as to the outcome of the billing process. In cases where we expect to receive a fixed fee per test due to our reimbursement arrangements, we may nevertheless encounter variable reimbursement, leading to disputes over pricing and billing. Each third-party payor typically has different billing requirements, and the billing requirements of many payors have become increasingly difficult to meet. Among the factors complicating our billing of third-party payors are:

- disparity in coverage among various payors;
- disparity in information and billing requirements among payors, including with respect to prior authorization requirements and procedures and establishing medical necessity; and
- incorrect or missing billing information, which is required to be provided by the ordering healthcare provider.

These risks related to billing complexities, and the associated uncertainty in obtaining payment for our tests, could harm our business, operating results, and financial condition.

***Our status as an out-of-network provider with large commercial third-party payors may cause healthcare providers to avoid recommending our tests.***

We are considered to be an out-of-network provider with respect to some larger commercial third-party payors from whom we currently receive reimbursement. Physician groups and other healthcare providers

may view this negatively and may insist upon only using clinical laboratories that are in-network with their patients' insurance companies. These types of decisions could reduce our revenue, and harm our financial condition.

***Changes in government healthcare policy could increase our costs and negatively impact coverage and reimbursement for our tests by governmental and other third-party payors.***

The U.S. government has shown significant interest in pursuing healthcare reform and reducing healthcare costs. Government healthcare policy has been and will likely continue to be a topic of extensive legislative and executive activity in the U.S. federal government and many U.S. state governments. As a result, our business could be affected by significant and potentially unanticipated changes in government healthcare policy, such as changes in reimbursement levels by government third- party payors. Any such changes could substantially impact our revenues, increase costs, and divert management attention from our business strategy. We cannot predict the impact of governmental healthcare policy changes on our future business, operating results, and financial condition. In the United States, the ACA was signed into law in March 2010 and significantly impacted the U.S. pharmaceutical and medical device industries, including the diagnostics sector, in a number of ways. Among other things, the ACA expanded healthcare fraud and abuse laws such as the False Claims Act and the Anti-Kickback Statute, including but not limited to required disclosures of financial arrangements with physician customers, required reporting of discovered overpayments, lower thresholds for violations, new government investigative powers, and enhanced penalties for such violations. The ACA restricts insurers from charging higher premiums or denying coverage to individuals with pre-existing conditions, and requires insurers to cover certain preventative services without charging any copayment or coinsurance, including screening for lung, breast, colorectal and cervical cancers. The ACA also created a new system of health insurance "exchanges" designed to make health insurance available to individuals and certain groups through state- or federally-administered marketplaces in addition to existing channels for obtaining health insurance coverage. In connection with such exchanges, certain "essential health benefits" are intended to be made more consistent across plans, setting a baseline coverage level. The states (and the federal government) have some discretion in determining the definition of "essential health benefits" and we do not know whether our tests or other products will fall into a benefit category deemed "essential" for coverage purposes across the plans offered in any or all of the exchanges. If any of our tests are not covered by plans offered in the health insurance exchanges, our business, operating results, and financial condition could be adversely affected. There have been multiple attempts to repeal ACA or significantly scale back its applicability, which could negatively impact reimbursement for our testing, adversely affect our test volumes, and adversely affect our business, operating results, and financial condition. On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or Texas District Court Judge, ruled that the entire ACA is invalid based primarily on the fact that the legislation enacted on December 22, 2017, informally known as the Tax Cuts and Jobs Act, repealed the tax-based shared responsibility payment imposed by the ACA, on certain individuals who fail to maintain qualifying health coverage for all or part of a year, which is commonly referred to as the "individual mandate." On December 18, 2019, the 5th Circuit Court of Appeals upheld the Texas District Court's ruling that the individual mandate was unconstitutional, but remanded the case back to the Texas District Court to determine whether the remaining provisions of the ACA were nonetheless valid. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review the case and a decision is expected before the end of 2020, although it is unclear how the Supreme Court will rule. The repeal of this mandate would mean that fewer consumers will carry insurance coverage and therefore may be less likely to elect to receive our testing because they would be required to pay out of pocket for such tests. The attempts to repeal the ACA have resulted in considerable uncertainty and concern regarding, for example, a patient's election to undergo genetic screening and whether doing so may impact health insurance eligibility. Because it is unclear whether or how the ACA may change, and whether and to what extent NIPT, cancer screening or other genetic screening may be affected, we are uncertain how our business may be impacted.

In addition to the ACA, various healthcare reform proposals have also emerged from federal and state governments. The Protecting Access to Medicare Act of 2014, or PAMA, introduced a multi-year pricing program for services payable under the Clinical Laboratory Fee Schedule, or CLFS, that is designed to bring Medicare allowable amounts in line with the amounts paid by private payors. The rule issued by CMS to implement PAMA required certain laboratories to report third-party payor rates and test volumes. Since January 1, 2018, the Medicare payment rate for these tests is equal to the weighted median private payor rate reported to CMS, which for many tests is lower than the previous CLFS payment rates due to the often lower negotiated private payor rates applicable to large commercial laboratories that were required to report data to CMS. While we believe that the new rates will have minimal impact on our business, the rates have been the subject of controversy in the industry, including a lawsuit by the American Clinical Laboratory Association, and it is unclear whether and to what extent the new rates may change. The implementation of the PAMA rates has negatively impacted overall pricing and reimbursement for many clinical laboratory testing services. In addition, federal budgetary limitations and changes in healthcare policy, such as the creation of broad limits for our tests and requirements that beneficiaries of government health plans pay for, or pay for higher portions of, clinical laboratory tests or services received, could substantially diminish the utilization of our tests, increase costs and adversely affect our ability to generate revenues and achieve and sustain profitability.

We cannot predict whether future healthcare initiatives will be implemented at the federal or state level or how any such future legislation, regulation, or initiative may affect us. Current or potential future federal legislation and the expansion of government's role in the U.S. healthcare industry, as well as changes to the reimbursement amounts paid by third-party payors for our current and future tests, may adversely affect our test volumes and adversely affect our business, operating results, and financial condition.

***Our revenues may be adversely affected if we are unable to successfully obtain reimbursement from the Medicare program and state Medicaid programs.***

Our revenues from Medicare are currently very small and were only 2.8% of our total revenues in 2019, given our current product mix and the fact that our testing generally is not received by Medicare beneficiaries. As a result, we do not expect those revenues to change materially with regard to our current commercial products. However, our other products in development may be used by Medicare beneficiaries in the future. Medicare reimbursement can affect both Medicaid reimbursement, which is relevant to NIPT and carrier screening, and reimbursement from commercial third-party payors. Specifically, fee-for-service Medicaid programs generally do not reimburse at rates that exceed Medicare's fee-for-service rates, and many commercial third-party payors set their payment rates at a percentage of the amounts that Medicare pays for testing services. Medicare reimbursement rates are typically based on the CLFS, set by CMS pursuant to a statutory formula established by Congress. Our current Medicare Part B coverage was not set pursuant to a national coverage determination by CMS. Although we believe that coverage is available under Medicare Part B even without such a determination, we currently lack the certainty afforded by a formal national coverage determination by CMS. Thus, CMS or a regional Medicare Administrative Contractor, or MAC, could issue an adverse coverage determination as to Innatal or Preparent or our future products, if any, which could influence other third-party payors, including Medicaid, and could have a material and adverse effect on our business, operating results, and financial condition.

It is estimated that nearly half of all births in the United States are to state Medicaid program recipients. Each state's Medicaid program has its own coverage determinations related to our testing, and many state Medicaid programs do not provide their recipients with coverage for our testing. Even if our testing is covered by a state Medicaid program, we must be recognized as a Medicaid provider by the state in which the Medicaid recipient receiving the services resides in order for us to be reimbursed by a state's Medicaid program. In addition, many Medicaid programs have entered into agreements with managed

care plans to have the managed care plans manage the provision of healthcare to that Medicaid program's beneficiaries. In order for us to enter into contracts to offer our tests to beneficiaries who are enrolled with a Medicaid managed care plan, we must first be recognized as a Medicaid provider in that state, and then contract with the applicable Medicaid managed care program. We are currently recognized by 43 states as a Medicaid provider. It is likely that we will not be able to be recognized as a provider by additional Medicaid programs because some states require that a provider maintain a physical laboratory in that state in order to be recognized; furthermore, some states have closed provider panels, which means that the state does not intend to expand its current provider network and therefore does not intend to recognize additional Medicaid providers. Even if we are recognized as a provider in a state, if Medicare's CLFS rate for our tests are low, the Medicaid reimbursement amounts are sometimes as low, or lower, than the Medicare reimbursement rate. In addition, as noted above, each state's Medicaid program has its own coverage determinations related to our testing, and many state Medicaid programs do not provide their recipients with coverage for our testing. As a result of all of these factors, our testing is not reimbursed or only reimbursed at a very low amount by many state Medicaid programs. In some cases, a state Medicaid program's reimbursement rate for our testing might be zero dollars. Low or zero-dollar Medicaid reimbursement rates for our tests could have a material and adverse effect on our business, operating results, and financial condition.

***Federal legislation will increase the pressure to reduce prices of pharmaceutical products paid for by Medicare or may otherwise seek to limit healthcare costs.***

The Medicare Modernization Act, or MMA, changed the way Medicare covers and reimburses for pharmaceutical products. The legislation introduced a new reimbursement methodology based on average sales prices for pharmaceutical products that are used in hospital settings or under the direct supervision of a physician and, starting in 2006, expanded Medicare coverage for pharmaceutical product purchases by the elderly. In addition, the MMA requires the creation of formularies for self-administered pharmaceutical products and provides authority for limiting the number of pharmaceutical products that will be covered in any therapeutic class and provides for plan sponsors to negotiate prices with manufacturers and suppliers of covered pharmaceutical products. As a result of the MMA and the expansion of federal coverage of pharmaceutical products, we expect continuing pressure to contain and reduce costs of pharmaceutical products. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we may receive for any pharmaceutical product candidates that we may develop using our precision medicine platform in the future and could materially adversely affect our business, operating results and overall financial condition. While the MMA generally applies only to pharmaceutical product benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement policies and any reduction in coverage or payment that results from the MMA may result in a similar reduction in coverage or payments from private payors.

***If the validity of an informed consent from a patient is challenged, we could be precluded from billing for such patient's testing or be forced to stop performing certain tests or exclude the patient's data from clinical trial results.***

We are required to ensure that all clinical data and blood samples that we receive have been collected from subjects who have provided appropriate informed consent for us to perform our testing, both commercially and in clinical trials. We seek to ensure that the subjects from whom the data and samples are collected do not retain or have conferred on them any proprietary or commercial rights to the data or any discoveries derived from them. A subject's informed consent could be challenged in the future, and the informed consent could prove invalid, unlawful, or otherwise inadequate for our purposes. Any such findings against us, or our partners, could deny us access to, or force us to stop, testing samples in a particular territory or could call into question the results of our clinical trials. We could also be precluded from billing third-party payors for tests for which informed consents are challenged, or we could be requested to refund amounts previously paid by third-party payors for such tests. We could

become involved in legal challenges, which could require significant management and financial resources and adversely affect our operating results.

**Regulatory and Legal Risks Related to Our Business**

***If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected.***

We are subject to healthcare fraud and abuse regulation and enforcement by both the U.S. federal government and the states in which we conduct our business, including:

- federal and state laws and regulations governing the submission of claims, as well as billing and collection practices, for healthcare services;
- the federal Anti-Kickback Statute, which prohibits, among other things, the knowing and willful solicitation, receipt, offer or payment of remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs such as Medicare and Medicaid; a person does not need to have knowledge of the statute or specific intent to violate it to have committed a violation; a violation of the Anti-Kickback Statute may result in imprisonment for up to ten years and significant fines for each violation and administrative civil money penalties, plus up to three times the amount of the remuneration paid; in addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;
- the Eliminating Kickbacks in Recovery Act of 2018, or EKRA, which, among other things, prohibits knowingly or willfully paying, offering to pay, soliciting or receiving any remuneration (including any kickback, bribe, or rebate), whether directly or indirectly, overtly or covertly, in cash or in kind, to induce a referral of an individual to a recovery home, clinical treatment facility, or laboratory, or in exchange for an individual using the services of that recovery home, clinical treatment facility, or laboratory; violation of EKRA may result in significant fines and imprisonment of up to 10 years for each occurrence;
- the federal False Claims Act which prohibits, among other things, the presentation of false or fraudulent claims for payment from Medicare, Medicaid, or other government-funded third-party payors discussed in more detail below;
- federal laws and regulations governing the Medicare program, providers of services covered by the Medicare program, and the submission of claims to the Medicare program, as well as the Medicare Manuals issued by CMS and the local medical policies promulgated by the Medicare Administrative Contractors with respect to the implementation and interpretation of such laws and regulations;
- the federal Stark Law, also known as the physician self-referral law, which, subject to certain exceptions, prohibits a physician from making a referral for certain designated health services covered by the Medicare program (and according to case law in some jurisdictions, the Medicaid program as well), including laboratory and pathology services, if the physician or an immediate family member has a financial relationship with the entity providing the designated health services; a person who attempts to circumvent the Stark Law may be fined up to approximately $165,000 for each arrangement or scheme that violates the statute; in addition, any person who presents or causes to be presented a claim to the Medicare or Medicaid programs in violation of the Stark Law is subject to significant civil monetary penalties, plus up to three times the amount of reimbursement claimed;

- the federal Civil Monetary Penalties Law, which, subject to certain exceptions, prohibits, among other things, the offer or transfer of remuneration, including waivers of copayments and deductible amounts (or any part thereof), to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner or supplier of services reimbursable by Medicare or a state healthcare program; any violation of these prohibitions may result in significant civil monetary penalties for each wrongful act;
- the prohibition on reassignment by the program beneficiary of Medicare claims to any party;
- HIPAA, which, among other things, imposes criminal liability for executing or attempting to execute a scheme to defraud any healthcare benefit program, willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making false, fictitious or fraudulent statements relating to healthcare matters; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the federal transparency requirements under the Physician Payments Sunshine Act, created under the ACA, which requires, among other things, certain manufacturers of drugs, devices, biologics and medical supplies reimbursed under Medicare, Medicaid, or the Children's Health Insurance Program to annually report to CMS information related to payments and other transfers of value provided to physicians, certain other healthcare professionals beginning in 2022, and teaching hospitals and physician ownership and investment interests, including such ownership and investment interests held by a physician's immediate family members; we believe that we are currently exempt from these reporting requirements; we cannot assure you, however, that regulators, principally the federal government, will agree with our determination, and a determination that we have violated these laws and regulations, or a public announcement that we are being investigated for possible violations, could adversely affect our business;
- federal and state laws and regulations governing informed consent for genetic testing and the use of genetic material;
- state law equivalents of the above U.S. federal laws, such as the Stark Law, Anti-Kickback Statute and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial insurers; and
- similar healthcare laws in the European Union and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers.

Furthermore, a development affecting our industry is the increased enforcement of the federal False Claims Act and, in particular, actions brought pursuant to the False Claims Act's "whistleblower" or "*qui tam*" provisions. The False Claims Act imposes liability for, among other things, knowingly presenting, or causing to be presented, a false or fraudulent claim for payment by a federal governmental payor program. The *qui tam* provisions of the False Claims Act allow a private individual to bring civil actions on behalf of the federal government for violations of the False Claims Act and permit such individuals to share in any amounts paid by the defendant to the government in fines or settlement. When an entity is determined to have violated the False Claims Act, it is subject to mandatory damages of three times the actual damages sustained by the government, plus significant mandatory civil penalties for each false claim. In addition, various states have enacted false claim laws analogous to the federal False Claims Act, and in some cases apply more broadly because many of these state laws apply to claims made to private payors and not merely governmental payors.

The rapid growth and expansion of our business may increase the potential for violating these laws or our internal policies and procedures designed to comply with these laws. The evolving interpretations of these laws and regulations by courts and regulators increase the risk that we may be alleged to be, or in fact found to be, in violation of these or other laws and regulations, including pursuant to private *qui tam* actions brought by individual whistleblowers in the name of the government as described above.

For example, in April 2018, we received a civil investigative demand from an Assistant U.S. Attorney for the Southern District of New York, or SDNY, and a HIPAA subpoena issued by an Assistant U.S. Attorney for the Southern District of California, or SDCA. In May 2018, we received a subpoena from the State of New York Medicaid Fraud Control Unit. The civil and criminal investigations related to discontinued legacy billing practices for our NIPT and microdeletion tests and the provision of alleged kickbacks or inducements to physicians and patients and the civil investigations also involved inquiries about our laboratory licenses, our enrollment in state Medicaid programs, and the laboratories that performed testing for us.

On July 21, 2020, July 23, 2020, and October 1, 2020, we entered into agreements with certain governmental agencies and the 45 states participating in the settlement, or the State AGs, to resolve, with respect to such agencies and State AGs, all of such agencies' and State AGs' outstanding civil, and, where applicable, federal criminal, investigations regarding our discontinued legacy billing practices for our non-invasive prenatal tests and microdeletion tests and the provision of alleged kickbacks or inducements to physicians and patients. Specifically, we entered into:

- a civil settlement agreement, effective July 23, 2020, with the DOJ through SDNY, and on behalf of the OIG, and with the relator named therein, or the SDNY Civil Settlement Agreement;
- a civil settlement agreement, effective July 23, 2020, with the DOJ through SDCA, and on behalf of the Defense Health Agency, the Tricare Program and the Office of Personnel Management, which administers the Federal Employees Health Benefits Program, or the SDCA Civil Settlement Agreement;
- a non-prosecution agreement, effective July 21, 2020, with SDCA, or the Non-Prosecution Agreement, in resolution of all criminal allegations;
- the Corporate Integrity Agreement; and
- civil settlement agreements, effective October 1, 2020, with the State AGs.

The terms of these agreements require that we pay $49.0 million in the aggregate plus applicable interest. As of October 31, 2020, we have already paid approximately $32.9 million towards this amount. We will pay the remaining portion of the settlement over an approximately three-year period, structured as follows: $4.0 million in December 2020; $5.0 million in December 2021; approximately $6.9 million in December 2022; and approximately $0.2 million in December 2023. For additional information regarding these agreements, please see "Business—Legal Proceedings—Federal Investigations."

As of December 31, 2019, we had accrued an aggregate of $35.8 million associated with a potential settlement with the DOJ and the participating State AGs within accrued expenses and other current liabilities and as a reduction of revenue as reflected on the consolidated balance sheet of the Company as of December 31, 2019 and consolidated statement of operations for the year ended December 31, 2019. In addition, in the quarter ended March 31, 2020, we accrued an additional $13.2 million with respect to the total amount to be paid under the agreement in principle to the DOJ and the participating State AGs, and additional amounts for related costs as of and for the quarterly period ended March 31, 2020. As of September 30, 2020, our accrual for these matters consists of $20.2 million in accrued expenses and other current liabilities and $12.1 million in other long-term liabilities.

***Our inability to obtain, on a timely basis or at all, any necessary marketing authorizations for new device products, or improvements to our current offerings, could adversely affect our future product commercialization and operating results.***

Our planned medical device product candidates, and potentially some of our molecular testing products such as our planned preeclampsia test, are expected to be subject to regulation by the FDA, and numerous other federal and state governmental authorities. The process of obtaining regulatory approvals or clearances to market a medical device, particularly from the FDA and regulatory authorities outside the United States, can be costly and time-consuming, and approvals or clearances might not be granted for future products on a timely basis, if at all. To ensure ongoing customer safety, regulatory agencies such as the FDA may re-evaluate their current approval or clearance processes and may impose additional requirements. In addition, the FDA and other regulatory authorities may impose increased or enhanced regulatory inspections for domestic or foreign facilities involved in the manufacture of medical devices.

We may develop new medical devices in connection with our precision medicine platform and new molecular test candidates that are regulated by the FDA as medical devices. Unless otherwise exempted, medical devices must receive one of the following marketing authorizations from the FDA before being marketed in the United States: "510(k) clearance," *de novo* classification, or PMA. The FDA determines whether a medical device will require 510(k) clearance, *de novo* classification, or the PMA process based on statutory criteria that include the risk associated with the device and whether the device is similar to an existing, legally marketed product. In the 510(k) clearance process, before a device may be marketed, the FDA must determine that a proposed device is "substantially equivalent" to a legally-marketed "predicate" device, which includes a device that has been previously cleared through the 510(k) process, a device that was legally marketed prior to May 28, 1976 (pre-amendments device), a device that was originally on the U.S. market pursuant to an approved PMA and later down-classified, or a 510(k)-exempt device. To be "substantially equivalent," the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data are sometimes required to support substantial equivalence. In the process of obtaining PMA approval, the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, preclinical, clinical trial, manufacturing, and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices. The process to obtain either 510(k) clearance or PMA will likely be costly, time-consuming, and uncertain. However, we believe the PMA process is generally more challenging. Even if we design a product that we expect to be eligible for the 510(k) clearance process, the FDA may require that the product undergo the PMA process. There can be no assurance that the FDA will approve or clear the marketing of any new medical device product that we develop. Even if regulatory approval or clearance is granted, such approval may include significant limitations on indicated uses, which could materially and adversely affect the prospects of the new medical device product.

If a medical device is novel and has not been previously classified by the FDA as Class I, II, or III, it is automatically classified into Class III regardless of the level of risk it poses. The Food and Drug Administration Modernization Act of 1997 established a route to market for low to moderate risk medical devices that are automatically placed into Class III due to the absence of a predicate device, called the "Request for Evaluation of Automatic Class III Designation," or the *de novo* classification procedure. This procedure allows a manufacturer whose novel device would automatically be classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA application.

FDA marketing authorization could not only be required for new products we develop, but also could be required for certain enhancements we may seek to make to our existing tests and other products. Delays in receipt of, or failure to obtain, marketing authorizations could materially delay or prevent us from commercializing our products or result in substantial additional costs that could decrease our profitability. In addition, even if we receive FDA or other regulatory marketing authorizations for a new or enhanced product, the FDA or such other regulator may condition, withdraw, or materially modify its marketing authorization.

***If we fail to comply with laboratory licensing requirements, we could lose the ability to perform our tests or experience disruptions to our business.***

We are subject to CLIA, a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease. CLIA regulations require clinical laboratories to obtain a certificate and mandate specific standards in the areas of personnel qualifications, administration, and participation in proficiency testing, patient test management and quality assurance. CLIA certification is also required in order for us to be eligible to bill state and federal healthcare programs, as well as many private third-party payors, for our tests. To renew these certifications, we are subject to survey and inspection every two years. Moreover, CLIA inspectors may make random inspections of our clinical laboratory.

We are also required to maintain state licenses to conduct testing in our laboratories. We cannot provide assurance that state authorities will at all times in the future find us to be in compliance with all applicable laws. If a clinical laboratory is out of compliance, the state authority may suspend, restrict or revoke the license to operate the clinical laboratory, assess substantial civil money penalties, or impose specific corrective action plans. Any such actions could materially affect our business.

Moreover, several other states require that we hold licenses to test samples from patients in those states. We have obtained licenses from states where we believe we are required to be licensed. From time to time, we may become aware of other states that require out-of-state laboratories to obtain licensure in order to accept specimens from the state, and it is possible that other states do have such requirements or will have such requirements in the future. If we identify any other state with such requirements or if we are contacted by any other state advising us of such requirements, we expect to seek to comply with such requirements. However, there is no assurance that we will be able to obtain any such required license for the particular state.

Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing licensure, or our failure to renew a CLIA certificate, a state license or accreditation, could have a material and adverse effect on our business, operating results and financial condition. For a discussion of an inquiry from the State of Texas regarding our CLIA certification, see “Business—Legal Proceedings—Texas OIG Inquiry.” CMS also has the authority to impose a wide range of sanctions, including revocation of the CLIA certification along with a bar on the ownership or operation of a CLIA-certified laboratory by any owners or operators of the deficient laboratory. If we were to lose our CLIA certification or required state licensure, we would not be able to operate our clinical laboratory and conduct our tests, in full or in particular states, which would adversely impact our business, operating results, and financial condition.

***We are subject to costly and complex laws and governmental regulations.***

Our precision medicine product candidates are subject to a complex set of regulations and rigorous enforcement, including by the FDA, DOJ, HHS, and numerous other federal, state, and non-U.S. governmental authorities. To varying degrees, each of these agencies requires us to comply with laws and regulations governing the development, testing, manufacturing, labeling, marketing, and distribution of our products. As a part of the regulatory process of obtaining marketing authorization for new products

and modifications to existing products, we may conduct and participate in numerous clinical trials with a variety of study designs, patient populations, and trial endpoints. Unfavorable or inconsistent clinical data from existing or future clinical trials or the market's or FDA's perception of this clinical data, may adversely impact our ability to obtain product approvals, our position in, and share of, the markets in which we participate, and our business, operating results, and financial condition. We cannot guarantee that we will be able to obtain or maintain marketing authorization for our product candidates and/or enhancements or modifications to existing products, and the failure to maintain or obtain marketing authorization in the future could have a material and adverse effect on our business, operating results, financial condition.

Both before and after a product is commercially released, we and our products are subject to ongoing and pervasive oversight of government regulators. For instance, in the case of any product candidates subject to regulation by the FDA, including those products candidates in connection with our precision medicine platform, our facilities and procedures and those of our suppliers will be subject to periodic inspections by the FDA to determine compliance with applicable regulations. The results of these inspections can include inspectional observations on FDA's Form-483, warning letters, or other forms of enforcement. If the FDA or a non-U.S. regulatory agency were to conclude that we are not in compliance with applicable laws or regulations, or that any of our product candidates, if authorized for marketing, are ineffective or pose an unreasonable health risk, the FDA or such other non-U.S. regulatory agency could ban products, withdraw marketing authorizations for such products, detain or seize adulterated or misbranded products, order a recall, repair, replacement, or refund of such products, refuse to grant pending marketing applications, require certificates of non-U.S. governments for exports, and/or require us to notify health professionals and others that the products present unreasonable risks of substantial harm to the public health. The FDA and other non-U.S. regulatory agencies may also assess civil or criminal penalties against us, our officers, or employees and impose operating restrictions on a company-wide basis. The FDA may also recommend prosecution to the DOJ. Any adverse regulatory action, depending on its magnitude, may restrict us from effectively marketing and selling our products and limit our ability to obtain future marketing authorizations, and could result in a substantial modification to our business practices and operations.

Furthermore, we occasionally receive investigative demands, subpoenas, or other requests for information from state and federal governmental agencies, and we cannot predict the timing, outcome, or impact of any such investigations. See "Business—Legal Proceedings." Any adverse outcome in one or more of these investigations could include the commencement of civil and/or criminal proceedings, substantial fines, penalties, and/or administrative remedies, including exclusion from government reimbursement programs and/or amendments to our corporate integrity agreement with the OIG. In addition, resolution of any of these matters could involve the imposition of additional, costly compliance obligations. These potential consequences, as well as any adverse outcome from government investigations, could have a material and adverse effect on our business, operating results, and financial condition.

***Even if we obtain regulatory authorizations, our marketed products will be subject to ongoing regulatory review. If we fail to comply with continuing U.S. and foreign regulations, we could lose any marketing authorizations we have obtained and our business would be seriously harmed.***

Even after authorization, any medical products we develop will be subject to ongoing regulatory review, including requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy, and other post- market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. Any marketing authorizations that we obtain for our product candidates may also be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-

marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product candidate.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters;
- impose civil or criminal penalties;
- suspend or withdraw marketing authorizations;
- suspend or terminate any of our clinical studies;
- refuse to approve pending applications or supplements to approved applications submitted by us;
- impose restrictions on our operations, including closing our contract manufacturers' facilities; or
- seize or detain products, or require a product recall.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our products. If regulatory sanctions are applied or if regulatory authorization is withdrawn, our business could be seriously harmed.

Moreover, the policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory authorization of our product candidates. We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or to the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing authorization that we may have obtained and we may not achieve or sustain profitability.

Similarly, our commercial activities are subject to comprehensive compliance obligations under state and federal reimbursement, Sunshine Act, anti-kickback and government pricing regulations. If we make false price reports, fail to implement adequate compliance controls or our employees violate the laws and regulations governing relationships with healthcare providers, we could also be subject to substantial fines and penalties, criminal prosecution and debarment from participation in the Medicare, Medicaid, or other government reimbursement programs. For additional information regarding these risks, see the risk factor titled "If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected." Noncompliance with European Union requirements regarding safety monitoring or pharmacovigilance can also result in significant financial penalties. Similarly, failure to comply with the European Union requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

***We and our commercial partners and contract manufacturers are subject to significant regulation with respect to manufacturing medical devices and therapeutic products. The manufacturing facilities on which we rely may not continue to meet regulatory requirements or may not be able to meet supply demands.***

Entities involved in the preparation of medical devices and/or therapeutic products for clinical studies or commercial sale, including our manufacturers for the therapeutic products that we may develop, are subject to extensive regulation. Components of a finished medical device or therapeutic product approved for commercial sale or used in late-stage clinical studies must be manufactured in accordance with cGMP and/or QSR requirements. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of contaminants or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We, our collaboration partners or our contract manufacturers must supply all necessary documentation in support of an NDA, a BLA, a PMA, a 510(k) application, a request for *de novo* classification, or a Marketing Authorization Application, or MAA, on a timely basis and must adhere to cGMP regulations enforced by the FDA and other regulatory agencies through their facilities inspection program. Some of our contract manufacturers may have never produced a commercially approved pharmaceutical product and therefore have not been subject to the review of the FDA and other regulators. The facilities and quality systems of some or all of our collaboration partners and third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our drug and biologic product candidates and may be subject to inspection in connection with a MAA for any of our other potential product candidates. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. Although we oversee our contract manufacturers, we cannot control the manufacturing process of, and are completely dependent on, such contract manufacturing partners for compliance with these regulatory requirements. If these facilities do not pass a pre-approval plant inspection, marketing authorizations for the products may not be granted or may be substantially delayed until any violations are corrected to the satisfaction of the regulatory authority, if ever.

The regulatory authorities also may, at any time following approval or clearance of a product for sale, audit the manufacturing facilities of our collaboration partners and third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for us or a third party to implement and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

If we, our collaboration partners or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA or other applicable regulatory authority can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new product candidate, withdrawal of a marketing authorization or suspension of production. As a result, our business, operating results, and financial condition may be materially harmed.

Additionally, if supply from one approved manufacturer is interrupted, an alternative manufacturer will need to be qualified and we may need to obtain marketing authorization for a change in the manufacturer through submission of a PMA supplement, 510(k) pre-market notification, NDA or BLA

supplement, MAA variation or other regulatory filing to the FDA or other foreign regulatory agencies, which could result in further delay.

These factors could cause us to incur additional costs and could cause the delay or termination of clinical studies, regulatory submissions, required marketing authorizations or commercialization of our products, including product candidates. Furthermore, if our suppliers fail to meet contractual requirements and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical studies may be delayed or we could lose potential revenue.

***The FDA may initiate rulemaking to impose premarket review, clearance, or approval or other requirements on LDTs, and we may become subject to extensive regulatory requirements and may be required to conduct additional clinical trials prior to continuing to sell our existing tests or launching any other tests we may develop, which may increase the cost of conducting, or otherwise harm, our business.***

We currently market all of our commercial molecular tests as LDTs and may in the future market other tests as LDTs. The FDA has adopted a policy of enforcement discretion with respect to LDTs whereby the FDA does not actively enforce its regulatory requirements for such tests. However, the FDA may choose to initiate rulemaking to impose premarket review, clearance, or approval or other regulatory requirements on LDTs. If there are changes in FDA regulations, or if the FDA disagrees that our marketed tests are LDTs or determines that we are marketing our tests outside the scope of the FDA's current policy of enforcement discretion, we may become subject to extensive regulatory requirements and may be required to stop selling our existing tests or launching any other tests we may develop and to conduct additional clinical trials or take other actions prior to continuing to market our tests. If the FDA allows our tests to remain on the market but there is uncertainty about our tests, if they are labeled investigational by the FDA or if labeling claims the FDA allows us to make are very limited, orders from physicians or reimbursement may decline. If required, the regulatory authorization process may involve, among other things, successfully completing additional clinical trials and submitting a 510(k) notice, or filing a de novo classification request or a PMA application with the FDA. If the FDA adopts regulations requiring premarket review, our tests may not be cleared or approved on a timely basis, if at all. This could significantly increase the costs and expenses of conducting, or otherwise harm, our business.

While we believe that we are currently in material compliance with applicable laws and regulations as historically enforced by the FDA with respect to LDTs, we cannot assure you that the FDA will agree with our determination. A determination that we have violated these laws and regulations, or a public announcement that we are being investigated for possible violations, could adversely affect our business, prospects, results of operations, and financial condition.

On July 31, 2014, the FDA notified Congress of its intent to modify, in a risk-based manner, its policy of enforcement discretion with respect to LDTs. On October 3, 2014, the FDA issued two draft guidances, entitled "Framework for Regulatory Oversight of Laboratory Developed Tests (LDTs)," or the Framework Guidance, and "FDA Notification and Medical Device Reporting for Laboratory Developed Tests (LDTs)." The Framework Guidance stated that the FDA intended to modify its policy of enforcement discretion with respect to LDTs in a risk-based manner consistent with the existing classification of medical devices. Thus, pursuant to the Framework Guidance, the FDA planned to begin to enforce its medical device requirements, including premarket submission requirements, on LDTs that have historically been marketed without FDA premarket review and oversight. In August 2020, HHS announced that the FDA will not require premarket review for any LDTs without first conducting notice-and-comment rulemaking proceedings. Although, as a result of this decision, the FDA may not rely on guidance documents, policy statements, or other informal decision-making to impose premarket review requirements on LDTs, the FDA could ultimately adopt rules that modify its current approach to LDTs in a way that would subject our products marketed as LDTs to the enforcement of regulatory

requirements. Additionally, if and when the FDA begins to actively enforce its premarket submission regulations with respect to LDTs, we may be required to obtain premarket clearance or approval for our currently marketed tests and other products we plan to commercialize as LDTs. Moreover, legislative measures have recently been proposed in Congress that, if ultimately enacted, could provide the FDA with additional authority to require premarket review of and regulate LDTs. For example, in late 2018, the FDA proposed to Congress significant reforms to the agency's regulation of LDTs that would bring all in vitro clinical tests, including LDTs, under a unified framework and would dramatically increase FDA oversight of LDTs. The FDA's proposal included premarket review for certain tests, a precertification program to permit approval or clearance of a group of tests based on the review of a representative test, registration and notification requirements, quality system requirements, adverse event reporting, labeling requirements, and explicit authorities for the FDA to revoke the marketing authorization of tests and to take corrective action against test developers. However, in August 2020, the HHS issued a rescission order stating that the FDA will not require premarket review of LDTs absent changes in policy implemented through formal notice-and-comment rulemaking procedures. The outcome and ultimate impact of such proposals on our business is difficult to predict at this time. Potential future increased regulation of our LDTs could also result in increased costs and administrative and legal actions for noncompliance, including warning letters, fines, penalties, product suspensions, product recalls, injunctions and other civil and criminal sanctions, which could have a material and adverse effect upon our business, operating results, and financial condition.

***We may be adversely impacted by changes in laws and regulations, or in their application.***

The industries in which we operate are highly regulated, and failure to comply with applicable regulatory, supervisory, accreditation, registration, or licensing requirements may adversely affect our business, operating results, and financial condition. The laws and regulations governing our research and marketing efforts are extremely complex and in many instances there are no clear regulatory or judicial interpretations of these laws and regulations, which increases the risk that we may be found to be in violation of these laws.

Furthermore, the industries in which we operate are growing, and regulatory agencies such as HHS or the FDA may apply heightened scrutiny to new developments. While we have taken steps to ensure compliance with current regulatory regimes in all material respects, given the nature of such regimes and our geographical diversity, there could be areas where we are noncompliant. Any change in the federal or state laws or regulations relating to our business may require us to implement changes to our business or practices, and we may not be able to do so in a timely or cost-effective manner. Should we be found to be noncompliant with current or future regulatory requirements, we may be subject to sanctions which could include changes to our operations, adverse publicity, substantial financial penalties and criminal proceedings, which may adversely affect our business, operating results, and financial condition by increasing our cost of compliance or limiting our ability to develop, market and commercialize our products. For additional information regarding these risks, see the risk factor titled "If we or our commercial partners act in a manner that violates healthcare laws or otherwise engage in misconduct, we could face substantial penalties and damage to our reputation, and our business operations and financial condition could be adversely affected."

In addition, there has been a recent trend of increased U.S. federal and state regulation of payments made to physicians, which are governed by laws and regulations including the Stark Law, the federal Anti-Kickback Statute, the Physician Payments Sunshine Act and the federal False Claims Act as well as state equivalents of such laws. Among other requirements, the Stark Law requires laboratories to track, and places a cap on, non-monetary compensation provided to referring physicians.

While we have a compliance plan intended to address compliance with government laws and regulations, including applicable fraud and abuse laws and regulations such as those described in this risk factor, the

evolving commercial compliance environment and the need to build and maintain robust and scalable systems to comply with regulations in multiple jurisdictions with different compliance and reporting requirements increases the possibility that we could inadvertently violate one or more of these requirements.

***Changes in the way the FDA regulates the reagents, other consumables, and testing equipment we use when developing, validating, and performing our tests could result in delay or additional expense in bringing our tests to market or performing such tests for our customers.***

Many of the sequencing instruments, reagents, kits and other consumable products used to perform our testing, as well as the instruments and other capital equipment that enable the testing, are offered for sale as analyte specific reagents, or ASRs, or for research use only, or RUO. ASRs are medical devices and must comply with FDA QSR provisions and other device requirements, but most are exempt from 510(k) and PMA review. Products that are intended for RUO and are labeled as RUO, including our epigenetics platform, are exempt from compliance with FDA requirements, including the approval or clearance and other product quality requirements for medical devices. A product labeled RUO but which is actually intended for clinical diagnostic use may be viewed by the FDA as adulterated and misbranded under the FD&C Act and subject to FDA enforcement action. The FDA has said that when determining the intended use of a product labeled RUO, it will consider the totality of the circumstances surrounding distribution and use of the product, including how the product is marketed and to whom. The FDA could disagree with a supplier's assessment that the supplier's products are RUOs, or could conclude that products labeled as RUO are actually intended for clinical diagnostic use, and could take enforcement action against the supplier, including requiring the supplier to cease offering the product while it seeks clearance or approval. Suppliers of RUO products that we employ in our other tests may cease selling their respective products, and we may be unable to obtain an acceptable substitute on commercially reasonable terms or at all, which could significantly and adversely affect our ability to provide timely testing results to our customers or could significantly increase our costs of conducting business.

***Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire, retain, or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, cleared, or approved or commercialized in a timely manner or at all, which could negatively impact our business.***

The ability of the FDA to review and clear or approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new drugs, medical devices, and biologics or modifications to cleared or approved drugs, medical devices, and biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the COVID-19 pandemic, the FDA temporarily postponed routine surveillance inspections of domestic and foreign manufacturing facilities and inspections of foreign products. The FDA recently announced that it was beginning to work toward resuming prioritized domestic inspections, where possible to do so safely, and, on a case-by-case basis, conducting "mission-critical" inspections. Routine foreign facility inspections have not resumed, however the FDA has expanded its use of other tools , when possible, to ensure the quality and safety of products being imported into the United States. Regulatory authorities outside the United States may adopt similar restrictions or other

policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

***If the FDA does not conclude that certain of our product candidates satisfy the requirements for the Section 505(b)(2) regulatory approval pathway, or if the requirements for such product candidates under Section 505(b)(2) are not as we expect, the approval pathway for those product candidates will likely take significantly longer, cost significantly more and entail significantly greater complications and risks than anticipated, and in either case may not be successful.***

We are developing proprietary product candidates, such as PGN-600, a GI-targeted tofacitinib, for which we may seek FDA approval through the Section 505(b)(2) regulatory pathway. We expect that PGN-600 will be regulated as a drug/device combination product under the drug provisions of the FD&C Act, enabling us to submit NDAs for approval of this product candidate. The Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act, added Section 505(b)(2) to the FD&C Act. Section 505(b)(2) permits the filing of an NDA where at least some of the information required for approval comes from studies that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference. Section 505(b)(2), if applicable to us under the FD&C Act, would allow an NDA we submit to the FDA to rely in part on data in the public domain or the FDA's prior conclusions regarding the safety and effectiveness of approved compounds, which could expedite the development program for our product candidate by potentially decreasing the amount of nonclinical and/or clinical data that we would need to generate in order to obtain FDA approval. If the FDA does not allow us to pursue the Section 505(b)(2) regulatory pathway as anticipated, we may need to conduct additional nonclinical studies and/or clinical trials, provide additional data and information, and meet additional standards for regulatory approval. If this were to occur, the time and financial resources required to obtain FDA approval for this product candidate, and complications and risks associated with this product candidate, would likely substantially increase. Moreover, inability to pursue the Section 505(b)(2) regulatory pathway could result in new competitive products reaching the market more quickly than our product candidate, which would likely materially adversely impact our competitive position and prospects. Even if we are allowed to pursue the Section 505(b)(2) regulatory pathway, we cannot assure you that our product candidate will receive the requisite approval for commercialization.

In addition, notwithstanding the approval of a number of products by the FDA under Section 505(b)(2) over the last few years, certain pharmaceutical companies and others have objected to the FDA's interpretation of Section 505(b)(2). If the FDA's interpretation of Section 505(b)(2) is successfully challenged, the FDA may change its 505(b)(2) policies and practices, which could delay or even prevent the FDA from approving any NDA that we submit under Section 505(b)(2). In addition, the pharmaceutical industry is highly competitive, and Section 505(b)(2) NDAs are subject to certain requirements designed to protect the patent rights of sponsors of previously approved drugs that are referenced in a Section 505(b)(2) NDA. These requirements may give rise to patent litigation and mandatory delays in approval of our NDAs for up to 30 months or longer depending on the outcome of any litigation. It is not uncommon for a manufacturer of an approved product to file a citizen petition with the FDA seeking to delay approval of, or impose additional approval requirements for, pending competing products. If successful, such petitions can significantly delay, or even prevent, the approval of the new product. Even if the FDA ultimately denies such a petition, the FDA may substantially delay approval while it considers and responds to the petition. In addition, even if we are able to utilize the Section 505(b)(2) regulatory pathway, there is no guarantee this would ultimately lead to streamlined product development or earlier approval.

Moreover, even if our product candidate is approved under Section 505(b)(2), the approval may be subject to limitations on the indicated uses for which the product may be marketed or to other conditions of approval, or may contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product.

***The misuse or off-label use of our products or product candidates may harm our reputation in the marketplace, result in injuries that lead to product liability suits or result in costly investigations, fines or sanctions by regulatory bodies if we are deemed to have engaged in the promotion of these uses, and any of these consequences could be costly to our business.***

We are developing certain precision medicine product candidates, including pharmaceutical products and medical devices, which if authorized for marketing by the FDA or other regulatory authorities, will be authorized for use in specific indications and patient populations. We expect to train our marketing personnel and direct sales force not to promote our product candidates for uses outside of the FDA-approved or -cleared indications for use, which are sometimes referred to as "off-label uses." We cannot, however, prevent a physician from using our products off-label, when in the physician's independent professional medical judgment he or she deems it appropriate. There may be increased risk of injury to patients if physicians attempt to use our products off-label. Furthermore, the use of our products for indications other than those authorized for marketing by the FDA or any foreign regulatory body may not effectively treat such conditions, which could harm our reputation in the marketplace among physicians and patients.

If the FDA or any foreign regulatory body determines that our promotional materials or training constitute promotion of an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance or imposition of an untitled letter, a warning letter, injunction, seizure, civil fine, or criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action under other regulatory authority, such as false claims laws, if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil, and administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs and the curtailment of our operations.

In addition, physicians may misuse our products or use improper techniques if they are not adequately trained, potentially leading to injury and an increased risk of product liability. If our products are misused or used with improper technique, we may become subject to costly litigation by our customers or their patients. As described above, product liability claims could divert management's attention from our core business, be expensive to defend and result in sizeable damage awards against us that may not be covered by insurance.

**Risks Related to Our Intellectual Property**

***Third-party claims of intellectual property infringement could result in litigation or other proceedings, which would be costly and time-consuming, and could limit our ability to commercialize our products.***

Our success depends in part on our freedom-to-operate with respect to the patents or intellectual property rights of third parties. We operate in industries in which there have been substantial litigation and other proceedings regarding patents and other intellectual property rights. For example, we have identified a number of third party patents that may be asserted against us with respect to certain of our current molecular testing products and certain of our future products in the molecular testing and precision medicine space. We believe that we do not infringe the relevant claims of these third party patents and/or that the relevant claims of these patents are likely invalid or unenforceable. We may choose to challenge the validity of these patents, though the outcome of any challenge that we may initiate in the future is uncertain. We may also decide in the future to seek a license to those third party

patents, but we might not be able to do so on reasonable terms. Certain third parties, including our competitors or collaborators, have asserted and may in the future assert that we are employing their proprietary technology without authorization or that we are otherwise infringing their intellectual property rights. The risk of intellectual property proceedings may increase as the number of products and the level of competition in our industry segments grows. Defending against infringement claims is costly and may divert the attention of our management and technical personnel. If we are unsuccessful in defending against patent infringement claims, we could be required to stop developing or commercializing products, pay potentially substantial monetary damages, and/or obtain licenses from third parties, which we may be unable to do on acceptable terms, if at all, and which may require us to make substantial royalty payments. In addition, we could encounter delays in product introductions while we attempt to develop alternative non-infringing products. Any of these or other adverse outcomes could prevent us from offering our tests, which would have a material and adverse effect on our business, operating results, and financial condition. See “Business—Legal Proceedings—Natera Lawsuit” for more information regarding a patent infringement suit filed by Natera, Inc.

As we move into new markets and develop enhancements to and new applications for our products, competitors have asserted and may in the future assert their patents and other proprietary rights against us as a means of blocking or slowing our entry into such markets or our sales of such new or enhanced products or as a means to extract substantial license and royalty payments from us. Our competitors and others may have significantly stronger, larger, and/or more mature patent portfolios than we have, and additionally, our competitors may be better resourced and highly motivated to protect large, well-established markets that could be disrupted by our product candidates. In addition, future litigation may involve patent holding companies or other patent owners or licensees who have no relevant product revenues and against whom our own patents may provide little or no deterrence or protection.

In addition, our agreements with some of our customers, suppliers, and other entities with whom we do business require us to defend or indemnify these parties to the extent they become involved in infringement claims, including the types of claims described above. We could also voluntarily agree to defend or indemnify third parties if we determine it to be in the best interests of our business relationships. If we are required or agree to defend or indemnify third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results, and financial condition.

***Because the industries in which we operate are particularly litigious, we are susceptible to intellectual property suits that could cause us to incur substantial costs or pay substantial damages or prohibit us from selling our products or conducting our other business.***

There is a substantial amount of litigation over patent and other intellectual property rights in the industries in which we operate, including but not limited to the biotechnology, life sciences, pharmaceuticals, and medical device industries. Whether a product infringes a patent involves complex legal and factual issues that may be open to different interpretations. Searches typically performed to identify potentially infringed patents of third parties are often not conclusive and because patent applications can take many years to issue, there may be applications now pending, which may later result in issued patents which our current or future products may infringe. In addition, our competitors or other parties may assert that our product candidates and the methods they employ may be covered by patents held by them. If any of our products infringes a valid patent, we could be prevented from manufacturing or selling it unless we can obtain a license or redesign the product to avoid infringement. A license may not always be available or may require us to pay substantial royalties. Infringement and other intellectual property claims, with or without merit, can be expensive and time-consuming to litigate and could divert our management’s attention from operating our business.

***Any inability to effectively protect our proprietary technologies could harm our competitive position.***

Our success and ability to compete depend to a large extent on our ability to develop proprietary products and technologies and to maintain adequate protection of our intellectual property in the United States and elsewhere. The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have encountered significant challenges in establishing and enforcing their proprietary rights outside of the United States. These challenges can be caused by the absence of rules and methods for the establishment and enforcement of intellectual property rights in certain jurisdictions outside of the United States. In addition, the proprietary positions of companies in the industries in which we operate generally are uncertain and involve complex legal and factual questions. This is particularly true in the diagnostics area where the U.S. Supreme Court has issued a series of decisions setting forth limits on the patentability of natural phenomena, natural laws, abstract ideas and their applications (see, *Mayo Collaborative v. Prometheus Laboratories (2012)*, *Association for Molecular Pathology v. Myriad Genetics (2013)*, *and Alice Corporation v. CLS Bank (2014)*, which has made it difficult to obtain certain patents and to assess the validity of previously issued patents). This uncertainty may materially affect our ability to defend or obtain patents or to address the patents and patent applications owned or controlled by our collaborators and licensors.

We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies are covered by valid and enforceable patents or are effectively maintained as trade secrets. Any finding that our patents or patent applications are invalid or unenforceable could harm our ability to prevent others from practicing the related technology. We cannot be certain that we were the first to invent the inventions covered by pending patent applications or that we were the first to file such applications, and a finding that others have claims of inventorship or ownership rights to our patents and applications could require us to obtain certain rights to practice related technologies, which may not be available on favorable terms, if at all. There may be times when we choose to retain advisors with academic employers who limit their employees' rights to enter into agreements which provide the kind of confidentiality and assignment provisions congruent with our consulting agreements. We may decide that obtaining the services of these advisors is worth any potential risk, and this may harm our ability to obtain and enforce our intellectual property rights. In addition, our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from practicing our technologies or from developing similar or alternative competing products, or design around our patented technologies, and may therefore fail to provide us with any competitive advantage. Furthermore, as our issued patents expire, we may lose some competitive advantage as others develop competing products that would have been covered by the expired patents, and, as a result, may adversely affect our business, operating results, and financial condition.

We may be required to file or defend infringement lawsuits and other contentious proceedings, such as *inter partes* reviews, reexaminations, oppositions, and declaratory judgement actions, to protect our interests, which can be expensive and time-consuming. We cannot assure you that we would prevail over an infringing third party, and we may become subject to counterclaims by such third parties. Our patents may be declared invalid or unenforceable, or narrowed in scope, as a result of such litigation or other proceedings. Some third-party infringers may have substantially greater resources than us and may be able to sustain the costs of complex infringement litigation more effectively than we can. Even if we have valid and enforceable patents, competitors may still choose to offer products that infringe our patents. Further, preliminary injunctions that bar future infringement by the competitor are not often granted; therefore, remedies for infringement are not often immediately available. Even if we prevail in an infringement action, we cannot assure you that we would be fully or partially financially compensated for any harm to our business. We may be forced to enter into a license or other agreement with the third parties on terms less profitable or otherwise less commercially acceptable to us than those negotiated between a willing licensee and a willing licensor. Any inability to stop third-party infringement could result in loss in market share of some of our products, or lead to a delay, reduction, and/or inhibition of

our development, manufacture, or sale of some of our products. A product produced and sold by a third-party infringer may not meet our or other regulatory standards or may not be safe for use, which could cause irreparable harm to the reputation of our products, which in turn could result in substantial loss in our market share and profits. See “Business—Legal Proceedings—Natera Lawsuit” for more information regarding a patent infringement suit filed by Natera, Inc.

There is also the risk that others may independently develop similar or alternative technologies or design around our patented technologies, and our competitors or others may have filed, and may in the future file, conflicting patent claims covering technology similar or identical to ours. The costs associated with challenging conflicting patent claims could be substantial, and it is possible that our efforts would be unsuccessful and may result in a loss of our patent position and the issuance or validation of the competing claims. Should such competing claims cover our technology, we could be required to obtain rights to those claims at substantial cost.

Any of these factors could adversely affect our ability to obtain commercially relevant or competitively advantageous patent protection for our products.

***“Submarine” patents may be granted to our competitors, which may significantly alter our launch timing expectations, reduce our projected market size, cause us to modify our product or process or block us from the market altogether.***

The term “submarine” patent is used to denote a patent issuing from an application that was not published, publicly known or available prior to its grant. Submarine patents add substantial risk and uncertainty to our business. Submarine patents may issue to our competitors covering our product candidates or our pipeline candidates and thereby cause significant market entry delay, defeat our ability to market our products or cause us to abandon development and/or commercialization of a product or molecule.

The issuance of one or more submarine patents may harm our business by causing substantial delays in our ability to introduce a product candidate or other product into the U.S. market.

***If we are not able to adequately protect our trade secrets, know-how, and other proprietary information, the value of our technology and products could be significantly diminished.***

We rely on trade secret protection and proprietary know-how protection for our confidential and proprietary information, and we have taken security measures to protect this information. These measures, however, may not provide adequate protection for our trade secrets, know-how, or other proprietary information. For example, although we have a policy of requiring our consultants, advisors and collaborators to enter into confidentiality agreements and our employees to enter into invention, non-disclosure and, where lawful, noncompete agreements, we cannot assure you that such agreements will provide for a meaningful protection of our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure of information, including as a result of breaches of our physical or electronic security systems, or as a result of our employees failing to abide by their confidentiality obligations during or upon termination of their employment with us. Any action to enforce our rights is likely to be time-consuming and expensive, and may ultimately be unsuccessful, or may result in a remedy that is not commercially valuable. These risks are heightened in countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States. Any unauthorized use or disclosure of, or access to, our trade secrets, know-how or other proprietary information, whether accidentally or through willful misconduct, could have a material and adverse effect on our programs, our business strategy, and on our ability to compete effectively.

***If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest, and our business may be adversely affected.***

Failure to maintain our trademark registrations, or to obtain new trademark registrations in the future, could limit our ability to protect our trademarks and impede our marketing efforts in the countries in which we operate. We may not be able to protect our rights to trademarks and trade names which we may need to build name recognition with potential partners or customers in our markets of interest. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive, particularly for a company of our size, and time-consuming, and we may not be successful. Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks.

Our pending trademark applications in the United States and in other foreign jurisdictions where we may file may not be allowed or may subsequently be opposed. Even if these applications result in registration of trademarks, third parties may challenge our use or registration of these trademarks in the future. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected.

***We may be subject to claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties.***

We employ individuals who were previously employed at other companies in the industries in which we operate, including biotechnology or diagnostic companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or willfully used or disclosed confidential information of our employees' former employers or other third parties. We may also be subject to claims that our employees' former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims, and if we are unsuccessful, we could be required to pay substantial damages and could lose rights to important intellectual property. Even if we are successful, litigation could result in substantial costs to us and could divert the time and attention of our management and other employees.

**Risks Related to this Offering and Ownership of Our Common Stock**

***The market price of our common stock has fluctuated in the past, and is likely to continue to be volatile, which could subject us to litigation.***

The market price of our common stock is likely to be subject to wide fluctuations in response to numerous factors, many of which are beyond our control, such as those in this "Risk Factors" section and others including:

- actual or anticipated variations in our and our competitors' operating results;
- announcements by us or our competitors of new products, product development results, significant acquisitions, strategic and commercial partnerships and relationships, joint ventures, collaborations or capital commitments;
- changes in reimbursement by current or potential payors;
- issuance of new securities analysts' reports or changed recommendations for our stock;
- periodic fluctuations in our revenue, due in part to the way in which we recognize revenue;
- actual or anticipated changes in regulatory oversight of our products;
- developments or disputes concerning our intellectual property or other proprietary rights or alleged infringement of third party's rights by our products;

- commencement of, or our involvement in, litigation or other proceedings;
- announcement or expectation of additional debt or equity financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- any major change in our management; and
- general economic conditions and slow or negative growth of our markets.

In addition, if the stock market experiences uneven investor confidence, the market price of our common stock could decline for reasons unrelated to our business, operating results or financial condition. The market price of our common stock might also decline in reaction to events that affect other companies within, or outside, our industry even if these events do not directly affect us. Some companies that have experienced volatility in the trading price of their stock have been the subject of securities class action litigation. If we are the subject of such litigation, it could result in substantial costs and a diversion of our management's attention and resources.

***We have broad discretion in the use of the net proceeds from this offering and the concurrent offering and may not use them effectively.***

We cannot specify with any certainty the particular uses of the net proceeds that we will receive from this offering and the concurrent offering. Our management will have broad discretion in the application of the net proceeds from this offering and the concurrent offering for any of the purposes described in "Use of Proceeds," and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering and the concurrent offering in a manner that does not produce income or that loses value.

***Insiders have substantial control over us and will be able to influence corporate matters.***

Our current directors and executive officers, together with their affiliates, will beneficially own, in the aggregate, approximately % of our outstanding common stock after the completion of this offering. After the completion of this offering, Dr. Harry Stylli, our Chief Executive Officer and Chairman of our Board, will own % of our outstanding common stock and affiliates of Athyrium Capital Management, LP, who appointed a director to our board, will own % of our outstanding common stock. Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. If such stockholders were to purchase all shares they have indicated an interest in purchasing, our current directors, officers, together with their affiliates, would beneficially own approximately % of our outstanding common stock upon the closing of this offering (based on an assumed public offering price of $ per share (the last reported sale price on The Nasdaq Global Market on , 2020, and assuming no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options). As a result, after this offering, our directors and executive officers, together with their affiliates, if they act, will continue to be able to exercise significant influence over all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as a merger or other sale of our company or its assets. They may have interests that differ from yours and may vote in a way with which you disagree and that may be adverse to your interests. This concentration of ownership could limit stockholders' ability to influence corporate matters and may have the effect of delaying, deterring or preventing a third party from acquiring control over us, depriving our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company, and could negatively impact the value and market price of our common stock.

***We do not intend to pay dividends on our capital stock, so any returns will be limited to changes in the value of our common stock.***

While we have paid dividends to our stockholders in the past, we currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. In addition, our ability to pay cash dividends on our capital stock may be prohibited or limited by the terms of any current or future debt financing arrangement, including our credit and security agreement with Athyrium Opportunities III Co-Invest 1 LP. Any return to stockholders may therefore be limited to the increase, if any, of the price of our common stock.

***If you purchase our common stock in this offering, you will incur immediate and substantial dilution.***

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the amount of $ per share because the assumed public offering price of $ per share (the last reported sale price of our common stock on The Nasdaq Global Market on , 2020) is substantially higher than the as-adjusted net tangible book value per share of our common stock. This dilution is due in large part to the substantially lower price paid by certain of our earlier investors who purchased shares prior to this offering as compared to the price offered to the public in this offering. In addition, as of September 30, 2020, options to purchase 3,531,577 shares of our common stock with a weighted average exercise price of approximately $9.01 per share were outstanding and, as of September 30, 2020, there were 1,194,077 restricted stock units outstanding. The exercise of any of these options or the vesting of the restricted stock units would result in additional dilution. As a result of the dilution to investors purchasing shares in this offering, investors may receive less than the purchase price paid in this offering, if anything, in the event of our liquidation.

***Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause the stock price of our common stock to decline.***

We may issue additional securities following the completion of this offering. In the future, we may sell common stock, convertible securities, or other equity securities in one or more transactions at prices and in a manner we determine from time to time. We also expect to issue common stock to employees, directors, and consultants pursuant to our equity incentive plans. If we sell common stock, convertible securities, or other equity securities in subsequent transactions, or common stock is issued pursuant to equity incentive plans, investors may be materially diluted. New investors in such subsequent transactions could gain rights, preferences, and privileges senior to those of holders of our common stock.

***Participation in this offering by our existing stockholders would reduce the available public float for our shares.***

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing up to an aggregate of approximately $5.0 million of shares of our common stock in this offering at the public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares of our common stock in this offering to these stockholders, or these stockholders may determine to purchase more, fewer or no shares of our common stock in this offering. To the extent these existing stockholders purchase any shares in this offering, such purchase could reduce the available public float for our shares because such stockholders may be restricted from selling the shares by restrictions under applicable securities laws. As a result, any purchase of shares by such stockholders in this offering may reduce the liquidity of our common stock relative to what it would have been had these shares been purchased by investors that were not existing stockholders.

***Sales of a substantial number of shares of our common stock in the public market by our existing stockholders following this offering could cause the price of our common stock to decline.***

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

All of our executive officers and directors and our principal stockholders are subject to lock-up agreements with the underwriters of this offering that restrict the stockholders' ability to transfer shares of our common stock for at least 90 days from the date of this prospectus and the date of the offering memorandum relating to the concurrent offering, except, with respect to this offering, with the prior written consent of Piper Sandler & Co. and Wells Fargo Securities, LLC and, with respect to the concurrent offering, with the prior written consent of Piper Sandler & Co. Subject to certain limitations, approximately 37,143,805 shares of our common stock will become eligible for sale upon expiration of the 90-day lock-up period. In addition, shares issued or issuable upon exercise of options and restricted stock units vested as of the expiration of the 90-day lock-up period will be eligible for sale at that time.

All of our issued and outstanding shares of common stock will be freely tradable after the expiration date of the lock-up agreements, excluding any shares acquired in this offering by persons who may be deemed to be our affiliates as defined in Rule 144 under the Securities Act. Shares of our common stock held by our affiliates will continue to be subject to the volume and other restrictions of Rule 144 under the Securities Act. Sales of a substantial number of these shares upon expiration of the lock-up agreements could adversely affect the trading price of our common stock.

***We have and will continue to incur significantly increased costs and devote substantial management time to reporting and other requirements as a result of operating as a public company.***

As a public company, we have and will continue to incur significant legal, accounting, and other expenses that we did not incur as a private company. For example, we are subject to the reporting requirements of the Securities Exchange Act of 1934, or Exchange Act, and are required to comply with the applicable requirements of the Sarbanes-Oxley Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules and regulations subsequently implemented by the SEC and The Nasdaq Global Market, or Nasdaq, including the establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. We expect that compliance with these requirements will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. Certain members of our management and other personnel have little experience managing a public company and preparing public filings. In addition, we expect that our management and other personnel will need to divert attention from operational and other business matters to devote substantial time to these public company requirements. In particular, we expect to incur significant expenses and devote substantial management effort toward ensuring compliance with the requirements of Section 404 of the Sarbanes-Oxley Act, which will increase when we are no longer an emerging growth company, as defined by the JOBS Act. We will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. We cannot predict or estimate the amount of additional costs we may incur as a result of becoming a public company or the timing of such costs. Additional compensation costs and any future equity awards will increase our compensation expense, which would increase our general and administrative expense and could adversely affect our profitability. We also expect that operating as a public company will make it more difficult and more expensive for us to obtain director and officer liability insurance on reasonable terms. As a result, it may be more difficult for us to attract and retain qualified people to serve on our board of directors or our board committees or as executive officers.

***We are an emerging growth company and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.***

We are an emerging growth company. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption and, as a result, will not be subject to the same implementation timing for new or revised accounting standards as are required of other public companies that are not emerging growth companies, which may make comparison of our consolidated financial information to those of other public companies more difficult.

For as long as we continue to be an emerging growth company, however, we intend to take advantage of certain other exemptions from various reporting requirements that are applicable to other public companies including, but not limited to, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile and experience decreases.

We will remain an emerging growth company until the earliest of (a) the end of the fiscal year (i) following the fifth anniversary of the closing of our initial public offering, (ii) in which the market value of our common stock that is held by non-affiliates exceeds $700 million and (iii) in which we have total annual gross revenues of $1.07 billion or more during such fiscal year, and (b) the date on which we issue more than $1 billion in non-convertible debt in a three-year period.

***We have previously identified material weaknesses in our internal control over financial reporting. If additional material weaknesses or significant deficiencies in our internal control over financial reporting are discovered or occur in the future, our consolidated financial statements may contain material misstatements and we could be required to restate our financial results, which could adversely affect our stock price and result in an inability to maintain compliance with applicable stock exchange listing requirements.***

We previously concluded that there were matters that constituted material weaknesses in our internal control over financial reporting that have since been remediated. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected and corrected on a timely basis. The material weaknesses related to a lack of (i) controls designed to reconcile tests performed and recognized as revenue to billed tests and (ii) appropriately designed or effectively operating controls over the proper recording of accounts payable and accrued liabilities.

If additional material weaknesses or significant deficiencies in our internal control over financial reporting are discovered or occur in the future, our consolidated financial statements may contain material misstatements and we could be required to restate our financial results. If we are unable to successfully remediate any material weaknesses in our internal controls or if we are unable to produce accurate and timely financial statements, our stock price may be adversely affected, and we may be unable to maintain compliance with applicable stock exchange listing requirements.

***If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.***

The trading market for our common stock depends, in part, on the research and reports that securities or industry analysts publish about us or our business. If few securities analysts provide coverage of us, or if

industry analysts cease coverage of us, the trading price and volume for our common stock could be adversely affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our common stock price and trading volume to decline.

***Provisions in our eighth amended and restated certificate of incorporation and amended and restated bylaws and Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock.***

Our eighth amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could depress the market price of our common stock by acting to discourage, delay, or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- prohibit stockholder action by written consent, which requires stockholder actions to be taken at a meeting of our stockholders, except for so long as specified current stockholders hold in excess of 50% of our outstanding common stock;
- prohibit stockholders from calling special meetings of stockholders;
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings;
- provide the board of directors with sole authorization to establish the number of directors and fill director vacancies; and
- provide that the board of directors is expressly authorized to make, alter, or repeal our amended and restated bylaws.

In addition, Section 203 of the Delaware General Corporation Law may discourage, delay, or prevent a change in control of our company. Section 203 imposes certain restrictions on mergers, business combinations and other transactions between us and holders of 15% or more of our common stock.

For more information regarding these and other provisions, see "Description of Capital Stock."

***Our eighth amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.***

Our eighth amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum, to the fullest extent permitted by law, for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a breach of a fiduciary duty owed by any director, officer or other employee to us or our stockholders, (3) any action asserting a claim against us or any director, officer or other employee arising pursuant to the Delaware General Corporation Law, (4) any action to interpret, apply, enforce or determine the validity of our eighth amended and restated certificate of incorporation or amended and restated bylaws, or (5) any other action asserting a claim that is governed by the internal affairs doctrine, shall be the Court of Chancery of the State of Delaware (or another state court or the federal court located within the State of Delaware if the Court of Chancery does not have or declines to accept jurisdiction), in all cases subject

to the court's having jurisdiction over indispensable parties named as defendants. In addition, our eighth amended and restated certificate of incorporation provides that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act but that the forum selection provision will not apply to claims brought to enforce a duty or liability created by the Exchange Act. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers. Alternatively, if a court were to find the choice of forum provision contained in our eighth amended and restated certificate of incorporation and amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, financial condition, and operating results. For example, under the Securities Act, federal courts have concurrent jurisdiction over all suits brought to enforce any duty or liability created by the Securities Act, and investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Any person or entity purchasing or otherwise acquiring any interest in our shares of capital stock shall be deemed to have notice of and consented to this exclusive forum provision, but will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

**Risks Relating to the Concurrent Offering**

***The issuance of shares of our common stock upon conversion of the convertible notes will dilute the ownership interests of our stockholders and could depress the trading price of our common stock.***

We must settle conversions of the convertible notes being offered in the concurrent offering in shares of our common stock, together with cash in lieu of issuing any fractional share. The issuance of shares of our common stock upon conversion of the convertible notes will dilute the ownership interests of our stockholders, which could depress the trading price of our common stock. In addition, the market's expectation that conversions may occur could depress the trading price of our common stock even in the absence of actual conversions. Moreover, the expectation of conversions could encourage the short selling of our common stock, which could place further downward pressure on the trading price of our common stock.

***Hedging activity by investors in the convertible notes could depress the trading price of our common stock.***

We expect that many investors in the convertible notes being offered in the concurrent offering, including potential purchasers of the convertible notes following the concurrent offering, will seek to employ a convertible note arbitrage strategy. Under this strategy, investors typically short sell a certain number of shares of our common stock and adjust their short position over time while they continue to hold the convertible notes. Investors may also implement this type of strategy by entering into swaps on our common stock in lieu of, or in addition to, short selling shares of our common stock. This market activity, or the market's perception that it will occur, could depress the trading price of our common stock.

***Provisions in the indenture governing the convertible notes could delay or prevent an otherwise beneficial takeover of us.***

Certain provisions in the convertible notes and the indenture governing the convertible notes could make a third party attempt to acquire us more difficult or expensive. For example, if a takeover constitutes a "fundamental change" (which will be defined in the indenture to include certain change-of-control events and the delisting of our common stock), then noteholders will have the right to require us to repurchase their convertible notes for cash. In addition, if a takeover constitutes a "make-whole fundamental change" (which will be defined in the indenture to include, among other events, fundamental changes and certain additional business combination transactions), then we may be required to temporarily

increase the conversion rate for the convertible notes. In either case, and in other cases, our obligations under the convertible notes and the indenture could increase the cost of acquiring us or otherwise discourage a third party from acquiring us or removing incumbent management, including in a transaction that holders of our common stock may view as favorable.

***We may be unable to raise the funds necessary to repurchase the convertible notes for cash following a fundamental change or to pay any cash amounts due upon conversion, and our other indebtedness may limit our ability to repurchase the convertible notes.***

Noteholders may require us to repurchase their convertible notes following a "fundamental change" (which will be defined in the indenture governing the convertible notes to include certain change-of-control events and the delisting of our common stock) at a cash repurchase price generally equal to the principal amount of the convertible notes to be repurchased, plus accrued and unpaid interest, if any. In addition, noteholders that convert their convertible notes before December 1, 2022 will, in certain circumstances, be entitled to an additional cash payment representing the present value of any remaining interest payments on the convertible notes through December 1, 2022. Furthermore, additional cash amounts may be due upon conversion in certain circumstances if the number of shares that we deliver upon conversion of the convertible notes is limited by the listing standards of The Nasdaq Global Market. We may not have enough available cash or be able to obtain financing at the time we are required to repurchase the convertible notes or pay these cash amounts upon their conversion. In addition, applicable law, regulatory authorities and the agreements governing our other indebtedness may restrict our ability to repurchase the convertible notes or pay these cash amounts upon their conversion. Our failure to repurchase convertible notes when required or pay these cash amounts upon their conversion will constitute a default under the indenture governing the convertible notes. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our other indebtedness, which may result in that other indebtedness becoming immediately payable in full. We may not have sufficient funds to satisfy all amounts due under the other indebtedness and the convertible notes.

***The indenture governing the convertible notes will contain covenants that, among other things, limit our and our subsidiaries' ability to create or incur liens securing indebtedness for borrowed money, and the incurrence of the convertible notes and any additional indebtedness could limit the cash flow available for our operations, expose us to risks that could adversely affect our business, financial condition and results of operations.***

As of September 30, 2020, we had approximately $92.7 million of consolidated long-term and other liabilities, including $77.1 million of consolidated indebtedness. We will incur $75.0 million (or, if the initial purchasers of the concurrent offering fully exercise their option to purchase additional convertible notes, $90.0 million) principal amount of additional indebtedness as a result of the concurrent offering. The indenture for the convertible notes will not prohibit us or our subsidiaries from incurring additional indebtedness in the future, except as set forth in the covenant described below under the caption "Covenant Regarding Liens Securing Indebtedness for Borrowed Money." Accordingly, we may incur a significant amount of additional indebtedness following the concurrent offering, if it is completed. The incurrence of indebtedness could have significant negative consequences for our stockholders and our business, results of operations and financial condition by, among other things:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, which will reduce the amount of cash available for other purposes;
- limiting our flexibility to plan for, or react to, changes in our business;

- diluting the interests of our existing stockholders as a result of issuing shares of our common stock upon conversion of the convertible notes; and
- placing us at a possible competitive disadvantage with competitors that are less leveraged than us or have better access to capital.

Our business may not generate sufficient funds, and we may otherwise be unable to maintain sufficient cash reserves, to pay amounts due under our indebtedness, and our cash needs may increase in the future. In addition, any future indebtedness that we may incur may contain financial and other restrictive covenants that limit our ability to operate our business, raise capital or make payments under our other indebtedness. If we fail to comply with these covenants or to make payments under our indebtedness when due, then we would be in default under that indebtedness, which could, in turn, result in that and our other indebtedness becoming immediately payable in full.

***Covenant Regarding Liens Securing Indebtedness for Borrowed Money***

Under the convertible notes, we will not, and we will not permit any subsidiary of ours to, create, incur, assume or permit to exist any lien on any property or asset now owned or later acquired by us or any subsidiary that secures any indebtedness for borrowed money, other than (i) secured indebtedness for borrowed money in existence on the date of the indenture; (ii) permitted refinancing indebtedness incurred in exchange for, or the net proceeds of which are used to renew, refund, refinance, replace, defease or discharge any secured indebtedness for borrowed money permitted by clause (i) of this sentence; and (iii) additional secured indebtedness for borrowed money that, in an aggregate principal amount (or accredited value, as applicable), does not exceed $15,000,000 at any time outstanding.

***The accounting method for the convertible notes could adversely affect our reported financial results.***

The accounting method for reflecting the underlying shares of our common stock in our reported diluted earnings per share may adversely affect our reported earnings and financial condition. We expect that, under applicable accounting principles, the shares underlying the convertible notes will be reflected in our diluted earnings per share using the “if-converted” method. Under that method, diluted earnings per share would generally be calculated assuming that all the convertible notes were converted into shares of common stock at the beginning of the reporting period, unless the result would be anti-dilutive. The application of the if-converted method may reduce our reported diluted earnings per share.

In addition, if we do not obtain stockholder approval under certain listing standards of The Nasdaq Global Market that limit the number of shares that we may issue upon conversion of the convertible notes, then we expect that applicable accounting standards will require us to separately account for the conversion option associated with the convertible notes as an embedded derivative. Under this treatment, the conversion option of the convertible notes will be measured at its fair value and accounted for separately as a liability that is marked-to-market at the end of each reporting period. The initial value allocated to the conversion option will be treated as a debt discount that will be amortized into interest expense over the term of the convertible notes. For each financial statement period after the issuance of the convertible notes until we obtain the stockholder approval, a gain or loss will be reported in our statement of operations to the extent the valuation of the conversion option changes from the previous period. This accounting treatment may subject our reported net income (loss) to significant non-cash volatility.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains "forward-looking statements" within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties and are based on estimates and assumptions. All statements, other than statements of historical facts included in this prospectus, including statements concerning our plans, objectives, goals, strategies, future events, future revenues or performance, financing needs, plans or intentions relating to products and markets, and business trends and other information referred to under "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business," are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "design," "estimate," "predict," "potential," "plan," "anticipate," "target," "forecast" or the negative of these terms, and similar expressions intended to identify forward-looking statements. Forward-looking statements are not historical facts, and reflect our current views with respect to future events. Given the significant uncertainties, you should not place undue reliance on these forward-looking statements.

There are a number of risks, uncertainties, and other factors that could cause our actual results to differ materially from the forward-looking statements expressed or implied in this prospectus. Such risks, uncertainties, and other factors include, among others, the following risks, uncertainties, and factors:

- the recent and ongoing COVID-19 pandemic and associated shelter-in-place orders;
- our ability to develop and commercialize molecular testing products as well as innovate in the field of precision medicine;
- the size and growth potential of the markets for our products and product candidates, and our ability to serve those markets;
- the rate and degree of market acceptance and clinical utility of our products and product candidates, if approved;
- coverage and reimbursement for our products and product candidates;
- the performance of third parties in connection with the development of our products and product candidates, including third-party suppliers;
- regulatory developments in the United States and foreign countries;
- our ability to obtain and maintain regulatory approval or clearance of our products and product candidates on expected timelines;
- our ability to improve and enhance our current products and product candidates;
- our plans to research, develop, and commercialize new products and product candidates;
- the development, regulatory approval, efficacy, and commercialization of competing products;
- the outcome of pending investigations and legal proceedings;
- the loss or retirement of key scientific or management personnel;
- our ability to develop and maintain our corporate infrastructure, including maintaining effective internal control;
- our use of the proceeds from this offering and the concurrent offering;
- our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing; and

- our expectations regarding our ability to obtain and maintain intellectual property protection for our products, as well as our ability to operate our business without infringing the intellectual property rights of others.

There may be other factors that cause our actual results to differ materially from the forward-looking statements expressed or implied in this prospectus, including factors disclosed in the sections of this prospectus entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and elsewhere. You should evaluate all forward-looking statements made in this prospectus in the context of these risks and uncertainties.

We caution you that the risks, uncertainties and other factors referred to above and elsewhere in this prospectus may not contain all of the risks, uncertainties, and other factors that may affect our future results and operations. Moreover, new risks will emerge from time to time. It is not possible for our management to predict all risks. In addition, we cannot assure you that we will realize the results, benefits, or developments that we expect or anticipate or, even if substantially realized, that they will result in the consequences or affect us or our business in the way expected.

All forward-looking statements in this prospectus apply only as of the date made and are expressly qualified in their entirety by the cautionary statements included in this prospectus. Except as required by law, we disclaim any intent to publicly update or revise any forward-looking statements to reflect subsequent events or circumstances.

## INDUSTRY AND MARKET DATA

We obtained the industry, market, and competitive position data used throughout this prospectus from our own internal estimates and research, as well as from industry and general publications, and research, surveys, and studies conducted by third parties. Internal estimates are derived from publicly available information released by industry analysts and third-party sources, our internal research and our industry experience, and are based on assumptions made by us based on such data and our knowledge of the industry and market, which we believe to be reasonable. In addition, while we believe the industry, market, and competitive position data included in this prospectus is reliable and based on reasonable assumptions, we have not independently verified any third-party information, and all such data involve risks and uncertainties and are subject to change based on various factors, including those discussed in “Risk Factors.” These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

## USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately $ million (or approximately $ million if the underwriters' option to purchase additional shares is exercised in full), based on an assumed public offering price of $ per share, which is the last reported sale price of our common stock on The Nasdaq Global Market on , 2020, from the sale of the shares of common stock offered by us in this offering, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase (decrease) in the assumed public offering price of $ per share (the last reported sale price of our common stock on The Nasdaq Global Market on , 2020) would increase (decrease) the net proceeds to us from this offering by $ million, assuming the number of shares of common stock offered by us, as set forth on the cover of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of common stock offered by us, as set forth on the cover of this prospectus, would increase (decrease) our net proceeds from this offering by $ million, assuming the assumed public offering price remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds of this offering, and, if it is consummated, the concurrent offering, as follows:

- approximately $ to million to support our operations;
- approximately $ to million to invest in our molecular testing research and development program;
- approximately $ to million to invest in research and development with respect to our precision medicine platform; and
- the remainder for working capital and general corporate purposes.

Our expected use of proceeds from this offering represents our current intentions based on our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. We may also use a portion of the proceeds to license, acquire, or invest in complementary businesses, technology, products, or assets. However, we have no current commitments to do so. If we receive any additional proceeds from this offering, we expect to use such proceeds on a proportional basis to the categories described above.

The amount and timing of our actual expenditures will depend on numerous factors, including the pace and results of our research and development efforts, the success and timing of our clinical trials, the timing and costs associated with our operations, including the manufacture and supply of products and product candidates, the timing of regulatory submissions, and any unforeseen cash needs. As a result, our management will have broad discretion over the use of the proceeds from this offering.

Based on our current business plans, we believe that the net proceeds from this offering allocated to research and development, together with the proceeds from the issuance and sale of convertible notes in the concurrent offering and our existing cash and cash equivalents, will be sufficient to fund the development of our molecular testing programs and our precision medicine platform into the . Such amount will not be sufficient for us to fund our precision medicine platform pipeline through regulatory approval and commercialization, and we will need to raise substantial additional capital in order to do so. To obtain the capital necessary to fund our precision medicine platform pipeline through regulatory approval and commercialization, we may need to enter into additional public or private equity offerings, debt financings or collaborations and licensing arrangements or seek out other capital sources.

Pending the use of the proceeds from this offering, we may invest the proceeds in interest-bearing, investment-grade securities, certificates of deposit, or government securities.

## DIVIDEND POLICY

Our Board did not declare any dividends in 2017 or 2018. On March 6, 2019, our Board declared aggregate cash dividends of $4,500,000, which dividends were paid on March 20, 2019.

We have no present intention to pay cash dividends on our common stock or our preferred stock. Any determination to pay dividends to holders of our common stock or our preferred stock will be at the discretion of our Board and will depend on many factors, including our financial condition, results of operations, liquidity, earnings, projected capital, and other cash requirements, legal requirements, restrictions in the agreements governing any indebtedness we may enter into, business prospects and other factors that our Board deems relevant. In addition, any future credit agreement may contain, restrictions on payments of cash dividends.

## CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of September 30, 2020:

- on an actual basis;
- on an as-adjusted basis giving effect to the issuance and sale of shares of our common stock in this offering, at the assumed public offering price of $ per share (the last reported sale price of our common stock on the Nasdaq Global Market on December 1, 2020), after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us; and
- on a pro forma as-adjusted basis to give further effect to (i) the issuance and sale of convertible notes in the concurrent offering (assuming no exercise of the option of the initial purchasers of the concurrent offering to purchase additional convertible notes), after deducting the initial purchasers' discounts and commissions and our estimated offering expenses, assuming the concurrent offering is consummated; and (ii) the issuance of $78.5 million of affiliate notes pursuant to our exchange agreement with the affiliated investors in exchange for the discharge of amounts outstanding under our Credit Agreement.

The information in the table below is illustrative only, and our capitalization following the completion of this offering and the concurrent offering, if it is completed, will depend on the final terms of the offerings. Moreover, because the completion of this offering is not contingent on the completion of the concurrent offering, you should not assume that the concurrent offering, as reflected in the pro forma as-adjusted column in the table below, will take place.

You should read the following table in conjunction with "Use of Proceeds," "The Concurrent Offering," "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our financial statements and related notes included elsewhere in this prospectus.

| | As of September 30, 2020 | | |
|---|---|---|---|
| | Actual | As-adjusted | Pro Forma As-Adjusted |
| | (in thousands, except share and per-share amounts) | | |
| Cash and cash equivalents | $ 60,013 | $ | $ |
| Indebtedness: | | | |
| Mortgages payable[1] | 3,132 | 3,132 | 3,132 |
| Credit Agreement[1][2] | 75,000 | 75,000 | — |
| Principal amount of % convertible senior notes due 2025[3] | — | — | 153,500 |
| Insurance premium payable | 4,356 | 4,356 | 4,356 |
| Total indebtedness | 82,488 | 82,488 | 160,988 |
| Stockholders' equity (deficit): | | | |
| Preferred stock, $0.001 par value per share; 10,000,000 shares authorized, no shares outstanding, actual, as adjusted and pro forma as adjusted | — | — | — |
| Common stock, $0.001 par value, 350,000,000 shares authorized, 50,450,849 shares issued, 46,976,277 shares outstanding, actual; shares issued and shares outstanding, as-adjusted and pro forma as-adjusted | 50 | | |

| | As of September 30, 2020 | | |
|---|---|---|---|
| | Actual | As-adjusted | Pro Forma As Adjusted |
| | (in thousands, except share and per-share amounts) | | |
| Additional paid-in capital | 424,047 | | |
| Accumulated deficit(4) | (465,746) | (465,746) | (465,746) |
| Treasury stock, at cost; 3,474,572 shares of common stock | (18,771) | (18,771) | (18,771) |
| Total stockholders' equity (deficit) | (60,420) | | |
| Total capitalization | $ 22,068 | $ | $ |

(1) Reflects principal amount outstanding, without deduction for debt discounts or issuance costs.
(2) Certain entities affiliated with Athyrium Capital Management, LP, or Athyrium, one of our affiliates, have indicated an intent to acquire up to $103.5 million in aggregate principal amount of convertible notes in the concurrent offering and pursuant to a separate exchange agreement. These Athyrium affiliates will acquire up to $25 million principal amount of the convertible notes for cash and up to $78.5 million principal amount of the convertible notes in exchange for amounts outstanding under the Credit Agreement (as defined below). Upon consummation of the concurrent offering, the Credit Agreement will be terminated.
(3) The amounts shown in the table above for the convertible notes represent their principal amount. However, applicable accounting standards may require separate accounting for the conversion feature of the convertible notes. See "Risk Factors—The accounting method for the convertible notes could adversely affect our reported financial results.
(4) Does not reflect any gains or losses we may realize in connection with the extinguishment of amounts outstanding under our Credit Agreement.

The outstanding share information in the table above is based on 46,976,277 shares of our common stock (including shares of our preferred stock outstanding on an as-converted basis) as of September 30, 2020, and excludes:

- 3,531,577 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2020 under our 2011 Incentive Stock Plan, Second Amended and Restated 2012 Stock Plan, 2015 Consultant Stock Plan and 2018 Plan, at a weighted average exercise price of $9.01 per share;
- 1,194,077 shares of our common stock issuable upon the settlement of restricted stock units outstanding as of September 30, 2020;
- 145,978 restricted stock units and 368,937 options to purchase shares of our common stock granted subsequent to September 30, 2020 at a weighted-average exercise price of $5.82 per share;
- 4,109,953 shares of our common stock reserved for future issuance under our 2018 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 510,000 shares of our common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 400,160 shares of our common stock issuable upon exercise of an outstanding Series B Preferred Stock Purchase Warrant at an exercise price of $13.90 per share; and
- Any shares of common stock issuable upon conversion of the convertible notes offered in the concurrent offering.

## DILUTION

If you invest in the shares of our common stock in this offering, your ownership interest will be immediately diluted. Dilution represents the difference between the amount per share paid by investors in this offering and the as-adjusted net tangible book value per share of our common stock immediately after this offering. The data in this section are derived from our balance sheet as of September 30, 2020. Our historical net tangible book value per share is equal to our total tangible assets less the amount of our total liabilities, divided by the sum of the number of shares of our common stock outstanding on September 30, 2020. Our historical net tangible book value as of September 30, 2020 was $(70.7) million, or $(1.51) per share of common stock.

After giving effect to our receipt of the estimated net proceeds from the sale of our common stock in this offering, based on an assumed public offering price of $ per share (the last reported sale price of our common stock on The Nasdaq Global Market on , 2020), and after deducting the estimated underwriting discounts and commissions and other estimated offering expenses payable by us, our as-adjusted net tangible book value as of September 30, 2020 would have been $ million, or $ per share of our common stock. This represents an immediate increase in net tangible book value to our existing stockholders of $ per share and an immediate dilution to new investors in this offering of $ per share. The following table illustrates this per share dilution:

| | | |
|---|---|---|
| Assumed public offering price per share | | $ |
| Historical net tangible book value per share as of September 30, 2020 | $(1.51) | |
| Increase in net tangible book value per share attributable to investors purchasing our common stock in this offering | $ | |
| As-adjusted net tangible book value per share after this offering | | $ |
| Dilution per share to investors purchasing our common stock in this offering | | $ |

A $1.00 increase in the assumed public offering price of $ per share would increase our as-adjusted net tangible book value by $ million and the as-adjusted net tangible book value per share after this offering by $ per share, and the dilution per share to new investors by $ per share, while a $1.00 decrease in the assumed public offering price of $ per share would decrease our as-adjusted net tangible book value by $ million and the as-adjusted net tangible book value per share after this offering by $ per share, and the dilution per share to new investors by $ per share, assuming the number of shares offered by us, as set forth on the cover of the prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase of 1,000,000 shares in the number of shares of common stock offered by us would increase our as-adjusted net tangible book value by $ million, increase the as-adjusted net tangible book value per share after this offering by $ per share, and decrease the dilution per share to new investors by $ per share. Similarly, each decrease of 1,000,000 shares in the number of shares offered by us would decrease our as-adjusted net tangible book value by $ million, decrease the as-adjusted net tangible book value per share after this offering by $ per share, and increase the dilution per share to new investors by $ per share.

If the underwriters fully exercise their option to purchase additional shares, our as-adjusted net tangible book value after this offering would increase by $ million or $ per share, and there would be an immediate dilution of approximately $ per share to new investors, assuming the assumed public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering. The underwriters will receive the same underwriting discount and commissions on these shares of common stock as they will on any other shares of common stock sold to the public in this offering.

The outstanding share information in the table above is based on 46,976,277 outstanding shares of our common stock as of September 30, 2020, and excludes the following:

- 3,531,577 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2020 under our 2011 Incentive Stock Plan, Second Amended and Restated 2012 Stock Plan, 2015 Consultant Stock Plan and 2018 Plan, at a weighted average exercise price of $9.01 per share;
- 1,194,077 shares of our common stock issuable upon the settlement of restricted stock units outstanding as of September 30, 2020;
- 145,978 restricted stock units and 368,937 options to purchase shares of our common stock granted subsequent to September 30, 2020 at a weighted-average exercise price of $ 5.82 per share;
- 4,109,953 shares of our common stock reserved for future issuance under our 2018 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 510,000 shares of our common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under this plan;
- 400,160 shares of our common stock issuable upon exercise of an outstanding Series B Preferred Stock Purchase Warrant at an exercise price of $13.90 per share; and
- Any shares of common stock issuable upon conversion of the convertible notes offered in the concurrent offering.

## THE CONCURRENT OFFERING

Concurrently with this offering, we are offering % convertible senior notes due 2025, which we refer to as the convertible notes, in an aggregate principal amount of $75,000,000 . We have granted the initial purchasers of the concurrent offering an option to purchase, for settlement within a period of 13 days from, and including, the date the convertible notes are first issued, up to an additional $15,000,000 principal amount of convertible notes. We estimate that the net proceeds to us from the concurrent offering, if it is consummated, will be approximately $ million (or approximately $ million if the initial purchasers of the concurrent offering fully exercise their option to purchase additional convertible notes), after deducting the initial purchasers' discounts and commissions and our estimated offering expenses.

The concurrent offering is being made pursuant to a confidential offering memorandum (and not pursuant to this prospectus) only to qualified institutional buyers (as defined in Rule 144A under the Securities Act) in transactions that are exempt from the registration and prospectus-delivery requirements of the Securities Act. The completion of this offering is not contingent on the completion of the concurrent offering, and the completion of the concurrent offering is not contingent on the completion of this offering. Accordingly, you should not assume that the concurrent offering will be consummated on the terms described in this prospectus, if at all, or that we will receive any additional proceeds from the concurrent offering. This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, any of the convertible notes, or the shares of common stock issuable upon conversion of the convertible notes, we are offering in the concurrent offering.

Certain entities affiliated with Athyrium, one of our affiliates, have agreed to acquire up to $103.5 million in aggregate principal amount of convertible notes. We refer to Athyrium and these entities affiliated with Athyrium as the "affiliated investors" and the convertible notes that they purchase or acquire as the "affiliate notes." The affiliated investors have agreed to purchase up to $25 million principal amount of affiliate notes for cash in the concurrent offering and have also agreed, pursuant to a separate exchange agreement, to acquire an additional up to $78.5 million principal amount of affiliate notes in exchange for the discharge of amounts outstanding under our credit and security agreement, or the Credit Agreement, with a fund managed by Athyrium. The affiliate notes will form part of the same series of convertible notes as the other convertible notes issued in the concurrent offering.

The convertible notes will be our senior, unsecured obligations and will accrue interest at a rate of % per annum, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on June 1, 2021. The convertible notes will mature on December 1, 2025, unless earlier repurchased, redeemed or converted. At any time from, and including, the date that is 30 calendar days after the initial closing date of the concurrent offering and before the close of business on the second scheduled trading day immediately before the maturity date, noteholders may convert their convertible notes at their option into shares of our common stock, together, if applicable, with cash in lieu of any fractional share, at the then-applicable conversion rate. Noteholders that convert their convertible notes before December 1, 2022 will, in certain circumstances, be entitled to an additional cash payment representing the present value of any remaining interest payments on the convertible notes through December 1, 2022. The initial conversion rate is shares of common stock per $1,000 principal amount of convertible notes, which represents an initial conversion price of approximately $ per share of common stock. The conversion rate and conversion price will be subject to adjustment upon the occurrence of certain events. If a "make-whole fundamental change" (which will be defined in the indenture governing the convertible notes to include certain business combination transactions involving us, the delisting of our common stock and the calling of any convertible notes for redemption) occurs, then we will in certain circumstances increase the conversion rate for a specified period of time.

Certain listing standards of The Nasdaq Global Market limit the number of shares we may deliver upon conversion of the convertible notes to an amount that is less than 20% of the number of shares of our common stock outstanding on the pricing date of the concurrent offering, unless we first obtain the approval of our stockholders to issue shares in excess of that amount. We have entered into agreements with our chairman and chief executive officer and the affiliated investors, who collectively beneficially own approximately 80% of our outstanding common stock, agreeing to provide written consent that would result in the stockholder approval required under these listing standards. Accordingly, we expect to obtain such stockholder approval before the convertible notes become convertible at the election of the noteholders. However, if we do not obtain the stockholder approval, then the number of shares due upon conversion of the convertible notes will be limited under these listing standards. In that case, upon conversion of any convertible note, we will be required to pay a cash amount equal to the product of the last reported sale price per share of our common stock on the relevant conversion date and the number of shares that we have withheld from the settlement of that conversion to comply with these listing standards.

The convertible notes will be redeemable, in whole and not in part, for cash at our option at any time on or after December 1, 2023, but only if the last reported sale price per share of our common stock exceeds 130% of the conversion price for a specified period of time. The redemption price will be equal to the principal amount of the convertible notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date.

If a “fundamental change” (which will be defined in the indenture governing the convertible notes to include certain change-of-control events and the delisting of our common stock) occurs, then noteholders may require us to repurchase their convertible notes for cash. The repurchase price will be equal to the principal amount of the convertible notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the applicable repurchase date.

Subject to certain exceptions, until the date as of which we exercise our defeasance rights under the indenture for the convertible notes), the indenture for the convertible notes will prohibit us from creating, incurring, assuming or permitting to exist any lien on any property or asset of ours or any of our subsidiaries that secures any indebtedness for borrowed money.

## SELECTED CONSOLIDATED FINANCIAL DATA

The following tables set forth selected historical consolidated financial data as of and for the periods indicated. The historical consolidated statement of operations data for the years ended December 31, 2018 and 2019 and the consolidated balance sheet data as of December 31, 2018 and 2019 are derived from our audited consolidated financial statements included elsewhere in this prospectus. The historical consolidated statement of operations data for the nine months ended September 30, 2019 and 2020 and the consolidated balance sheet data as of September 30, 2020 are derived from our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited interim condensed consolidated financial statements were prepared on the same basis as our audited consolidated financial statements and, in our opinion, reflect all adjustments, consisting only of normal recurring adjustments, that are necessary for the fair statement of our unaudited interim condensed consolidated financial statements.

The historical results presented below are not necessarily indicative of the results to be expected for any future period, and our interim results are not necessarily indicative of the results to be expected for the full year or any future period. This information should be read in conjunction with "Risk Factors," "Capitalization," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our financial statements and the related notes included elsewhere in this prospectus. Our financial statements are prepared in accordance with GAAP.

| | Year Ended December 31, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2018 | 2019 | 2019 | 2020 |
| | (in thousands, except share and per share data) | | (in thousands, except share and per share data) (unaudited) | |
| Revenue | $ 127,974 | $ 143,985 | $ 123,509 | $ 60,037 |
| Cost of sales | 92,076 | 100,492 | 75,531 | 72,006 |
| Gross profit (loss) | 35,898 | 43,493 | 47,978 | (11,969) |
| Operating expenses: | | | | |
| Research and development | 48,712 | 63,400 | 48,791 | 36,517 |
| Selling and marketing | 50,187 | 58,888 | 45,510 | 40,416 |
| General and administrative | 51,238 | 61,324 | 44,823 | 54,915 |
| Total operating expenses | 150,137 | 183,612 | 139,124 | 131,848 |
| Loss from operations | (114,239) | (140,119) | (91,146) | (143,817) |
| Interest expense | (9,091) | (9,199) | (6,872) | (7,285) |
| Equity loss of equity method investee | (2,327) | — | — | — |
| Interest and other income, net | 1,801 | 575 | 457 | (3,594) |
| Loss before taxes | (123,856) | (148,743) | (97,561) | (154,696) |
| Income tax expense (benefit) | 5,250 | (706) | — | (37,696) |
| Net loss | $ (129,106) | $ (148,037) | $ (97,561) | $ (117,000) |
| Dividend paid to preferred stockholders | — | (3,652) | (3,652) | (268) |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | (27,637) | (27,637) | — |
| Stock dividend on Series B Preferred Stock | — | (49,501) | (13,137) | — |
| Net loss attributable to common stockholders | $ (129,106) | $ (228,827) | $ (141,987) | $ (117,268) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (27.72) | $ (46.87) | $ (29.27) | $ (5.80) |
| Weighted average number of shares outstanding, basic and diluted | 4,657,337 | 4,882,662 | 4,851,603 | 20,201,325 |

| | As of December 31, 2019 | As of September 30, 2020 |
|---|---|---|
| | (in thousands) | (unaudited) |
| **Selected Balance Sheet Data:** | | |
| Cash and cash equivalents | $ 33,042 | $ 60,013 |
| Total assets | 101,727 | 119,617 |
| Total indebtedness(1) | 78,288 | 82,488 |
| Total liabilities | 185,601 | 180,037 |
| Preferred stock | 106 | — |
| Accumulated deficit | (348,478) | (465,746) |
| Total stockholders' deficit | (83,874) | (60,420) |

(1) Total indebtedness includes mortgages payable of $3.3 million and a note payable with principal amount of $75.0 million, each as of December 31, 2019, insurance premium payable of $4.4 million and mortgages payable of $3.1 million and a note payable with principal amount of $75 million, each as of September 30, 2020.

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*You should read the following discussion and analysis of our financial condition and results of operations together with our audited and unaudited consolidated financial statements and the related notes and other financial information included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, include forward-looking statements that involve risks and uncertainties. You should review the section titled "Risk Factors" for a discussion of important factors that could cause our actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.*

### Overview

We are a biotechnology company with an established track record of success in developing and commercializing molecular testing products as well as innovating in the field of precision medicine. We believe that we are a market-leading provider of *in vitro* molecular tests designed to improve lives by providing actionable information that helps guide patients and physicians in making critical and timely medical decisions during various life stages, such as family planning, pregnancy, or navigating a complex disease diagnosis. Our vision is to transform healthcare to become more precise and personal by improving diagnoses of disease and improving patient outcomes through localized treatment with targeted therapies. We apply a multi-omics approach, combining genomics, epigenomics, proteomics, and metabolomics, to our molecular testing products and to the development of a suite of investigational ingestible devices and drug/device combinations designed to provide precise diagnostic sampling and drug delivery solutions.

Since 2010, our molecular testing business has achieved consistent year-over-year test volume growth through our robust product portfolio and our strong commercial organization. Our internal core competencies, deep research and development pipeline and strategic acquisitions of novel technologies have fueled our innovation in women's health, supporting the development and launch of complementary molecular testing products that inform critical healthcare decision-making across a woman's lifetime.

In 2015, we launched both our Innatal Prenatal Screen, a Non-Invasive Prenatal Testing, or NIPT, offering, and our Preparent Carrier Test, followed by the launch of our Riscover Hereditary Cancer Test in 2017. We offer molecular tests with market-leading performance and turnaround times, supported by end-to-end workflow solutions that increase administrative efficiencies. Along with our comprehensive menu of molecular tests, we offer patients pre-test education, clear and timely results, and on-demand genetic counseling. We are committed to providing patients and physicians with empathetic communication and support during critical moments to help empower and prepare patients and their families to make critical life decisions.

We generate revenue by providing tests. Our molecular tests are provided through our certified Clinical Laboratory Improvement Amendments, or CLIA, and College of American Pathologists, or CAP, accredited laboratory located in Ann Arbor, Michigan. We also provide anatomic and molecular pathology tests through our affiliation with Mattison Pathology, LLP, a Texas limited liability partnership doing business as Avero Diagnostics, located in Lubbock and Irving, Texas. The focus of our commercial operations is to distribute our molecular tests and our anatomic and molecular pathology tests through our dedicated direct sales force. Distribution of our tests is supported by a field operations team who provide all logistical functions in receiving clinical samples at the laboratory for analysis. In the second quarter of 2020, we added COVID-19 testing to our offering and in October 2020, we secured a substantial increase in our COVID-19 PCR testing capacity to more than 750,000 tests per annum as well as supply chain access through our existing business relationship.

During the three and nine months ended September 30, 2020, we accessioned approximately 84,067 and 237,908 tests, respectively.

We generate revenue through providing our tests and receiving payments for such tests from payors, laboratory distribution partners, and self-paying individuals. More than 95% of payments for our tests are received through reimbursement. We receive reimbursement from several distinct channels: commercial third-party payors, laboratory distribution partners, and government health benefits programs such as Medicare and Medicaid.

We are engaged in research and development activities with respect to molecular tests and precision medicine product candidates. Our molecular test portfolio and pipeline and our precision medicine product pipeline are each powered by a combination of symbiotic technology platforms exploiting advances in genetics, epigenetics, and proteomics, fortified by an innovative bioinformatics infrastructure. Our ecosystem is designed to enable rapid development and validation of products in an integrated fashion. We intend to continue to invest in our research and development activities as a public company. As a result, we expect to incur operating losses for the foreseeable future and may need to raise additional capital in order to fund our operations. Our ability to return to profitability will depend upon achieving our revenue growth objectives and successfully managing our costs.

In the third quarter of 2020, we successfully achieved a key milestone in the verification phase of our rule out assay for preeclampsia and completed our preeclampsia research and development day on November 20, 2020.

**Factors Affecting Our Performance**

We believe there are several important factors that impact our commercial performance and results of operations, including:

*Report Volume*

We compete in the molecular testing market based upon several factors, including (i) the strong performance and short turnaround time of our integrated tests, (ii) the quality of our sales and marketing efforts with physicians, (iii) the quality of our end-to-end customer service and support solutions, and (iv) the availability of reimbursement for our tests. Our commercial team of more than 150 individuals actively engages with physicians and their staff to emphasize the clinical need for our products, provide education on the clinical value of our products, and facilitate the ability of physicians and their staff to order our tests. The volume of tests that we accession is one of the key performance indicators that we use to evaluate our business. A test is accessioned when we receive the test samples at our laboratory, the relevant information about the desired test is entered into our systems, and the samples are routed into the appropriate process flow. The historical ratio of the Innatal tests and the Preparent tests that we accession is approximately 1.2:1. As the types and categories of tests that are covered by reimbursement increase or decrease, the volume of testing may correspondingly increase or decrease, respectively. In 2019, we conducted a comprehensive review of our existing accounts and sought to eliminate accounts that did not contribute to our revenues and our gross margin. Our test volumes decreased as a result of this exercise.

Beginning in March 2020, we began to observe declines in the volumes of both our molecular tests and the pathology tests conducted by Avero Diagnostics due to the impact of the COVID-19 pandemic and resulting work-from-home policies and other operational limitations mandated by federal, state and local governments. However, we believe our business is resilient and we observed positive signs of recovery in the latter part of the second quarter and in the third quarter. While we have implemented and continue to monitor our mitigation strategies to address these limitations, such as supporting patients and

physicians virtually, there can be no assurance that the rate of decline in our testing volumes will not continue or accelerate in future periods. Our current assessment of the impact of the COVID-19 pandemic is that our NIPT test volumes have proved more resilient than our carrier screening test volumes; however, the comparative impact may continue to change over time.

*Reimbursement*

Reimbursement fluctuations may occur due to a variety of factors, many of which are outside of our control, including, but not limited to:

- third-party payor coverage and, as we continually seek to transition to in-network coverage with commercial third-party payors, corresponding increases in our in-network covered lives;
- regulatory and medical society recommendations such CMS, ACOG, ACMG, and SMFM, that potentially lead to positive coverage determinations by commercial third-party payors and government health benefits programs for our tests;
- third-party payor medical coverage and administrative policies, including reimbursement rates published by CMS;
- delays to third-party payors' processing due to the impact of the COVID-19 pandemic and resulting work-from-home policies and other operational limitations mandated by federal, state, and local governments;
- future CPT code and medical procedure code changes, such as obtaining appropriate codes for our new molecular tests, including our expanded carrier screening panels, NIPT, and Exon carrier screening;
- regulatory and payor fee schedule changes for CPT codes with respect to our products;
- requirements to refund any reimbursements already received;
- the overall mix of payor class for our products sold;
- changes in physician ordering trends;
- the mix of our products sold;
- the geographic regions in which our products are sold;
- competition in our industries and any change in the competitive landscape of our industries, including potential consolidation; and
- future accounting pronouncements or changes in our accounting policies.

*Gross Margin*

Our gross margin is an important indicator of the operating performance of our business. Higher gross margins reflect the average selling price of our tests, as well as the operating efficiency of our laboratory operations. Reducing the costs of goods sold for our tests represents another important opportunity for innovation and is a significant area of focus for our research and development organization. We regularly evaluate our operations in order to determine whether we can reduce costs by developing new technologies, improving the efficiency of our assay and laboratory processes, modifying our processes to use materials and technologies that provide equal or greater quality at lower cost, and improving how we manage our inventory and negotiating favorable terms for our materials purchases. In 2019, we conducted a comprehensive review of our existing accounts and sought to eliminate accounts that did not contribute to our revenues and gross margin. In future periods, we expect this to have a positive impact

on our gross margin; however, such an impact cannot be assured. We are currently developing our next generation Innatal Prenatal Screen (Innatal 4th Generation), an improved platform with simplified and more cost-effective assay workflow, which we believe will allow us to substantially improve the gross margin of our NIPT. We also work with partner laboratories that complement our test portfolio offering, while developing in parallel new technologies that we expect could, over time, reduce our cost structure by internalizing the production of those tests when the commercial benefits dictate such conversion. We are now predominantly an in-network provider, with approximately 145 million covered lives nationwide under our agreements with commercial third-party payors following the recent additions of in-network contracts with Aetna and Cigna. In addition, through our new Multiplan contract we added 60 million health plan members with access to Multiplan services. While we continue our contract negotiation process with several additional large commercial third-party payors, the transition to establishing ourselves as an in-network provider is expected to lead to an increase in the proportion of tests paid and allow us to gain access to a larger in-network patient base.

*New Product Development*

Our business involves significant investment in research and development activities for the development of new products which we believe are strategic complements to our product portfolio and drive long- term revenue growth. We intend to continue investing in our pipeline of new products and technologies. We expect our investment in research and development to increase as we pursue regulatory approval of our product candidates and as we seek to expand our pipeline of product candidates. Due to the impact of the COVID-19 pandemic and resulting work-from- home policies and other operational limitations mandated by federal, state, and local governments, certain of our research and development activities have been delayed and may be further delayed until such operational limitations are lifted. While we are implementing mitigation strategies, where possible, certain preclinical and clinical activities were suspended during the implementation of these policies and will necessarily incur some delay following the resumption of normal operations. While some of our research and development laboratory work was impacted by the stay-at-home shutdown, especially in our Michigan facilities, our preeclampsia test verification work restarted in June and has now migrated to the operations laboratory, which is part of our essential services, and is, therefore, less exposed to further shutdowns caused by the COVID-19 pandemic. However, the development of our new products could continue to be delayed if any stay-at-home orders in the State of Michigan are reinstated.

The achievement of key development milestones (e.g., clinical verification and validation and CLIA certification for our molecular tests and clinical studies and regulatory approval for our precision medicine product platform) is a key factor in evaluating our performance.

**Key Components of Our Results of Operations**

*Revenue*

Substantially all of our revenue is derived from molecular laboratory tests, principally from the sale of Innatal, Preparent, and pathology molecular testing. Historically, the revenue we derive from our Innatal tests and our Preparent tests has been roughly equal, although the ratio fluctuates from time to time. We bill and collect from third-party payors, laboratory distribution partners, and self-paying individuals. Third-party payors include commercial third-party payors and government payors, such as Medicare and Medicaid in the United States. We bill for these tests rendered upon completion of the testing process and delivery of test results to the customer.

Due to potential future changes in insurance coverage policies, contractual rates, and other trends in the reimbursement of our tests, payments received for our tests may fluctuate significantly over time. Our revenue incorporates an estimate of variable consideration, which is adjusted for estimates of disallowed cases, discounts, and refunds. We have established an accrual for refunds of payments previously made

by healthcare insurers based on historical experience and executed settlement agreements with healthcare insurers. The refunds are accounted for as reductions in revenues in the statement of operations as an element of variable consideration. Our estimate of variable consideration included in the transaction price is also impacted by our ongoing transition to in-network contracts with commercial payors.

Currently, we operate primarily as an in-network provider of molecular tests and we continually seek to transition to in-network coverage with additional third-party payors, which we believe is crucial to our growth and long-term success. This transition is ongoing, and we are actively negotiating with a few remaining commercial payors. We are currently contracted with payors representing an estimated 145 million covered lives.

While the negotiated fees under our in-network contracts with third-party payors are typically lower than the out-of-network list price of our tests, the percentage of tests allowed by payors traditionally increases in accordance with payors' medical policies. While we expect the reduction in average reimbursement per test from in-network pricing to reduce our per test revenue and gross margins in the near term, in-network pricing is more predictable than out-of-network pricing, and we intend to continue to mitigate the impact by implementing a strategic focus for our most profitable accounts.

Delays to third-party payors' processing due to the impact of the COVID-19 pandemic and resulting work-from-home policies and other operational limitations mandated by federal, state, and local governments have and may continue to extend the typical timelines. These factors might delay the time period in which cash is collected from payors and impact our revenue recognition. We believe that the full impact of these delays may not yet have been reflected in our financial performance, as we customarily receive payment several months after completion of a molecular test.

*Cost of Sales*

Cost of sales includes the cost of materials, direct labor of laboratory personnel, third-party laboratory testing services, equipment, and infrastructure expenses associated with processing blood and other samples, quality control analyses, shipping charges to transport samples and specimens from ordering physicians, clinics, or individuals, and allocated overhead, including information technology, or IT, costs. Infrastructure expenses include allocated facility and related occupancy costs. Costs associated with the performance of molecular tests are recorded as tests are processed. We have implemented and continue to monitor mitigation strategies to address the work-from-home policies and other operational limitations mandated by federal, state, and local governments as a result of the COVID-19 pandemic. While largely yet to be determined, these mitigation strategies may cause increases in any or all of the aforementioned costs. The amount of cost of sales is related to our volume of accessioned tests, which is directly related to consumption of reagents and other laboratory support services. Therefore, growth in accessioned volume of tests results in increased cost of sales on an aggregate basis and potential modest reductions in cost of sales on a per-test basis.

*Research and Development*

Research and development expenses consist primarily of costs associated with performing research and development activities to improve our tests, to reduce product costs, and to develop new products including our preeclampsia test and our precision medicine product candidates. Research and development expenses also consist of personnel expenses, including salaries, bonuses, stock-based compensation expense, benefits, consulting costs, and allocated overhead costs. Research and development costs are expensed as incurred.

We plan to continue investing in research and development activities for the foreseeable future as we focus on developing innovative products, including our preeclampsia test and our precision medicine

product candidates, through preclinical studies and clinical trials. We also expect our investment in research and development to increase as we pursue regulatory approval of our product candidates and as we seek to expand our pipeline of product candidates.

Due to the impact of the COVID-19 pandemic and work-from-home policies and other operational limitations mandated by federal, state, and local governments as a result of the pandemic, certain of our research and development activities have been delayed and may be further delayed until such operational limitations are lifted or if they are reinstated. While we have implemented and continue to monitor mitigation strategies, where possible, certain preclinical and clinical activities are suspended during the implementation of these policies and will necessarily incur some delay following the resumption of normal operations.

*Selling and Marketing*

Selling and marketing expenses consist primarily of personnel costs, including salaries, commissions, bonuses, stock-based compensation expense, and benefits for our sales and marketing team. Selling and marketing expenses also include costs for communication, advertising, conferences, other marketing events, and allocated overhead costs. We expect selling and marketing expense to continue to increase as we increase the size of our selling and marketing function to support the growth of our business. We have implemented and continue to monitor mitigation strategies to address the work-from-home policies and other operational limitations mandated by federal, state, and local governments as a result of the COVID-19 pandemic. While largely yet to be determined, these mitigation strategies include virtual meetings and mobile phlebotomy services for patients preferring not to visit a physician’s office. These strategies and others may cause increases in our sales and marketing costs.

*General and Administrative*

General and administrative expenses consist primarily of personnel costs, including salaries, bonuses, stock-based compensation expense, and benefits, for our finance and accounting, legal, human resources, and other administrative teams. Additionally, these expenses include professional fees of audit, legal, and recruiting services. Following the listing of our common stock on Nasdaq, we expect to continue to incur additional expenses as a result of operating as a public company, including costs to comply with the rules and regulations applicable to companies listed on a U.S. securities exchange and costs related to compliance and reporting obligations pursuant to the rules and regulations of the SEC. In addition, as a public company, we expect to incur increased expenses in the areas of insurance, investor relations, and professional services. Furthermore, we expect to incur expenses related to maintaining compliance with the stipulations of the government settlement and the legal costs associated with the Natera lawsuit and initial public offering, or IPO, related litigation described in “Business—Legal Proceedings—Natera Lawsuit.” As a result, we expect the dollar amount of our general and administrative expenses to increase for the foreseeable future. We expect, however, that our general and administrative expenses will decrease as a percentage of our revenue over time, although the percentage may fluctuate from period to period depending on fluctuations in our revenue and the timing and extent of our general and administrative expenses.

*Interest Expense*

Interest expense is primarily attributable to borrowings under our Credit Agreement (as defined below). Interest expense is also attributable to our outstanding mortgages and capital lease agreements.

*Interest and Other Income (Expense), Net*

Interest and other income, net primarily consists of loss on extinguishment of convertible note debt in the second quarter of 2020 and interest income earned from our cash and cash equivalents, and changes in fair value of short-term investments.

*Income Tax Provision*

We account for income taxes under the asset-and-liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis, and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

We recognize the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is more than 50% likely of being realized. Changes in recognition or measurement are recognized in the period in which the change in judgment occurs. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized. Due to losses generated in the past and projected future taxable losses anticipated in the future, we established a 100% valuation allowance on net deferred tax assets.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, was enacted. The CARES Act includes several significant provisions for corporations, including the usage of net operating losses, interest deductions and payroll benefits. Corporate taxpayers may carryback net operating losses, or NOLs, originating during 2018 through 2020 for up to five years. During the three months ended March 31, 2020, we recorded a discrete tax benefit of $37.7 million related to the NOL carryback provisions available under the CARES Act legislation for taxes paid in years 2013, 2014, 2015, and 2017. If any tax refund is received that is more than $5.0 million in a single year, along with other civil settlements, damages awards, and tax refunds, we have agreed to pay 65% of all such amounts received to accelerate payments to the government in connection with our proposed government settlement. During the nine months ended September 30, 2020, we received tax refunds totaling $38.4 million related to the NOL carryback provisions available under the CARES Act, including a $15.7 million tax refund relating to NOLs originating during 2019, which we received in the third quarter of 2020. See “Business—Legal Proceedings—Federal Investigation.”

**Results of Operations.**

*Comparison of Three Months Ended September 30, 2020 and 2019*

| | Three Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| | (in thousands) (unaudited) | |
| **Statement of Operations Data:** | | |
| Revenues | $ 18,772 | $ 25,943 |
| Cost of sales | 24,997 | 23,601 |
| Gross profit (loss) | (6,225) | 2,342 |
| Operating expenses: | | |
| Research and development | 17,080 | 13,043 |
| Selling and marketing | 15,263 | 13,244 |
| General and administrative | 16,273 | 20,626 |
| Total operating expenses | 48,616 | 46,913 |
| Loss from operations | (54,841) | (44,571) |
| Interest expense | (2,321) | (2,476) |
| Interest and other income (expense), net | 29 | (18) |
| Net loss | $(57,133) | $(47,065) |

| | Three Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| | (unaudited) | |
| **Percentage of Revenue Data:** | | |
| Revenues | 100% | 100% |
| Cost of sales | 133 | 91 |
| Gross profit (loss) | (33) | 9 |
| Operating expenses: | | |
| Research and development | 91 | 50 |
| Selling and marketing | 81 | 51 |
| General and administrative | 87 | 80 |
| Total operating expenses | 259 | 181 |
| Loss from operations | (292) | (172) |
| Interest expense | (12) | (10) |
| Interest and other income (expense), net | — | — |
| Net loss | (304)% | (181)% |

*Revenue*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Revenues | $18,772 | $25,943 | $ 7,171 | 38.2% |

Revenue was $25.9 million for the three months ended September 30, 2020, compared to $18.8 million for the three months ended September 30, 2019, an increase of $7.1 million, or 38.2%.

The increase in revenue was primarily attributable to an accrual of $15.9 million related to the settlement with the DOJ and the participating State AGs in the third quarter of 2019 partially offset by a decrease in test volumes in the third quarter of 2020 as a result of the COVID-19 pandemic, and rate degradation due to payor policy changes.

*Cost of Sales*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Cost of sales | $24,997 | $23,601 | $ (1,396) | (5.6)% |

Cost of sales was $23.6 million for the three months ended September 30, 2020, compared to $25.0 million for the three months ended September 30, 2019, a decrease of $1.4 million, or 5.6%.

The decrease in cost of sales was primarily due to a decrease in test volumes during the three months ended September 30, 2020 compared to the three months ended September 30, 2019 as a result of the COVID-19 pandemic, partially offset by higher stock-based compensation expenses following our IPO in June 2020.

*Research and Development Expenses*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Research and development | $17,080 | $13,043 | $ (4,037) | (23.6)% |

Research and development expenses were $13.0 million for the three months ended September 30, 2020, compared to $17.1 million for the three months ended September 30, 2019, a decrease of $4.1 million, or 23.6%.

The decrease in research and development expenses was primarily attributable to a $3.6 million decrease in consulting costs, as well as a $1.0 million decrease in supplies costs and other expenses, partially offset by a $0.9 million increase in salaries and stock-based compensation expenses.

The following table summarizes the changes in research and development expenses from the three months ended September 30, 2020, to the three months ended September 30, 2019, with costs broken down by program:

| | Three Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| | (in thousands) (unaudited) | |
| Molecular testing | $ 8,114 | $ 7,253 |
| Precision medicine | 8,966 | 5,790 |
| Total research and development expenses | $17,080 | $13,043 |

*Selling and Marketing Expenses*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Selling and marketing | $15,263 | $13,244 | $ (2,019) | (13.2)% |

Selling and marketing expenses were $13.2 million for the three months ended September 30, 2020, compared to $15.3 million for the three months ended September 30, 2019, a decrease of $2.1 million, or 13.2%.

The decrease in selling and marketing expenses was primarily attributable to a $1.4 million decrease in travel and entertainment costs due to a reduction in travel during the three months ended September 30, 2020 as a result of the COVID-19 related restrictions and associated work-from-home policies and a decrease of $0.5 million in advertising and promotion costs.

*General and Administrative Expenses*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| General and administrative | $16,273 | $20,626 | $ 4,353 | 26.7% |

General and administrative expenses were $20.6 million for the three months ended September 30, 2020, compared to $16.3 million for the three months ended September 30, 2019, an increase of $4.3 million, or 26.7%.

The increase in general and administrative expenses was primarily attributable to a $2.6 million increase in salaries and personnel-related costs, a $1.5 million increase in consulting and professional costs, primarily related to legal costs associated with our government settlement negotiations, and a $1.5 million increase in our business insurance costs, partially offset by a decrease of $1.2 million in supplies costs.

*Interest Expense*

| | Three Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Interest expense | $(2,321) | $(2,476) | $ (155) | 6.7% |

Interest expense increased by $0.2 million, or 6.7%, from the three months ended September 30, 2019 to the three months ended September 30, 2020.

*Comparison of Nine Months Ended September 30, 2020 and 2019*

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| | (in thousands) | |
| **Statement of Operations Data:** | (unaudited) | |
| Revenues | $123,509 | $ 60,037 |
| Cost of sales | 75,531 | 72,006 |
| Gross profit (loss) | 47,978 | (11,969) |
| Operating expenses: | | |
| Research and development | 48,791 | 36,517 |
| Selling and marketing | 45,510 | 40,416 |
| General and administrative | 44,823 | 54,915 |
| Total operating expenses | 139,124 | 131,848 |
| Loss from operations | (91,146) | (143,817) |
| Interest expense | (6,872) | (7,285) |
| Interest and other income (expense), net | 457 | (3,594) |
| Loss before income taxes | (97,561) | (154,696) |
| Income tax benefit | — | (37,696) |
| Net loss | $ (97,561) | $(117,000) |

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| **Percentage of Revenue Data:** | (unaudited) | |
| Revenues | 100% | 100% |
| Cost of sales | 61 | 120 |
| Gross profit (loss) | 39 | (20) |
| Operating expenses: | | |
| Research and development | 40 | 61 |
| Selling and marketing | 37 | 67 |
| General and administrative | 36 | 91 |
| Total operating expenses | 113 | 220 |
| Loss from operations | (74) | (240) |
| Interest expense | (5) | (12) |
| Interest and other income (expense), net | — | (6) |
| Loss before income taxes | (79) | (258) |
| Income tax benefit | — | (63) |
| Net loss | (79)% | (195)% |

*Revenue*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Revenues | $123,509 | $60,037 | $(63,472) | (51.4)% |

Revenue was $60.0 million for the nine months ended September 30, 2020, compared to $123.5 million for the nine months ended September 30, 2019, a decrease of $63.5 million, or 51.4%. The decrease in revenues during the nine months ended September 30, 2020 compared to the nine months ended September 30, 2019 was largely attributable to an accrual of $13.2 million related to the settlement with the DOJ and the participating State AGs in the first quarter of 2020, an accrual of $10.3 million for refunds to government payors, which we repaid in early October 2020, combined with a decrease in test volumes as a result of the COVID-19 pandemic during the second and third quarter of 2020, and rate degradation due to payor policy changes.

In addition, revenue was $25.9 million for the three months ended September 30, 2020, compared to $17.3 million for the three months ended June 30, 2020, an increase of $8.6 million, or 50.3% increase.

*Cost of Sales*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Cost of Sales | $75,531 | $72,006 | $ (3,525) | (4.7)% |

Cost of sales was $72.0 million for the nine months ended September 30, 2020, compared to $75.5 million for the nine months ended September 30, 2019, a decrease of $3.5 million, or 4.7%.

The decrease in cost of sales was primarily due to a decrease in test volumes in the second and third quarter of 2020 as a result of the COVID-19 pandemic, partially offset by higher stock-based compensation expense following the IPO in June 2020.

*Research and Development Expenses*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Research and development | $48,791 | $36,517 | $(12,274) | (25.2)% |

Research and development expenses were $36.5 million for the nine months ended September 30, 2020, compared to $48.8 million for the nine months ended September 30, 2019, a decrease of $12.3 million, or 25.2%.

The decrease in research and development expenses was primarily attributable to a $11.9 million decrease in consulting costs, as well as a $3.5 million decrease in supplies costs and other expenses, partially offset by a $3.6 million increase in salaries and stock-based compensation expenses.

The following table summarizes the changes in research and development expenses from the nine months ended September 30, 2020, to the nine months ended September 30, 2019, with costs broken down by program:

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2019 | 2020 |
| | (in thousands) (unaudited) | |
| Molecular testing | $24,695 | $20,419 |
| Precision medicine | 24,096 | 16,098 |
| Total research and development expenses | $48,791 | $36,517 |

In addition, research and development expenses were $13.0 million for the three months ended September 30, 2020, compared to $12.2 million for the three months ended June 30, 2020, an increase of $0.8 million, or 6.6%.

*Selling and Marketing Expenses*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Selling and marketing | $45,510 | $40,416 | $ (5,094) | (11.2)% |

Selling and marketing expenses were $40.4 million for the nine months ended September 30, 2020, compared to $45.5 million for the nine months ended September 30, 2019, a decrease of $5.1 million, or 11.2%.

The decrease in selling and marketing expenses was primarily attributable to a $3.7 million decrease in travel and entertainment costs due to a reduction in travel during the nine months ended September 30, 2020 as a result of the COVID-19 related restrictions and associated work-from-home policies and a decrease of $0.6 million in salaries and personnel-related costs.

In addition, selling and marketing expenses were $13.2 million for the three months ended September 30, 2020, compared to $12.7 million for the three months ended June 30, 2020, an increase of $0.5 million, or 4.0%.

*General and Administrative Expenses*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| General and administrative | $44,823 | $54,915 | $ 10,092 | 22.5% |

General and administrative expenses were $54.9 million for the nine months ended September 30, 2020, compared to $44.8 million for the nine months ended September 30, 2019, an increase of $10.1 million, or 22.5%.

The increase in general and administrative expenses was primarily attributable to a $5.8 million increase in salaries and stock-based compensation expenses, a $4.7 million increase in consulting and professional costs, primarily related to legal costs associated with our government settlement negotiations and litigation, and a $2.0 million increase in business insurance costs. These increases were partially offset by a decrease of $2.9 million in supplies costs.

In addition, general and administrative expenses were $20.6 million for the three months ended September 30, 2020, compared to $17.2 million for the three months ended June 30, 2020, an increase of $3.4 million, or 20.1%.

*Interest Expense*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Interest expense | $(6,872) | $(7,285) | $ (413) | 6.0% |

Interest expense increased by $0.4 million, or 6.0%, from the nine months ended September 30, 2019 to the nine months ended September 30, 2020.

*Interest and Other Income (Expense), Net*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Interest and other income (expense), net | $ 457 | $(3,594) | $ (4,051) | * |

* - The change is more than 100%

Interest and other expense, net, was $3.6 million for the nine months ended September 30, 2020, compared to interest and other income, net of $0.5 million for the nine months ended September 30, 2019. This change was primarily due to a $3.6 million loss on extinguishment of debt associated with the conversion of an unsecured promissory note into shares of common stock upon completion of the IPO.

*Income Tax Benefit*

| | Nine Months Ended September 30, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2019 | 2020 | | |
| | (in thousands) (unaudited) | | | |
| Income tax provision (benefit) | $ — | $(37,696) | $(37,696) | (100.0)% |

Income tax benefit was $37.7 million for the nine months ended September 30, 2020, while income tax benefit was zero for the nine months ended September 30, 2019. The tax benefit during the nine months ended September 30, 2020 was recorded due to the net operating loss carryback provisions available under the CARES Act legislation enacted in March 2020. During the year ended December 31, 2018, we established a full valuation allowance on net deferred tax assets due to losses generated in 2018 and projected taxable losses anticipated in the future. Due to the valuation allowance on deferred tax assets, no tax benefit was recorded for our net loss in the nine months ended September 30, 2019.

*Comparison of Years Ended December 31, 2018 and 2019*

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| | (in thousands) | |
| **Statements of Operations Data:** | | |
| Revenue | $ 127,974 | $ 143,985 |
| Cost of sales | 92,076 | 100,492 |
| Gross profit | 35,898 | 43,493 |
| Operating expenses: | | |
| Research and development | 48,712 | 63,400 |
| Selling and marketing | 50,187 | 58,888 |
| General and administrative | 51,238 | 61,324 |
| Total operating expenses | 150,137 | 183,612 |
| Loss from operations | (114,239) | (140,119) |
| Interest expense | (9,091) | (9,199) |
| Equity loss of equity method investee | (2,327) | — |
| Interest and other income, net | 1,801 | 575 |
| Loss before taxes | (123,856) | (148,743) |
| Income tax expense (benefit) | 5,250 | (706) |
| Net loss | $(129,106) | $(148,037) |

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| **Percentage of Revenue Data:** | | |
| Revenue | 100% | 100% |
| Cost of sales | 72 | 70 |
| Gross profit | 28 | 30 |
| Operating expenses: | | |
| Research and development | 38 | 44 |
| Selling and marketing | 39 | 41 |
| General and administrative | 40 | 43 |
| Total operating expenses | 117 | 128 |
| Loss from operations | (89) | (97) |
| Interest expense | (7) | (6) |
| Equity loss of equity method investee | (2) | — |
| Interest and other income, net | 1 | — |
| Loss before taxes | (97) | (103) |
| Income tax expense (benefit) | 4 | — |
| Net loss | (101)% | (103)% |

*Revenue*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Revenue | $127,974 | $143,985 | $ 16,011 | 12.5% |

Revenue was $144.0 million for the year ended December 31, 2019 compared to $128.0 million for the year ended December 31, 2018, an increase of $16.0 million, or 12.5%. Effective January 1, 2019, we adopted ASC 606, using the modified retrospective transition method. As a result, revenue for reporting periods beginning after January 1, 2019 are presented under ASC 606, whereas prior period amounts have not been adjusted and continue to be reported in accordance with our historical accounting policy under ASC 605. Revenue for the year ended December 31, 2019 is therefore not comparable with the same period in the prior year.

During the years ended December 31, 2019 and 2018, revenue was reduced by $39.7 million and $53.1 million, respectively, for accruals for reimbursement claims and settlements with payors. The accrual for the year ended December 31, 2019 includes an accrual for $35.8 million related to the settlement with the Department of Justice, or DOJ, and the participating State AGs.

The $16.0 million increase in revenue was primarily due to a decrease in accruals for reimbursement claims and settlements with payors of $13.4 million, which are recognized as reductions in revenue, during the year ended December 31, 2019 compared to the year ended December 31, 2018. The remainder of the increase is related to increased growth in accessioned volume of tests partially offset by rate degradation due to payor policy changes.

*Cost of Sales*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Cost of sales | $92,076 | $100,492 | $ 8,416 | 9.1% |

Cost of sales was $100.5 million for the year ended December 31, 2019 compared to $92.1 million for the year ended December 31, 2018, an increase of $8.4 million, or 9.1%.

The increase in cost of sales was primarily due to higher labor and laboratory operations expenses related to growth in accessioned volume of tests. Cost of sales consists primarily of cost of labor and laboratory operation expenses and is driven by the volume of accessioned tests and changes in the mix of tests accessioned. Accessioned test volume is directly related to consumption of reagents and other laboratory support services; therefore, growth in accessioned volume of tests results in increased cost of sales. As a percentage of revenue, cost of sales was 72% for the year ended December 31, 2018, compared to 70% for the year ended December 31, 2019. The decrease was primarily due to changes in the mix of tests accessioned between each period.

*Research and Development Expenses*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Research and development | $48,712 | $63,400 | $ 14,688 | 30.2% |

Research and development expenses were $63.4 million for the year ended December 31, 2019 compared to $48.7 million for the year ended December 31, 2018, an increase of $14.7 million, or 30.2%.

The increase in research and development expenses was primarily attributable to a $5.8 million increase in consulting costs, as well as a $4.6 million increase in salaries and personnel-related costs, $3.9 million increase in supplies costs and other expenses.

The following table summarizes the changes in research and development expenses from the year ended December 31, 2018 to the year ended December 31, 2019, with costs broken down by program:

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| | (in thousands) | |
| Molecular Testing | $23,340 | $31,562 |
| Precision Medicine | 25,372 | 31,838 |
| Total research and development expenses | $48,712 | $63,400 |

*Selling and Marketing Expenses*

| | Year Ended December 31, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2018 | 2019 | | |
| | (in thousands) | | | |
| Selling and marketing | $50,187 | $58,888 | $ 8,701 | 17.3% |

Selling and marketing expenses were $58.9 million for the year ended December 31, 2019 compared to $50.2 million for the year ended December 31, 2018, an increase of $8.7 million, or 17.3%.

The increase in selling and marketing expenses was primarily attributable to a $6.0 million increase in salaries and personnel-related costs. The remainder of the increase is associated with increases of $1.1 million in marketing consulting fees, $1.1 million in advertising, promotions, trade shows, and conferences, and, $0.5 million in travel and entertainment costs.

*General and Administrative Expenses*

| | Year Ended December 31, | | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | 2018 | 2019 | | |
| | (in thousands) | | | |
| General and administrative | $51,238 | $61,324 | $ 10,086 | 19.7% |

General and administrative expenses were $61.3 million for the year ended December 31, 2019 compared to $51.2 million for the year ended December 31, 2018, an increase of $10.1 million, or 19.7%.

The increase in general and administrative expenses was primarily attributable to a $2.2 million increase in salaries and personnel-related costs. The remainder of the increase is associated with increases of $3.0 million in additional rent expense related to the opening of a new genetics laboratory, $2.2 million in consulting costs, $0.9 million in IT operations, $0.7 million in fees paid for billing systems, $0.3 million in facilities costs, and $0.5 million in other general and administrative costs.

*Interest Expense*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Interest expense | $(9,091) | $(9,199) | $ 108 | 1.2% |

Interest expense increased by $0.1 million, or 1.2%, from the year ended December 31, 2018 to the year ended December 31, 2019.

*Equity Loss of Equity Method Investee*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Equity loss of equity method investee | $(2,327) | $— | $ (2,327) | (100.0)% |

Equity loss of equity method investee decreased by $2.3 million from the year ended December 31, 2018 to the year ended December 31, 2019. This decrease in equity loss of equity method investee was the result of the divestiture of our investment in NeoSeq, which we sold to a third party during June 2019.

*Interest and Other Income, Net*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Interest and other income, net | $1,801 | $575 | $ (1,226) | (68.1)% |

Interest and other income, net decreased by $1.2 million from the year ended December 31, 2018 to the year ended December 31, 2019, primarily attributable to the sale of short-term investments during 2019.

*Income Tax Expense*

| | Year Ended December 31, 2018 | 2019 | Increase/ (Decrease) | % Change |
|---|---|---|---|---|
| | (in thousands) | | | |
| Income tax expense (benefit) | $5,250 | $(706) | $ (5,956) | (113.4)% |

Income tax expense was $5.3 million for the year ended December 31, 2018, while income tax benefit was $0.7 million for the year ended December 31, 2019, a 113.4% decrease. During the year ended December 31, 2018, due to losses generated in 2018 and projected future taxable losses anticipated in the future, we established a 100.0% valuation allowance on net deferred tax assets and as a result recorded income tax expense of $5.3 million. The tax benefit recorded during the year ended December 31, 2019 was recorded due to refunds received during 2019.

**Liquidity and Capital Resources**

Since our inception, our primary sources of liquidity have been generated by our operations, sales of common stock and preferred stock, and cash from debt financings.

For the year ended December 31, 2019 and the nine months ended September 30, 2020, our net losses were $148.0 million and $117.0 million, respectively. Since our inception, our primary sources of liquidity have been generated by our operations, sales of preferred stock and common stock, and cash from debt financings.

Our obligations under our convertible note, mortgages and capital leases as of June 30, 2020 and September 30, 2020 were $78.9 million and $78.6 million, respectively. We are currently considering potential transactions in an effort to optimize our debt capital structure.

As of June 30, 2020 and September 30, 2020, we had $113.6 million and $60.0 million of cash and cash equivalents, respectively, a $75.0 million term loan outstanding with a private equity firm, and mortgages outstanding of $3.1 million. Our accumulated deficit as of September 30, 2020, was $465.7 million. For the nine months ended September 30, 2020, we had a net loss of $117.0 million and cash used in operations of $95.7 million. Our primary requirements for liquidity have been to fund our working capital needs, capital expenditures, dividends, research and development, and general corporate needs, as well as to invest in or acquire companies or technologies that are synergistic with or complimentary to our business.

Based on our planned operations, we do not expect that our current cash and cash equivalents will be sufficient to fund our operations for at least 12 months from the issuance date of the condensed consolidated financial statements for the three and nine months ended September 30, 2020. We intend to raise additional capital through equity offerings and/or debt financings or from other potential sources of liquidity, which may include new collaborations, licensing or other commercial agreements for one or more of our research programs or patent portfolios. Adequate funding, if needed, may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or other operations. If any of these events occur, our ability to achieve our operational goals would be adversely affected. Our future capital requirements and the adequacy of available funds will depend on many factors, including those described in “Risk Factors.” Depending on the severity and direct impact of these factors on us, we may be unable to secure additional financing to meet our operating requirements on terms favorable to us, or at all. Our ability to raise additional funds may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, the credit and financial markets in the United States and worldwide resulting from the ongoing COVID-19 pandemic.

*Credit and Security Agreements, Series B Preferred Stock, and Convertible Note*

On October 27, 2017, we entered into a credit and security agreement, or the Credit Agreement, with a fund managed by Athyrium, as collateral agent and a lender. The Credit Agreement provided for a term loan of $75.0 million. The Credit Agreement contains customary covenants, including a requirement to maintain a minimum unrestricted cash balance at all times of at least $5.0 million. The term loan is secured by all our tangible and intangible property assets, with the exception of our intellectual property. The term loan accrues interest at a rate per annum equal to 9.5% and is due October 27, 2022. We also entered into a Series B Preferred Stock Purchase Agreement, or the 2017 Series B Stock Purchase Agreement, with the same fund managed by Athyrium, which provided for the sale of 14,164,306 shares of Series B Preferred Stock at a purchase price of $3.53 per share for an aggregate purchase price of $50.0 million. The purchase price was paid in the form of (i) cash in an amount equal to $37.5 million and (ii) the delivery of 3,489,885 shares of our Series A-2 Preferred Stock, which shares of Series A-2 Preferred Stock had been purchased from Dr. Stylli, our Chairman and Chief Executive Officer, for $12.5 million. Concurrent with such transactions, Dr. Stylli converted the remaining 624,605 shares of Series A-2 Preferred Stock that he held into 633,766 shares of our common stock and we retired all shares of Series A-2 Preferred Stock. In connection with the 2017 Series B Stock Purchase Agreement, the

fund managed by Athyrium received a warrant to purchase an additional 1,416,431 shares of Series B Preferred Stock.

The total proceeds of $124.2 million were allocated to the term loan, the Series B Preferred Stock, and Series B Preferred Stock Purchase Warrant based on the relative fair values of the term loan, equity, and warrant issued. As a result, we allocated proceeds of $65.7 million to the term loan. As the proceeds allocated to the term loan were lower than the stated loan amount of $75.0 million, the resulting $9.3 million discount is amortized to interest expense using the effective interest method over the term of the loan.

During 2018 and 2019 we recognized interest expense on the term loan of $8.7 million and $8.9 million, respectively. During the three months ended September 30, 2020 and 2019, we recognized interest expense on the term loan of $2.4 million and $2.2 million, respectively. During the nine months ended September 30, 2020 and 2019, we recognized interest expense on the term loan of $7.1 million and $6.6 million, respectively.

In connection with our initial public offering, on June 18, 2020, the Series B Preferred Stock Purchase Warrant became exercisable for 400,160 shares of common stock.

On August 27, 2019, we entered into a Series B Preferred Stock Purchase Agreement with Athyrium Opportunities III Acquisition LP, a fund managed by Athyrium, pursuant to which we issued 9,090,910 shares of Series B Preferred Stock at $2.75 per share for an aggregate purchase price of $25.0 million. A 1.283636364-for-1 stock split for our Series B Preferred Stock shares and Series B Preferred Stock Purchase Warrant issued and outstanding previously was effected on August 27, 2019 pursuant to an amendment and restatement of our amended and restated certificate of incorporation. As a result of the stock split, we issued an additional 4,017,512 shares of Series B Preferred Stock and adjusted the Series B Preferred Stock Purchase Warrant to be a warrant to purchase 1,818,182 shares of Series B Preferred Stock. On August 27, 2019, we executed an exchange agreement with our Series A-1 Preferred Stock holders, pursuant to which 1,500,000 outstanding shares of Series A-1 Preferred Stock were exchanged for 35,664,240 shares of Series B Preferred Stock.

On November 12, 2019, we entered into a Series B Stock Preferred Stock Purchase Agreement, or the 2019 Series B Stock Purchase Agreement, with Athyrium Opportunities III Acquisition 2 LP, a fund managed by Athyrium, pursuant to which we issued an additional 11,111,111 shares of Series B Preferred Stock at $2.25 per share for an aggregate purchase price of $25.0 million. A 1.22222222-for-1 stock split for our Series B Preferred Stock shares and Series B Preferred Stock Purchase Warrant issued and outstanding previously was effected on November 12, 2019 pursuant to an amendment and restatement of our amended and restated certificate of incorporation. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Purchase Warrant were lowered from $2.75 to $2.25 per share (or $13.90 per share as a result of the reverse stock split effected on June 10, 2020). As a result of the stock split effected on November 12, 2019, we issued an additional 13,985,993 shares of Series B Preferred Stock and adjusted the Series B Preferred Stock Purchase Warrant to be a warrant to purchase 2,222,222 shares of Series B Preferred Stock.

On November 22, 2019, we completed an additional equity financing pursuant to the 2019 Series B Stock Purchase Agreement executed on November 12, 2019 with Beaver Creek Intermediate Fund, Ltd., an existing investor and Dr. Stylli, our Chairman and Chief Executive Officer, for an aggregate purchase price of $6.1 million. We issued an aggregate of 2,722,222 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On December 19, 2019, we completed an additional equity financing pursuant to the 2019 Series B Stock Purchase Agreement executed on November 12, 2019 with Athyrium Opportunities III Acquisition

2 LP for an aggregate purchase price of $25.0 million. We issued on aggregate of 11,111,111 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On February 28, 2020, we completed an additional equity financing pursuant to the 2019 Series B Stock Purchase Agreement executed on November 12, 2019 with Athyrium Opportunities III Acquisition 2 LP and Dr. Stylli, our Chairman and Chief Executive Officer, for an aggregate purchase price of $11.4 million. We issued an aggregate of 5,066,666 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On March 31, 2020, we entered into the First Amendment to the Credit Agreement, or the Credit Agreement Amendment, with the collateral agent and lender party thereto, providing for the payment of interest due and payable as of March 31, 2020 in shares of our Series B Preferred Stock, and further providing for the payment of interest due and payable as of June 30, 2020 in shares of our Series B Preferred Stock in the event our IPO had not been consummated by such date. Pursuant to the Credit Agreement Amendment, we concurrently entered into a Series B Preferred Stock Subscription Agreement, or the Subscription Agreement, with the lender, which provided for the issuance of 967,130 shares of Series B Preferred Stock at a subscription price of $2.25 per share, as payment for interest due and payable as of March 31, 2020 and all applicable fees as set forth in the Credit Agreement Amendment. The Subscription Agreement further provided for a potential additional issuance of shares of Series B Preferred Stock as payment for the interest due and payable under the Credit Agreement as of June 30, 2020, in the event our IPO had not been consummated by such date, with the amount of shares to be determined at such time.

On April 3, 2020, we entered into a Series B Preferred Stock Purchase Agreement with Athyrium Opportunities III Acquisition 2 LP, pursuant to which we issued an additional 4,444,444 shares of Series B Preferred Stock at $2.25 per share for an aggregate purchase price of $10.0 million.

On May 8, 2020, we entered into a Note Purchase Agreement with Athyrium Opportunities 2020 LP, a fund managed by Athyrium, pursuant to which we issued and sold an unsecured convertible promissory note, or the Convertible Note, with an annual interest rate of 8.0% and in an aggregate principal amount of $15.0 million. The Convertible Note had a maturity date of May 8, 2022 and was convertible at the option of the holder into shares of our common stock at a per share conversion price of the lesser of $13.90 and eighty percent of the public price. In connection with the issuance and sale of the Convertible Note, we entered into (i) the Second Amendment to the Credit Agreement, dated May 6, 2020, or the Second Credit Agreement Amendment, allowing for the creation or incurrence of certain indebtedness and the making of payments, in each case, in respect of the Convertible Note, among other matters, and (ii) the Second Amendment to Series B Preferred Stock Warrant, dated May 8, 2020, providing for the removal of certain restrictive exercise provisions in the Series B Preferred Stock Purchase Warrant. In June 2020, in connection with completion of our IPO, the Note was converted into 1,250,000 shares of common stock and all obligations under the Convertible Note were extinguished.

Certain entities affiliated with Athyrium, one of our affiliates, have agreed to acquire $ million in aggregate principal amount of convertible notes in the concurrent offering. These affiliates of Athyrium will acquire up to $25.0 million principal amount of the convertible notes for cash and up to $78.5 million principal amount of the convertible notes in exchange for amounts outstanding under the Credit Agreement. Upon consummation of the concurrent offering, the Credit Agreement will be terminated as a result of the exchange by these Athyrium affiliates of amounts outstanding under the Credit Agreement for the convertible notes.

*Mortgages*

In January 2014, we executed a mortgage with Comerica Bank for $1.8 million for the purpose of acquiring a facility located in Ann Arbor, Michigan, which was previously leased by us and is used

primarily for laboratory testing and research purposes. The outstanding balance was $1.4 million as of each of September 30, 2020 and December 31, 2019. The mortgage matures in 2024 and requires monthly principal and interest payments at a fixed interest rate of 2.94% plus a floating rate at LIBOR. We also have a mortgage with American Bank of Commerce (originally executed in February 2008) outstanding on Avero Diagnostic's property located in Lubbock, Texas, which is used primarily for laboratory testing. The outstanding balance was $1.8 million and $1.9 million as of September 30, 2020 and December 31, 2019, respectively. The mortgage matures in 2029 and requires monthly principal and interest payments at an interest rate of 3.25%.

*Cash Flows*

Our primary uses of cash are to fund our operations and research and development as we continue to grow our business. We expect to continue to incur operating losses in future periods as our operating expenses increase to support the growth of our business. We expect that our research and development, selling and marketing, and general and administrative expenses will continue to increase as we expand our marketing efforts and increase our internal sales force to drive increased adoption of and reimbursement for our tests, continue our research and development efforts with respect to our current tests and further develop our product pipeline, including our preeclampsia test and precision medicine products under development. Cash used to fund operating expenses is impacted by the timing of when we pay expenses, as reflected in the change in our outstanding accounts payable and accrued expenses.

The following table summarizes our cash flows for the periods indicated:

| | Year Ended December 31, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2018 | 2019 | 2019 | 2020 |
| | (in thousands) | | (unaudited) | |
| Cash used in operating activities | $ (65,126) | $ (106,124) | $ (60,279) | $ (95,687) |
| Cash provided by (used in) investing activities | 55,831 | 16,525 | 17,333 | (3,109) |
| Cash provided by (used in) financing activities | (12,807) | 73,616 | 19,991 | 125,767 |

*Cash Used in Operating Activities*

Net cash used in operating activities for the year ended December 31, 2018 of $65.1 million was primarily attributable to a $129.1 million net loss. This was partially offset by a $42.6 million increase in accrued expenses and other current liabilities as a result of accruals for settlement payments due to third-party payors, including accruals for settlement negotiations with UnitedHealthcare and Aetna of $27.0 million and $15.0 million, respectively, in December 2018.

Net cash used in operating activities for the year ended December 31, 2019 of $106.1 million was primarily attributable to a $148.0 million net loss. This was partially offset by a $17.8 million increase in accrued expenses and other current liabilities as well as a $9.1 million increase in other long-term liabilities primarily as a result of the accrual for settlement negotiations with the Assistant U.S. Attorney for the Southern District of New York for $35.8 million. The net loss was also partially offset by a $3.4 million increase in accounts receivable primarily as a result of the adoption of ASC 606.

Net cash used in operating activities in the nine months ended September 30, 2020, of $95.7 million was primarily attributable to a $117.0 million net loss, adjusted for $40.6 million of non-cash charges, primarily driven by $22.8 million of noncash revenue reserve, $8.5 million of stock-based compensation expense, and $3.8 million of depreciation and amortization expense. The net cash outflow from changes in operating assets and liabilities of $19.3 million was attributable to a $29.8 million increase in accrued expenses and other liabilities, offset by an $8.8 million decrease in accounts receivable.

In addition, net cash used in operating activities in the three months ended June 30, 2020 was $13.5 million, as compared to net cash used in the three months ended September 30, 2020 of $51.3 million.

*Cash Provided by Investing Activities*

Net cash provided by investing activities during the year ended December 31, 2018 of $55.8 million was primarily driven by $227.7 million from the sale of short-term investments. The cash inflow was partially offset by cash outflows of $167.0 million for purchases of short-term investments and $4.8 million for purchases of property and equipment.

Net cash provided by investing activities during the year ended December 31, 2019 of $16.5 million was primarily driven by $31.4 million from the sale of short-term investments. The cash inflow was partially offset by cash outflows of $11.2 million for purchases of short-term investments and $3.7 million for purchases of property and equipment.

Net cash used in investing activities during the nine months ended September 30, 2020, of $3.1 million was attributable to the purchase of property and equipment. Net cash provided by investing activities during the nine months ended September 30, 2019 of $17.3 million was primarily driven by $31.4 million in proceeds from the sale of short-term investments. The cash inflow was partially offset by cash outflows of $11.2 million for purchases of short-term investments and $2.9 million for purchases of property and equipment.

*Cash (Used in) Provided by Financing Activities*

Net cash used in financing activities during the year ended December 31, 2018 of $12.8 million was primarily attributable to $11.3 million in repurchase of common stock, $1.5 million in principal payments on capital lease obligations, $0.3 million in payments for contingent consideration, and $0.2 million in principal payments on mortgages payable. The cash outflows were partially offset by $0.5 million in proceeds from issuances of common stock.

Net cash provided by financing activities during the year ended December 31, 2019 of $73.6 million was primarily attributable to $79.0 million in proceeds from the issuance of Series B Preferred Stock and $0.5 million in proceeds from issuance of common stock, partially offset by $4.5 million in dividends paid, $1.0 million in principal payments on capital lease obligations, and $0.2 million in principal payments on mortgages payable, and $0.2 million in payments for deferred costs.

Net cash provided by financing activities during the nine months ended September 30, 2020, of $125.8 million was primarily attributable to $90.3 million in net proceeds from the issuance of common stock, $21.3 million in net proceeds from the issuance of Series B Preferred Stock and $14.9 million in net proceeds from the issuance of a convertible note, partially offset by $0.6 million in principal payments on capital lease obligations and $0.2 million in principal payments on mortgages payable. Net cash provided by financing activities during the nine months ended September 30, 2019 of $20.0 million was primarily attributable to $25.0 million in proceeds from the issuance of Series B Preferred Stock and $0.5 million in proceeds from issuance of common stock, partially offset by $4.5 million in dividends paid, $0.8 million in principal payments on capital lease obligations, and $0.2 million in principal payments on mortgages payable.

**Contractual Obligations and Other Commitments**

See “Liquidity and Capital Resources” for a description of our contractual obligations under our Credit Agreement.

The following table summarizes our contractual obligations as of December 31, 2019

| | Payments Due by Period | | | | |
|---|---|---|---|---|---|
| | Total | Less Than 1 Year | 1 to 3 Years | 3 to 5 Years | More Than 5 Years |
| | (in thousands) | | | | |
| Long-Term Debt Obligations(1) | $ 99,288 | $ 7,606 | $ 88,891 | $ 1,738 | $ 1,053 |
| Capital Lease Obligations(2) | 1,144 | 773 | 371 | — | — |
| Operating Lease Obligations(3) | 16,562 | 8,167 | 7,489 | 906 | — |
| Purchase Obligations(4) | 1,000 | 1,000 | — | — | — |
| Other Long-Term Liabilities(5) | 36,494 | 24,289 | 12,205 | — | — |
| Total | $ 154,488 | $ 41,835 | $ 108,956 | $ 2,644 | $ 1,053 |

(1) Represents amounts payable under our Credit Agreement and amounts payable under our mortgages payable with Comerica Bank and American Bank of Commerce.
(2) Represents amounts payable for capital leases, including interest and principal payments, primarily related to equipment leases.
(3) Represents amounts payable for various noncancelable operating lease agreements, primarily for office space, laboratory space, and vehicles.
(4) Represents minimum amounts payable for cancelable purchase agreement.
(5) Represents amounts payable to third-party payors pursuant to settlement agreements. Amounts exclude the settlement accrual related to an agreement in principle reached with the DOJ and State AGs on March 31, 2020. For additional information, see Note 9 to our unaudited condensed consolidated financial statements included elsewhere in this prospectus.

### Off-Balance Sheet Arrangements

As of September 30, 2020, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities, that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

### Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business.

*Interest Rate Risk*

Our exposure to risks related to interest rates is minimal. The interest rates for most of our indebtedness, including under our Credit Agreement and our equipment financing facility, are fixed rates. Our Ann Arbor mortgage, with an initial principal amount of $1.8 million, has a floating interest rate of 2.94% plus a floating rate at LIBOR. Such interest-bearing instruments carry a degree of risk; however, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

Our cash and cash equivalents consist primarily of highly liquid investments in money market funds and cash on hand, and have an original maturity date of 90 days or less. The fair value of our cash and cash equivalents would not be significantly affected by either an increase or decrease in interest rates, due mainly to the short-term nature of these instruments.

*Foreign Currency Risk*

Our operations are currently conducted primarily in the United States. As we expand internationally, our results of operations and cash flows may become subject to fluctuations due to changes in foreign

currency exchange rates. In periods when the U.S. dollar declines in value as compared to the foreign currencies in which we incur expenses, our foreign-currency based expenses will increase when translated into U.S. dollars. In addition, future fluctuations in the value of the U.S. dollar may affect the price at which we sell our tests outside the United States. To date, our foreign currency risk has been minimal, and we have not historically hedged our foreign currency risk; however, we may consider doing so in the future.

**Critical Accounting Policies and Significant Judgments and Estimates**

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in conformity with GAAP. The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions about future events that affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities, and reported amounts of revenue and expenses. These estimates and assumptions are based on management's best estimates and judgment. Management regularly evaluates its estimates and assumptions using historical experience and other factors; however, actual results could differ materially from these estimates and could have an adverse effect on our financial statements.

While our significant accounting policies are more fully described in the notes to our financial statements elsewhere in this prospectus, we believe that the accounting policies discussed below are most critical to understanding and evaluating our historical and future performance.

*Revenue Recognition*

Revenue is primarily derived from providing molecular laboratory tests to customers. We invoice and collect from third-party payors, laboratory services intermediaries, and self-paying individuals. Third-party payors include commercial payors, such as health insurance companies, health maintenance organizations and government payors, such as Medicare and Medicaid in the United States. We bill for these tests rendered upon completion of the testing process and delivery of test results to the customer.

We adopted the new revenue recognition guidance, ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606, on January 1, 2019 using the modified retrospective transition method. The transition method was applied to all contracts that were not yet complete as of January 1, 2019. The cumulative impact of adoption was recorded as an adjustment of $23.7 million to increase the opening balance of accounts receivable and decrease accumulated deficit as of January 1, 2019. Results for reporting periods beginning after January 1, 2019 are presented under ASC 606, while prior period amounts have not been adjusted and continue to be reported in accordance with our historical accounting policy under ASC Topic 605, *Revenue Recognition*.

In accordance with ASC 606, we follow a five-step process to recognize revenue: (i) identify the contract with the customer; (ii) identify the performance obligations; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations; and (v) recognize revenue when the performance obligations are satisfied. We have evaluated our contracts with healthcare insurers, government payors, laboratory partners, and patients and identified a single performance obligation in those contracts, the delivery of a test result. We satisfy our performance obligation at a point in time upon the delivery of the test result, at which point control is transferred to the customer, and we can bill for the tests. The amount of revenue recognized reflects the amount of consideration to which we expect to be entitled, or the transaction price, and considers the effects of variable consideration, which is discussed below.

Prior to 2019, we recognized the majority of our revenue from contracts involving third-party payors upon receipt of cash due to limited historical experience and uncertainty in determining the amount of

revenue and timing of collections. Effective January 1, 2019, in accordance with ASC 606, the total consideration we expect to collect from insurance carriers, clinics, and patients in exchange for the tests accessioned is recognized in the period in which our tests are performed and reported to customers.

The transaction price is an estimate and may be fixed or variable. Variable consideration includes reimbursement from healthcare insurers, government payors, and patients and is adjusted for estimates of disallowed cases, discounts, and refunds using the expected value approach. Tests billed to healthcare insurers and directly to patients can take up to six months to collect and we may be paid less than the full amount billed or not be paid at all. For insurance carriers and government payors, we utilize the expected value approach using a portfolio of relevant historical data for payors with similar reimbursement experience. The portfolio estimate is developed using historical reimbursement data from payors and patients, as well as known current reimbursement trends not reflected in the historical data. Such variable consideration is included in the transaction price only to the extent it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainties with respect to the amount are resolved. We monitor these estimates at each reporting period based on actual cash collections in order to assess whether a revision to the estimate is required. Both the initial estimate and any subsequent revision to the estimate contain uncertainty and require the use of judgment in the estimation of the transaction price and application of the constraint for variable consideration. If actual results in the future vary from our estimates, we will adjust these estimates, which would affect revenue and earnings in the period such variances become known. The consideration expected from laboratory partners is generally a fixed amount.

*Stock-Based Compensation*

We calculate the fair value of stock options using the Black-Scholes option pricing valuation model, which incorporates various assumptions including assumptions including volatility, expected term, and risk-free interest rate. Compensation related to service-based awards are recognized starting on the grant date on a straight-line basis over the vesting period, which is generally four years.

Determining the grant date fair value of options using the Black-Scholes option pricing model requires management to make assumptions and judgments. If any of the assumptions used in the Black-Scholes model change significantly, stock-based compensation for future awards may differ materially compared with the awards granted previously. The assumptions and estimates are as follows:

- *Expected term* – The expected term represents the period that stock-based awards are expected to be outstanding. Our historical share option exercise information is limited due to a lack of sufficient data points and does not provide a reasonable basis upon which to estimate an expected term. The expected term for option grants is therefore determined using the simplified method. The simplified method deems the expected term to be the midpoint between the vesting date and the contractual life of the stock-based awards.
- *Expected volatility* – The expected volatility was derived from the historical stock volatilities of comparable peer public companies within our industry that are considered to be comparable to our business over a period equivalent to the expected term of the stock-based awards, since there has been no trading history of our common stock.
- *Risk free interest rate* – The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the date of grant for zero-coupon U.S. Treasury notes with maturities approximately equal to the stock-based awards' expected term.
- *Expected dividend yield* – The expected dividend yield is zero as we have no plans to make dividend payments.

The following assumptions were used for the Black-Scholes option valuation model:

| | Nine Months Ended September 30, 2020 |
|---|---|
| Risk-free interest rate | 0.4%-1.7% |
| Expected volatility | 57.0%-71.0% |
| Expected dividend yield | — |
| Expected life (years) | 4.0-6.3 years |

*Goodwill and Intangible Assets*

Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill is not amortized but instead is tested annually for impairment at the reporting unit level, or more frequently when events or changes in circumstances indicate that fair value of the reporting unit has been reduced to less than its carrying value. We may choose to perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test.

If, after assessing qualitative factors, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. If deemed necessary, a two-step test is used to identify the potential impairment and to measure the amount of goodwill impairment, if any. The first step is to compare the fair value of the reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, goodwill is considered not impaired; otherwise, there is an indication that goodwill may be impaired and the amount of the loss, if any, is measured by performing step two. Under step two, the impairment loss, if any, is measured by comparing the implied fair value of the reporting unit goodwill with the carrying amount of goodwill.

Intangible assets consist of identifiable intangible assets acquired through acquisitions. Identifiable intangible assets include payor relationships, trade names, and noncompete agreements. We amortize intangible assets using the straight-line method over their useful lives. We amortize noncompete covenants using the straight-line method over the terms of the related agreements. We review for impairment of intangible assets with estimable useful lives whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. No impairment existed as of December 31, 2019 or as of September 30, 2020.

*Recent Accounting Pronouncements*

For more information on recently issued accounting pronouncements, see Note 2, “Summary of Significant Accounting Policies” to our consolidated financial statements.

*JOBS Act Accounting Election*

We are an emerging growth company, as defined in the JOBS Act. Under this act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use this extended transition period and, as a result, our financial statements may not be comparable to companies that comply with public company effective dates. We also intend to rely on other exemptions provided by the JOBS Act, including without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended.

# BUSINESS

## Overview

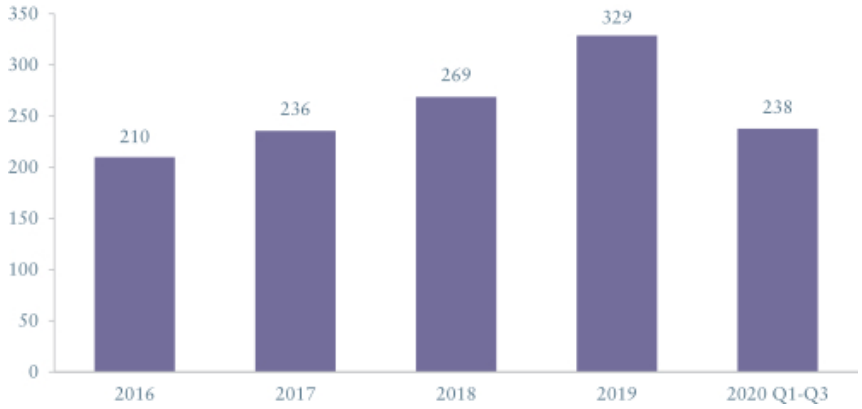
We are a biotechnology company with an established track record of success in developing and commercializing molecular testing products as well as innovating in the field of precision medicine. We believe that we are a market-leading provider of *in vitro* molecular tests designed to improve lives by providing actionable information that helps guide patients and physicians in making critical and timely medical decisions during various life stages, such as family planning, pregnancy, or navigating a complex disease diagnosis. Our vision is to transform healthcare to become more precise and personal by improving diagnoses of disease and improving patient outcomes through localized treatment with targeted therapies. We apply a multi-omics approach, combining genomics, epigenomics, proteomics, and metabolomics, to our molecular testing products and to the development of a suite of investigational ingestible devices and drug/device combinations designed to provide precise diagnostic sampling and drug delivery solutions.

Since 2010, our molecular testing business has achieved consistent year-over-year test volume growth through our robust product portfolio and our strong commercial organization. Our internal core competencies, deep research and development pipeline and strategic acquisitions of novel technologies have fueled our innovation in women's health, supporting the development and launch of complementary molecular testing products that inform critical healthcare decision-making across a woman's lifetime.

In 2015, we launched both our Innatal Prenatal Screen, a Non-Invasive Prenatal Testing, or NIPT, offering, and our Preparent Carrier Test, followed by the launch of our Riscover Hereditary Cancer Test in 2017 We offer molecular tests with market-leading performance and turnaround times, supported by end-to-end workflow solutions that increase administrative efficiencies. Along with our comprehensive menu of molecular tests, we offer patients pre-test education, clear and timely results, and on-demand genetic counseling. We are committed to providing patients and physicians with empathetic communication and support during critical moments to help empower and prepare patients and their families to make critical life decisions.

Since our inception, we have accessioned approximately 1.9 million tests in the United States and the growth rate of our test volume was accelerating over a multi-year period, including early 2020. We anticipate to accession approximately 2 million tests by December 2020. Beginning in March 2020, we began to observe declines in the volumes of both our molecular tests and the pathology tests conducted by Avero Diagnostics due to the impact of the COVID-19 pandemic and resulting work-from-home policies and other operational limitations mandated by federal, state and local governments. However, we believe our business is resilient and we have observed positive signs of recovery in the latter part of the second quarter and in the third quarter. While we have implemented and continue to monitor our mitigation strategies to address these limitations, such as supporting patients and physicians virtually, there can be no assurance that the rate of decline in our testing volumes will not continue or accelerate in future periods. Our current assessment of the impact of the COVID-19 pandemic is that our NIPT test volumes have proved more resilient than our carrier screening test volumes; however, the comparative impact may continue to change over time.

**Test Volume Growth**




Our commercial team of more than 150 individuals actively engages with physicians and their staff to emphasize the clinical need for our products, educate them on clinical value, and facilitate their ability to order our molecular tests. We place special emphasis on our customers' needs and journey with their patients. We ensure they are fully equipped with all the tools they need to discuss and educate their patients about the benefits of NIPT, carrier screening, and hereditary cancer screening, and also provide the added confidence that our genetic counselors are there to support them when needed.

We continue to innovate to drive the clinical and competitive differentiation of our molecular tests. For example, our next generation Innatal Prenatal Screen (Innatal 4th Generation) is designed to provide the same highly reliable results but with a faster turnaround time and at a much lower cost to us.

We are developing a rule-out test for preeclampsia, or Preecludia. Based on our estimates, annually, over 700,000 pregnant women in the United States experience signs and symptoms that could be attributed to preeclampsia, which can cause serious, even fatal, complications for both mother and baby. Preeclampsia is the second most common cause of maternal death worldwide and is currently diagnosed by observing risk factors and common symptoms, such as high blood pressure, rather than diagnosing the actual condition itself. This approach often leads to false positive diagnoses and provides limited clinical utility, which can each lead to unnecessary hospitalizations and medical costs. We are developing a test that we believe has the potential to address these shortcomings by ruling out the condition itself (rather than merely detecting its symptoms) through testing for certain biomarkers. We believe that identifying non-preeclamptic pregnancies would improve patient outcomes while lowering the cost burden of preeclampsia to the U.S. healthcare system. We believe the total addressable market for our preeclampsia test is approximately $3 billion per year in the United States alone.

We believe our future success will be driven by continued capture of market share by our molecular testing business and new revenue streams resulting from our diversified product development pipeline, both within and beyond women's health. Our core expertise in complex assay development, bioinformatics, and scalable commercial laboratory operations lends itself to a variety of potential applications. We are also developing a novel pipeline of precision medicine product candidates designed to provide solutions for gastrointestinal, or GI, disorders. This pipeline includes both diagnostic applications, targeted drug delivery in the GI tract at the site of disease, and the oral delivery of biologics. We believe these product candidates, if successfully developed, have the potential to address unmet healthcare needs by more precisely identifying and treating chronic GI diseases, such as small

intestinal bacterial overgrowth, or SIBO, and inflammatory bowel disease, or IBD. We are also developing an epigenetics platform designed to assess the global, regional, and site-specific methylation information of the genome at low cost that is intended to be an alternative to onerous, costly whole-genome bisulfite sequencing and enable more rapid diagnostic product development.

**Product and Product Candidate Overview**

We support patients and physicians during patients' critical life decisions with our current suite of high-quality molecular tests:

| Product | Description |
|---|---|
| innatal® PRENATAL SCREEN | A noninvasive prenatal test offered to women early in pregnancy to screen for risk of fetal chromosomal conditions, such as Down syndrome, trisomy 13, and trisomy 18, and sex chromosome disorders<br>***Commercialized in 2015*** |
| preparent® CARRIER TEST | An expanded carrier screen that is performed on women or couples before conception or early in a pregnancy to identify if they carry certain mutations that cause genetic diseases<br>***Commercialized in 2015*** |
| riscover® HEREDITARY CANCER | A hereditary cancer screen that looks for genetic mutations associated with elevated risk for certain hereditary cancers in an asymptomatic patient<br>***Commercialized in 2017*** |
| resura® PRENATAL TEST FOR MONOGENIC DISEASE | A test for monogenic diseases that is the first commercially available, custom-designed solution for families at-risk for rare diseases<br>***Commercialized in 2019*** |
| **Preecludia Preeclampsia Rule-Out Test** | A test for symptomatic women suspected of developing preeclampsia during their pregnancy designed to rule out preeclampsia as the cause for the symptoms<br>***In Development*** |
| **Anatomic and Molecular Pathology Tests** | A broad portfolio of anatomic and molecular pathology tests and specialized genetic tests we offer through Avero Diagnostics<br>***Acquired in 2015*** |

We are also developing a proprietary ingestible capsule platform designed to help diagnose and treat GI disorders at the site of disease, with the goal of addressing significant unmet needs and supporting affected patient populations by improving patient outcomes through precision medicine. Our investigational capsules are being developed for both diagnostic and therapeutic applications in disorders such as SIBO and IBD. Our precision medicine development pipeline includes:


(1) We cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our clinical trials and studies. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations."

### Our Strengths

We attribute our commercial success and future growth prospects to the following:

- ***A leading molecular testing business with clinical and competitive product advantages***. Our products are built on a foundation of molecular genetic expertise, excellence in bioinformatics, and dedication to women's health and reproductive medicine. We have built a robust product portfolio through efficient in-house development, clinical laboratory partnerships, and strategic acquisitions. Our tests have achieved market-leading reliability and performance benchmarks within their respective market categories.
- ***Integrated product offering***. We offer integrated molecular tests and end-to-end support services that enable physicians to seamlessly incorporate genetic testing into their office workflow and offer the convenience of ordering multiple tests from one source. Our workflow solutions customize the experience of working with us for a range of physician practice sizes and capabilities, lowering barriers to adoption of genetic testing. We also

utilize a specialized team dedicated to integrating our systems with our healthcare providers' electronic medical record, or EMR, systems, opening bidirectional connectivity to streamline test ordering and reporting. We deliver easy-to-understand results and our customer support services provide convenient access to board-certified genetic counselors. We believe that these services collectively create substantial value and lead to customer loyalty.

- ***Breadth and depth of R&D capabilities driving breakthrough innovation***. We have built a first class research and development, or R&D, organization capable of harnessing and translating novel technologies into innovative platforms and product solutions as we strive to remain at the forefront of customer needs. Our technical expertise along the product development spectrum includes assay design, bioinformatics, and analytical and clinical validation and enables us to leverage existing knowledge to solve new challenges.
- ***Precision medicine platform targeting a large, underserved market***. We are developing an innovative and potentially scalable product platform that we believe will support the advancement of our precision medicine pipeline. This platform approach is based on an innovative capsule, which we believe could represent a paradigm shift from existing diagnostic and therapeutic approaches. We believe this platform has the potential to address significant unmet medical needs in the GI space, including the challenges in diagnosing, treating, and monitoring diseases without the repeated use of invasive procedures, such as upper GI endoscopies, colonoscopies, and biopsies.
- ***Comprehensive intellectual property portfolio***. We have retained worldwide rights to our internally-developed and acquired molecular testing and precision medicine technologies. We hold over 425 issued patents and pending patent applications that include claims that are directed to a range of molecular testing and precision medicine-related methods, systems, and compositions surrounding our suite of current and future products. In addition, we believe that our trade secrets and other know-how provide additional barriers to entry.
- ***Proven leadership with industry expertise***. Our senior management team and board of directors consist of veteran biotechnology and molecular testing professionals with deep industry experience. These individuals have extensive experience with numerous well-regarded biotechnology and diagnostic companies. Through their many years of experience, they have developed strong relationships with key thought leaders and medical societies.

**Our Strategy**

Our vision is to build upon our expertise and core competencies in molecular testing to transform healthcare to become more precise and personal in our existing markets as well as in new developmental fields such as ingestible diagnostics and targeted therapeutics. To realize our vision, we intend to:

- ***Expand market opportunity for our existing molecular tests***. We believe there is a significant opportunity to expand and further penetrate the markets for each of our existing molecular tests. We intend to accomplish this by working with industry groups and payors to increase payor policy coverage, educating patients, physicians, and payors on the clinical utility of our tests, and highlighting the cost efficiency and time savings provided by our tests and workflow solutions.
- ***Leverage our robust R&D capabilities to drive breakthrough innovation***. We seek to combine innovation with the technologies underlying our existing platforms to disrupt the current diagnostics and treatment paradigms. Through our robust research and development pipeline, we seek to unlock novel approaches that will drive improvement of patient outcomes in prenatal and perinatal medicine, gastroenterology, and oncology, increase the precision of medical research and diagnosis through ingestible sampling technologies, and create a new category of treatment options through proprietary drug/device combinations.

- ***Continue to expand and strengthen our direct sales force***. We believe that our specialized sales force is key to educating our customers about the clinical need for our molecular tests and our end-to-end workflow solutions. We are continuously optimizing market coverage of our highly qualified sales force and identifying new growth opportunities using a customized and targeted account profiling and messaging approach that better reflects our value proposition.
- ***Enhance our customer support services***. Our goal is to be a trusted and valued partner to our customers by delivering market-leading test performance and service to further integrate genetic testing into their workflow. We intend to expand upon our Progenity Partnerships program, our proprietary customer support services platform, to further streamline patient identification and selection for testing and enhance our customized physician and patient management initiatives. In addition, we intend to expand upon our patient management tools, which streamline and enhance the patient experience, including patient education, payor pre-authorization, easy-to-read test results, and access to genetic counselors.
- ***Develop and commercialize a disruptive precision medicine platform of GI diagnostics and therapeutics***. Our precision medicine platform is focused on addressing an unmet medical need of patients with GI disorders or related diseases. Leveraging an autonomous localization technology, we are developing a noninvasive, ingestible capsule platform, with investigational devices and drug/device combinations designed for both diagnostic and therapeutic purposes. We believe our product candidates, if successfully developed and approved or cleared, could become the first precision medicine products to diagnose and treat at the site of the disease within the GI tract. Ultimately, we intend to pursue commercialization of such product candidates ourselves or via strategic partnership.

**Our Molecular Tests**

Our molecular tests provide accurate, reliable, and fast test results while simplifying ordering, pre-test education, processing, testing, reporting, counseling, and billing for physicians and patients. We currently offer tests with clinical utility that enable physicians to deliver clinical decision support for, and address the medical needs of, patients and their families. We complement these tests with our proprietary suite of end-to-end workflow solutions, enabling us to educate physicians, patients, and payors on the benefits and clinical utility of genetic testing. In addition, we offer physicians the convenience of ordering multiple tests from one source, integrate our services seamlessly into their practices, and deliver easy-to-understand results and genetic counseling support.

**Our Current Test Portfolio**

***Innatal Prenatal Aneuploidy Screen***

Our Innatal Prenatal Screen, launched in 2015, is a noninvasive prenatal screening test offered to women early in pregnancy to screen for chromosome abnormalities, known as aneuploidy, such as Down syndrome, trisomy 18, and trisomy 13, and sex chromosome disorders through the analysis of cell-free DNA, or cfDNA. The test is performed using whole-genome sequencing technology and provides a high level of accuracy at or after 10 weeks of gestation.

Our Innatal Prenatal Screen provides a positive predictive value customized to the patient’s maternal age and the fetus’ gestational age in order to accurately quantify the probability that a patient with a positive screening result truly has an affected fetus. Performance of the assay is highly accurate and reliable in the commercial laboratory. As shown in Table 1 below, we recently performed a complete validation study using maternal samples with known fetal outcomes to evaluate the performance of the assay.

**Table 1: Innatal Prenatal Screen Performance(1)**

| Disorder | Sensitivity | Specificity |
|---|---|---|
| Down Syndrome | 99.2% | >99.9% |
| Trisomy 18 | >99.9% | 99.7% |
| Trisomy 13 | >99.9% | >99.9% |
| Monosomy X | >99.9% | 99.8% |
| XX | 99.0% | 99.9% |
| XY | 99.9% | 99.0% |
| XXX, XXY, XYY | Limited data for these less common aneuploidies preclude performance calculations | |

(1) Progenity Inc. validation data on file. Clinical correlation is indicated. If definitive diagnosis is desired, chorionic villus sampling or amniocentesis is necessary.

We believe this observed level of high performance sets our Innatal Prenatal Screen apart from competing NIPT. We believe our distinguished performance is a result of our in-depth knowledge and expertise with cfDNA, allowing us to deliver a high-performing and market-leading NIPT. By selectively designing a single capture system assay that is able to query thousands of unique but related sites across the genome, we are able to reduce assay noise and boost performance. Our capture system is able to retain the ability to scan widely across the genome to retain specificity while enhancing information in key features to ensure high sensitivity, even with samples with low levels of fetal DNA.

In our validation study, our test has shown a low (approximately 1%) failure rate. Independent studies of competitive technologies have shown failure rates as much as four times higher. Failures require the drawing of another blood sample from the mother or more invasive molecular testing options. The reliability of NIPT may result in lower rates of invasive molecular testing options such as chorionic villus sampling and amniocentesis, which can cause procedure-related pregnancy losses and impose additional costs.

*Market Opportunity*

Numerous medical society guidelines have recognized that all pregnant women, regardless of age, should be offered screening, such as NIPT, for aneuploidy to better identify patients for whom more invasive procedures, such as amniocentesis, are recommended. We believe that guidelines will continue to develop in support of broader prenatal screening, and that provider and payor education will drive increased adoption of NIPT. In August 2020, ACOG issued new practice guidance recommending NIPT screening for all pregnant patients, not only those at higher risk. We believe this substantially increases the likelihood for payors and state Medicaids to expand coverage to the average risk population. We believe this represents a significant market opportunity to expand use of NIPT, and Innatal, in the future. We estimate that the total addressable market for NIPT is approximately $1.5 billion annually in the United States. We estimate that approximately 2 million NIPT were performed in the United States in 2018, of which an estimated 35% were on high-risk patients (those with characteristics that increase their risk of an aneuploidy pregnancy, such as advanced age of >35 years, abnormal ultrasound, family history, or positive maternal serum screen result), and 65% were on average-risk (general population) patients. We also believe that efforts at expanding payor medical coverage policy to include all patients, regardless of *a priori* risk, would help further expand the covered market to include a larger portion of the approximately four million pregnancies that occur annually in the United States.

***Preparent Carrier Test***

Our Preparent Carrier Test, launched in 2015, screens for carrier status of hereditary diseases prior to or early in pregnancy. Carrier screening identifies couples at-risk of having a baby with a genetic disease and allows for informed medical management decisions. Our test offers a broad menu of genetic carrier

screening tests with high detection rates for a variety of genetic diseases, including cystic fibrosis, spinal muscular atrophy, and fragile X syndrome. We designed the Preparent Carrier Test to assess a couple's risk of passing down any of 200+ serious heritable diseases. This test is designed to meet the guidelines of the American College of Obstetricians and Gynecologists, or ACOG, and the American College of Medical Genetics, or ACMG, using a combination of methods (DNA sequencing, HEXA enzyme analysis, and hemoglobin evaluation) to maximize sensitivity.

In 2017, we expanded the Preparent product portfolio with the launch of the Preparent Exon test in partnership with Baylor Genetics. The Preparent Exon test uses exon sequencing to provide the higher sensitivity desired for reproductive medicine applications. Exon sequencing evaluates all of the coding regions of each gene and can identify both known and novel changes within the genetic code. The Preparent Exon test combines full exon sequencing and select copy number variant, or CNV, analysis. CNV analysis identifies large extra or missing pieces of select genes in which this type of variation, otherwise missed by exon sequencing alone, is a common cause of disease. This test design includes analysis of up to 280+ genes for a more complete evaluation of carrier status, resulting in, on average, [3]95% clinical sensitivity in the general population. Our product portfolio includes four pre-curated panels of 3, 25, 150+, and 280+ genes, designed to fit the needs of different customer segments.

*Market Opportunity*

ACOG recently changed its recommendations to add expanded carrier screening, or ECS, which would potentially include most of our Preparent Carrier Test panels, as an acceptable screening strategy. We estimate that the total U.S. addressable market for ECS is approximately $1.0 billion annually. We estimate that approximately 500,000 expanded carrier screens were performed in the United States in 2018. We believe significant opportunity exists to perform carrier screening in a greater proportion of the approximately four million pregnancies that occur annually in the United States, and to increase the penetration of ECS. We also believe that educating physicians and patients on the benefits of ECS, along with pursuing favorable medical policy coverage by payors, has the potential to convert traditional screening and non-screening patients to utilization of ECS.

***Riscover Hereditary Cancer Test***

Our Riscover Hereditary Cancer Test, launched in 2017 in partnership with Prevention Genetics, is a hereditary cancer screen that analyzes 31 genes associated with inherited risk of 12 types of cancer, including the BRCA1/2 genes for hereditary breast, ovarian, colorectal, endometrial, pancreatic, and other cancer syndromes, and the five genes associated with Lynch syndrome. Our panel was created to include the genes supported by guidelines from the National Comprehensive Cancer Network, or NCCN, and our sample workflow helps identify patients, typically those with a personal or family history of cancer, that are appropriate for testing, by following these guidelines. Our variant reporting process meets the standards of the ACMG and includes confirmation of all pathogenic variants, likely pathogenic variants, and variants of uncertain significance by a second, confirmatory method.

Patients receiving a positive Riscover test result can then consult with their physician to consider intensive screening options, lifestyle changes, drug regimens, or surgical interventions to reduce their lifetime risk of developing one of these heritable cancers. In addition, the test can also be used by asymptomatic individuals to assess familial cancer risk.

*Market Opportunity*

At present, we estimate there are over 82 million adults in the United States who are eligible for hereditary cancer screening in accordance with medical guidelines but that fewer than 5% of those adults have been screened. In addition, studies indicate that approximately 24% of women in OB/GYN practices meet NCCN guidelines for hereditary cancer screening, but that less than 15% of such eligible

women are tested annually. We believe low penetration of this important market can be attributed to the challenges facing physicians in identifying eligible patients. For example, in a study of genetic testing for hereditary cancer published in the Journal of Clinical Oncology in 2017, the author estimated that more than 90% of unaffected, or asymptomatic, breast cancer susceptibility gene mutation carriers have yet to be identified.

***Resura Prenatal Test for Monogenic Disease***

Our Resura Prenatal Test for Monogenic Disease, launched in 2019, is the first commercially available, custom-designed noninvasive prenatal test for families at risk for rare single gene disorders. The Resura test is available to families with known risk for monogenic disease, which is caused by a mutation within a single gene. Common examples of monogenic disease include cystic fibrosis, sickle cell anemia, and Tay-Sachs disease. For many of these diseases, knowing the diagnosis before birth informs critical treatment decisions upon the infant's arrival. The Resura test can be performed on disease-causing variants of all inheritance types, including recessive, dominant, and X-linked genetic mutations. Currently, testing for these genetic variants in a fetus involves undergoing invasive prenatal testing, such as amniocentesis, or waiting for postnatal diagnosis. The Resura test uses fetal cfDNA extracted from a sample of the mother's blood to test for genetic variants. The Resura test allows a patient to know with >99% accuracy whether their baby is affected, without the risks of invasive testing or waiting until after delivery. This knowledge relieves the patient of the unknown and empowers them with the information needed to prepare for their baby's birth.

***Additional Products: Products of Conception, Serum Screening, and Preimplantation Testing***

Our test portfolio also includes chromosomal microarray for pregnancy loss, which evaluates the genetic cause of miscarriage, maternal serum screening for chromosomal disorders, and preimplantation genetic testing for use with artificial reproductive technologies.

**Services Supporting our Molecular Tests**

***Genetic Counseling Services***

Genetic test results require interpretation and collaboration to provide the best care for the patient. Our licensed, board-certified genetic counselors are available and accessible to discuss patient test results and consult with clinicians. This service provides the clinician with support to confidently order medically appropriate testing and comprehensively counsel patients both before and after testing. We believe access to our team of board-certified genetic counselors contributes to responsible, evidence-based testing by clinicians.

***Electronic Medical Record Integration***

Adoption of EMRs by healthcare practices was catalyzed by HITECH, and many of our clients have EMRs in place for management of their clinical workflows. Our connectivity services are designed to integrate with multiple EMR interfaces, providing either unidirectional results delivery or bidirectional ordering and results delivery. These capabilities support the implementation of consistent clinical protocols by making orders easy and complete, and by providing results in a centralized record.

***Progenity Partnerships Program***

Our Progenity Partnerships program was launched in 2018 as a package of workflow solutions that are flexible and customizable for individual physician practices. The program outlines the menu of options available to support the journey of both patients and physicians with our tests and allows practices to select the options that best support their clinical workflow and patients. The program also supports regular business reviews through clinical and billing scorecards, driving client-specific discussions about test performance, billing outcomes, and emerging business needs, and is designed to ensure that our

products are fully meeting the needs of each customer. We believe this support package facilitates client loyalty and cross-portfolio selling.

**Our Research and Development Activities**

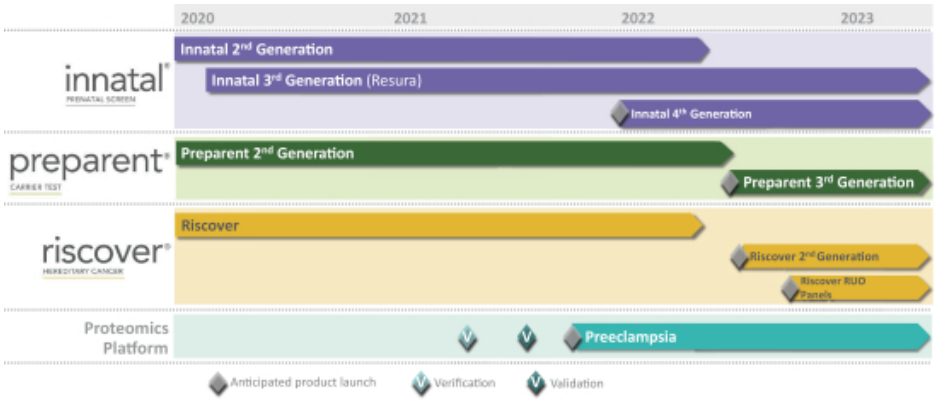
Our molecular test portfolio and pipeline and our precision medicine product pipeline are each powered by a combination of symbiotic technology platforms exploiting advances in genetics, epigenetics, and proteomics, fortified by an innovative bioinformatics infrastructure. Our ecosystem is designed to enable rapid development and validation of products in an integrated fashion.

***Molecular Tests***

We have developed proprietary, low-cost, high-throughput platforms for our Innatal, Preparent, and Riscover molecular testing products. Our platforms exploit proprietary developments in a number of key molecular biology applications, bioinformatic algorithms, and innovative clinical reporting. Our assay platforms are designed to deliver increased performance at lower costs compared to alternative methods and have a flexible architecture, designed to allow for rapid product development iteration cycles with best in class performance.

We are developing both Preparent 3rd Generation and Riscover 2nd Generation based on our internally developed hybridization capture platform, which platform enables efficient and uniform sequencing of genomic regions ranging from a few hundred genes to the whole human exome by selecting, integrating, and optimizing the latest advances in library preparation, probe synthesis, and laboratory automation. The resulting data is interrogated for constitutional small nucleotide variants (1-100 bp) as well as larger copy number and structural variants. We have developed, verified, and validated the platform to support current carrier testing at a subsidiary laboratory. The platform is in late stage optimization, with verification and validation contingent on laboratory software systems integration to support our proprietary variant classification software and copy counting algorithms.

Our molecular tests and tests in development include:




***Next Generation Innatal Prenatal Screen (Innatal 4th Generation)***

We are developing a proprietary single molecule DNA counting assay utilizing advanced optics with custom chemistry and molecular biology that we believe will represent a substantial improvement to our existing Innatal platform, with simplified and more cost-effective assay workflow resulting in the same high clinical quality and reliability but with an up to 50% reduction in turnaround time and a substantial

reduction in cost of goods sold for our NIPT. We have completed the feasibility assessment for this test and are in the process of completing the optimization process. We recently demonstrated this assay's potential to quantify fetal fraction and finalized the probe pool design. If successfully developed, we currently anticipate to complete the validation of this product by the end of 2021. However, we cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our validation study. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations."

***Preeclampsia Rule-Out Test, Preecludia™***

Preeclampsia is a hypertensive condition of pregnancy involving multiple pathways that usually occurs in the second half of pregnancy. The current standard of care for preeclampsia evaluations are often inconclusive and inaccurate. The only consensus treatment for preeclampsia is delivery of the baby, regardless of gestational age, which results in unnecessary hospital admissions, preterm births, and additional healthcare costs. Suspected preeclampsia before 37 weeks of gestation often results in preterm birth complications, thus a rule-out test with high negative predictive value for preeclampsia could provide the extra days and weeks of gestational development which are critical for positive infant health outcomes. While positive predictive testing is believed by some companies to be beneficial, the 2019 ACOG bulletin on gestational hypertension and preeclampsia stated that due to the relatively low positive predictive values (8% to 33%) of diagnostic tools, those tools cannot predict preeclampsia and should remain investigational. Our preeclampsia rule-out test is not diagnostic, as it is designed to assist physicians in ruling out (exclude) the disorder and relies on a high negative predictive value, or NPV, to provide physicians and other care givers with a novel adjunctive laboratory assessment to manage patients suspected of having preeclampsia. Preeclampsia is often indistinguishable from chronic and gestational hypertension, which are treated and managed differently; and therefore must be differentiated from true preeclampsia to avoid unnecessary negative outcomes, including preterm births.

To address this problem, we are developing a proprietary proteomics platform to support novel clinical tests focused on the quantitative measurement of multiple proteins. This multi-analyte platform is designed to detect complications and diseases manifesting from multiple complex biological pathways to provide insight into disease progression and to assist in clinical management. The platform is built on automated instrumentation, which is a Class I, 510(k) exempt device commonly found in clinical laboratories, which we believe will enable expansion of the platform into multiple clinical sites. We have developed reagents, including high affinity and specific antibodies, which we believe will deliver a differentiating platform focused on performance, sensitivity, and specificity.

Through this proteomics platform, we are developing a noninvasive, high sensitivity, multi-analyte blood-based test designed to assist in the clinical assessment and medical care decision-making process of physicians who care for pregnant women presenting with signs and symptoms of preeclampsia between 28 to 37 weeks of gestational age. We believe a risk assessment test that exhibits high NPV could provide a significant improvement in the ability to manage preeclampsia by ruling out the active condition, thereby obviating the cost and risk of further diagnosis and treatment in high-cost settings. We are also developing a noninvasive test designed to predict risk of preterm birth using a similar approach. If we are able to successfully develop and integrate this platform with our proven expertise in genomics and epigenetics, we believe we will be able to provide a multi-faceted assessment of a patient's well-being.

We believe our preeclampsia test, if successfully developed, will have the potential to impact the cadence and amount of patient visits and timing of indicated delivery, potentially saving the healthcare system money while also improving patient care for both mother and baby. We have discovered a novel biomarker for our preeclampsia test that we believe improves performance over prior tests. By designing

the test to have high sensitivity and NPV rates, we expect the test, if and when offered, to be well suited to complement existing tools already part of the current standard of care, giving clinicians an additional strong, objective tool with which to better manage hypertensive disorders during pregnancy. To this end, we have completed the optimization and verification phases of development for the preeclampsia product and have met the design specifications through our testing of over 800 subjects. In our analysis of our preeclampsia classification algorithm, we evaluated a total of 128 samples with a gestation age of between 20 and 28 weeks and a total of 394 samples with a gestation age of between 28 and 37 weeks (the intended use population). As shown in Table 2 below, we met our NPV (³ 95%) and sensitivity (³ 90%) targets and nearly met our specificity targets (³ 80%) in this analysis in the intended use population for prevalence observed at certain locations and practices with higher risk intended use populations (30%), prevalence observed by maternal-fetal medicine providers (20%), prevalence observed by OB/GYNs (10%), and prevalence observed in the general population (2.7%).

**Table 2: Preeclampsia Rule-Out Test Optimization(1)**

| Test Population | Sensitivity | Specificity | NPV |
|---|---|---|---|
| Intended Use Population (30.0% Prevalence) | 91.0 (78.1, 96.5) | 79.9 (75.0, 84.1) | 95.2 (91.8, 97.5) |
| Intended Use Population (20.0% Prevalence) | 91.0 (78.1, 96.5) | 79.9 (75.0, 84.1) | 97.1 (94.2, 98.8) |
| Intended Use Population (10.0% Prevalence) | 91.0 (78.1, 96.5) | 79.9 (75.0, 84.1) | 98.6 (96.1, 99.4) |
| Intended Use Population (2.7% Prevalence) | 91.0 (78.1, 96.5) | 79.9 (75.0, 84.1) | 99.6 (97.7, 100) |

(1) Targets: NPV ³ 95.5%; Sensitivity ³ 90.0%; Specificity ³ 80.0%

We have previously secured the clinical verification and validation sample sets for our preeclampsia test and we are in the process of processing and analyzing these samples for verification purposes. In October 2020, we completed validation of all the key operational methods of our preeclampsia rule-out test, or Preecludia™, including analytical accuracy, analytical precision, analytical sensitivity, analytical specificity, linearity and stability of the test.

The Preecludia test is being developed to serve as a potential triage and rule-out test to help providers differentiate between patients with symptoms who are at risk for preeclampsia. This proprietary test is a multi-analyte protein biomarker assay which is designed to be run from a simple blood draw. In the prospective, blinded PRO-129 clinical verification study, samples were collected and analyzed from over 400 pregnant women with substantial diversity, gathered from 24 U.S. clinical sites comprised of predominantly OB/GYN and Maternal Fetal Medicine practices. Subjects presented with possible signs and symptoms of preeclampsia, including new onset hypertension, but no clear diagnosis. Subject data were independently adjudicated by a third party, and subjects, for whom preeclampsia was not diagnosed at the time of enrollment, were followed longitudinally through delivery. In subjects sampled up to 37 weeks' gestational age, the Preecludia test showed an 88.0% sensitivity, 73.3% specificity, and NPV of 98.2% at a 10% prevalence to rule out a patient's risk of developing preeclampsia within the next 14 days from the date of specimen collection. These data were generally consistent with previous results observed in the test's feasibility and optimization studies.

We previously announced the successful completion of analytical verification, which evaluated the accuracy, precision, and stability of the test's biomarker assays. The final planned step in the development program is completion of the clinical validation study. We have already collected over 3,000 samples from more than 1,700 patients across 21 U.S. clinical sites enrolled in the PRO-104 validation study, and this study is expected to begin in the first quarter of 2021 and to conclude in mid-

2021. If successfully developed, we anticipate a targeted commercial launch of this product in the second half of 2021. If successfully developed, we anticipate a targeted commercial launch of this product in the second half of 2021. However, we cannot predict whether the COVID-19 pandemic or other factors will impact the timing of our commercial launch. For example, see "Risk Factors—The recent and ongoing COVID-19 pandemic could materially affect our operations, as well as the business or operations of third parties with whom we conduct business. Our business could be adversely affected by the effects of other future health epidemics or pandemics in regions where we or third parties on which we rely have significant business operations." We may also explore various alternatives for future iterations of the test, including different target gestational ages.

*Market Opportunity*

According to the Preeclampsia Foundation, preeclampsia occurs in 5% to 8% of pregnancies in the United States and is one of the leading causes of premature birth and maternal and neonatal morbidity and mortality. Based on our estimates, annually, over 700,000 pregnant women in the United States experience signs and symptoms that could be attributed to preeclampsia. In addition, due to poor screening tools, we estimate that the number of pregnant women monitored for preeclampsia is four times greater than the number affected. An estimated 18% of maternal deaths in the United States are directly associated with preeclampsia or eclampsia. The rate of preeclampsia in the United States has increased by about 25% in the last two decades, consistent with increases in preeclampsia risk factors such as obesity, maternal age, and diabetes in the population. The only consensus treatment is early delivery of the infant, regardless of gestational age. We estimate that the incremental healthcare cost burden associated with managing preeclamptic pregnancies exceeds $9 billion. We believe the total addressable market of our preeclampsia test is approximately $3 billion per year in the United States alone.

***Other Opportunities***

In response to the COVID-19 pandemic, the Avero Diagnostics laboratory is providing molecular testing for diagnosing COVID-19. The test is run on the Hologic Panther platform using the transcription-mediated amplification version of Hologic's SARS-CoV-2 assay, which received emergency use authorization from the FDA. In addition, in October 2020, Avero Diagnostics secured a substantial increase in its COVID-19 PCR testing capacity to more than 750,000 tests per annum and supply chain access through its existing relationship with ThermoFisher, in order to meet the high demand for the test ahead of the winter season. Avero Diagnostics began a gradual expansion of its commercial testing offering nationally in mid-November 2020.

We are also developing an epigenetics platform designed to assess the global, regional, and site-specific methylation information of the genome at low cost that is intended to be an alternative to onerous, costly whole-genome bisulfite sequencing and enable more rapid diagnostic product development. Our epigenetics platform is currently a research use only discovery platform designed for the discovery of novel epigenetic signatures and variations across the human epigenome. Epigenetic signatures and variations may characterize phenotype changes and may serve as disease biomarkers if they correlate with a known clinical condition. Such biomarkers may be further developed as LDTs according to CLIA guidelines or as *in vitro* diagnostic devices, or IVDs, according to FDA regulations for diagnosis, screening, and/or monitoring of disease. We estimate the total addressable epigenetics market to be in excess of $13 billion, with particular application to nonalcoholic steatohepatitis, or NASH.

***Precision Medicine for GI-Related Disorders***

We are developing innovative platforms that we believe will support the advancement of our precision medicine pipeline and address the significant unmet medical needs of patients with GI-related disorders. Our approach is founded on the development of innovative technologies that are designed to diagnose

and treat at the site of the disease. Using this platform, we intend to develop diagnostic and therapeutic solutions for a broad range of disorders, but our initial focus is on SIBO and inflammatory disorders such as IBD. These disorders are difficult to treat due to the challenges in diagnosing these conditions and monitoring the treatment response without the repeated use of invasive procedures such as upper GI endoscopies, colonoscopies, and biopsies. From the therapeutic perspective, the most effective approved therapies for IBDs such as ulcerative colitis and Crohn's disease, are currently potent immunomodulatory drugs such as Humira and Xeljanz. Unlike the efficacy seen with other immunological disorders such as rheumatoid arthritis and psoriasis, we believe the efficacy of these potent agents for IBD is suboptimal. This can partly be explained by the inadequate bioavailability of the drug in the GI tract when administered by traditional oral capsules or by injection or infusion, even at high doses and because of the inability to increase dosage due to dose-limiting systemic toxicity. We believe a significant opportunity exists for a device that can diagnose GI-related disorders without an endoscopy or colonoscopy and a device that can deliver drugs in a targeted manner directly to the site of disease.

To address these GI-related disorders, we are currently developing four therapeutic solutions for use with our precision medicine drug/device combinations: PGN-001, which is a GI-targeted adalimumab for use with the Oral Biotherapeutic Delivery System and DDS; PGN-300, which is a GI-targeted vedolizumab for use with DDS and potentially the Oral Biotherapeutic Delivery System; PGN-600, which is a GI-targeted tofacitinib for use with DDS; and PGN-OB2, which is a GLP-1 analog for use with the Oral Biotherapeutic Delivery System. We believe that both the Oral Biotherapeutic Delivery System and DDS will have the potential to be used in combination with other therapeutics in addition to those described above.

Our precision medicine product platform is based on our own multi-disciplinary research developed over the last five years and also in-licensed and acquired intellectual property from Medimetrics. Three of our four ingestible medical device product candidates utilize autonomous localization technology. This technology is designed to enable both diagnostic and therapeutic capsule types to autonomously determine their location within the GI tract. The autonomous localization technology is based on a proprietary LED light and photodetector sensor array that detects reflected light in the GI tract and uses a proprietary algorithm to determine anatomical locations of interest, for example, the pyloric and ileocecal transition. Of note, this technology differs from other GI tract localization technologies that rely on pH levels and other physiological factors which are not specific and are highly variable and also differs from delayed release drug delivery systems such as pH sensitive capsules and MMX technology. Our PIL Dx capsules are designed to work with a remote radio frequency, or RF, detector device that externally monitors all sensor measurements and can transmit results of GI tract testing. Our core technology is also designed to allow for precise sample collection of intestinal fluids at a predetermined location and analysis in the GI tract in both the PIL Dx capsule and the Recoverable Sampling System capsule (described below). Additionally, certain of the capsules we have under development have temperature sensors that are designed to measure the temperature of the surrounding environment and a microchip oscillator that is designed to keep time.

*Recoverable Sampling System*

We are developing the Recoverable Sampling System, or RSS, to analyze and characterize the GI tract. The RSS capsule is an investigational electromechanical capsule designed to autonomously collect and preserve intestinal fluids as it transits through the GI tract for *ex-vivo* analysis. The sample chamber of the RSS capsule contains an absorbent sponge impregnated with preservative agents for a range of analytes including proteins, metabolites, and microbes. Once the capsule has been expelled, the subject would collect and ship the capsule to Progenity or another designated laboratory for sample extraction and analysis.

We believe the potential for this capsule is significant. For example, we believe it could help companies developing locally-active GI drugs to assess signals of early efficacy by measuring pharmacodynamic and

associated downstream biomarkers at the site of action. The improved precision may allow for smaller clinical trial patient sizes. We believe the technology could potentially also be used for discovery of new therapeutic targets and diagnostic biomarkers. For practicing clinicians, we believe the RSS capsule, if successfully developed and cleared or approved, could be an invaluable tool to assess, in a noninvasive fashion, disease activity for inflammatory disorders like IBD and hepato-biliary disorders. In addition, recent third-party research has determined that the microbiome, which is the collective network of microorganisms that live in our GI tract, is essential for human development, immunity, and nutrition, and has led to the need for tools which can characterize the small bowel microbiome. We believe that the RSS capsule could offer researchers a simple noninvasive and yet powerful tool to characterize many diseases that have been associated with the small bowel microbiome. This could lead to advances in the understanding of many diseases which, until now, have been impractical or impossible to understand. If achieved, we expect this to lead to a new generation of more targeted therapies and diagnostics for many disorders.

In the first quarter of 2021, we expect to initiate the first clinical proof-of-concept trial evaluating this technology. In preparation for our clinical trials, we have initiated manufacturing activities for clinical supply of the RSS capsule. Assuming successful results, we would expect to seek CE marking for this device in Europe and that, if CE marking is obtained, initial applications for this device would be in internal programs, partnerships, research use and academic programs.

*PIL Dx—Progenity Ingestible Laboratory Diagnostics*

We are developing the PIL Dx diagnostic capsule to analyze samples from specific locations of the GI tract. Once ingested, the capsule is designed to communicate wirelessly with a wearable RF receiver to report on status and other operational data. Through our core proprietary autonomous localization technology, the capsule is designed to sample intestinal fluid at a predetermined location within the GI tract for real-time analysis. An on-board fluorometric assay system would then perform prespecified analyses, which could include measurement of inflammatory cytokines, drug levels, microbes, nucleic acids and other metabolites. The sensor measurements and other data would then be transmitted to a wearable RF receiver for collection and processing. The receiver would then be returned to the clinician for data download and review.

Our most advanced investigational PIL Dx capsule is the Smart Capsule Bacterial Detection System, or SCBDS. The SCBDS capsule includes an integrated assay which is designed to measure with high sensitivity the change of a metabolically active substrate that correlates with the amount of live bacteria in the small intestine. We believe this technology, if successfully developed and approved or cleared, has the potential to become the standard of care for diagnosing SIBO. Currently the SCBDS capsule has undergone a series of validation and verification tests of the various subsystems and evaluations of the localization algorithm. In these studies, the localization of the capsule was confirmed either by CT scan or scintigraphy. In addition, in an ongoing study, clinical samples acquired via aspiration and endoscopy are being evaluated with the SIBO assay on a standalone basis. Beyond SIBO, we believe the PIL Dx capsule, if it can be designed to measure other analytes, will have broad potential applications, such as for early tumor detection and disease characterization and subtyping, and disease activity monitoring for conditions such as IBD. We have begun testing small intestinal fluid samples collected during endoscopy with aspiration on a benchtop version of our bacterial concentration assay at three clinical sites. Samples are measured for bacterial concentration with culture and plate count. As shown in Table 3 below, the interim test results as of October 13, 2020 show a concordance between the bacterial concentration assay and the reference standard of culture and plate count for identifying 10^5 colony forming units, or CFU, per mL.

**Table 3: Standalone Bacterial Concentration Assay Testing Results**

| Clinical Site | SIBO Assay vs TBC* (10^5 CFU per mL**) |
|---|---|
| 1 | 36/39(92%) |
| 2 | 11/12(92%) |
| 3 | 15/15(100%) |
| Total | 62/66(94%) |

* Total bacterial count via culture and plate count.
** +/-.5 log.> 10^5 CFU per mL is the generally agreed definition of SIBO and agreed to by the FDA in meetings with Progenity.

In the first half of 2021, we expect to initiate our first full function preclinical study and in the second half of 2021, we expect to initiate the first clinical proof-of-concept trial evaluating this technology. In preparation for our clinical trials, we have initiated manufacturing activities and are improving our manufacturing yield for clinical supply of the PIL Dx capsule. Assuming successful results, we expect to initiate a pivotal clinical study to support CE mark certification for this device in Europe and submission of an application seeking *de novo* classification in the United States. We expect to commercialize the PIL Dx capsule, if approved, through a combination of our current OB/GYN sales force, a new gastroenterology sales force, and/or partnership opportunities in the primary care market.

*Market Opportunity*

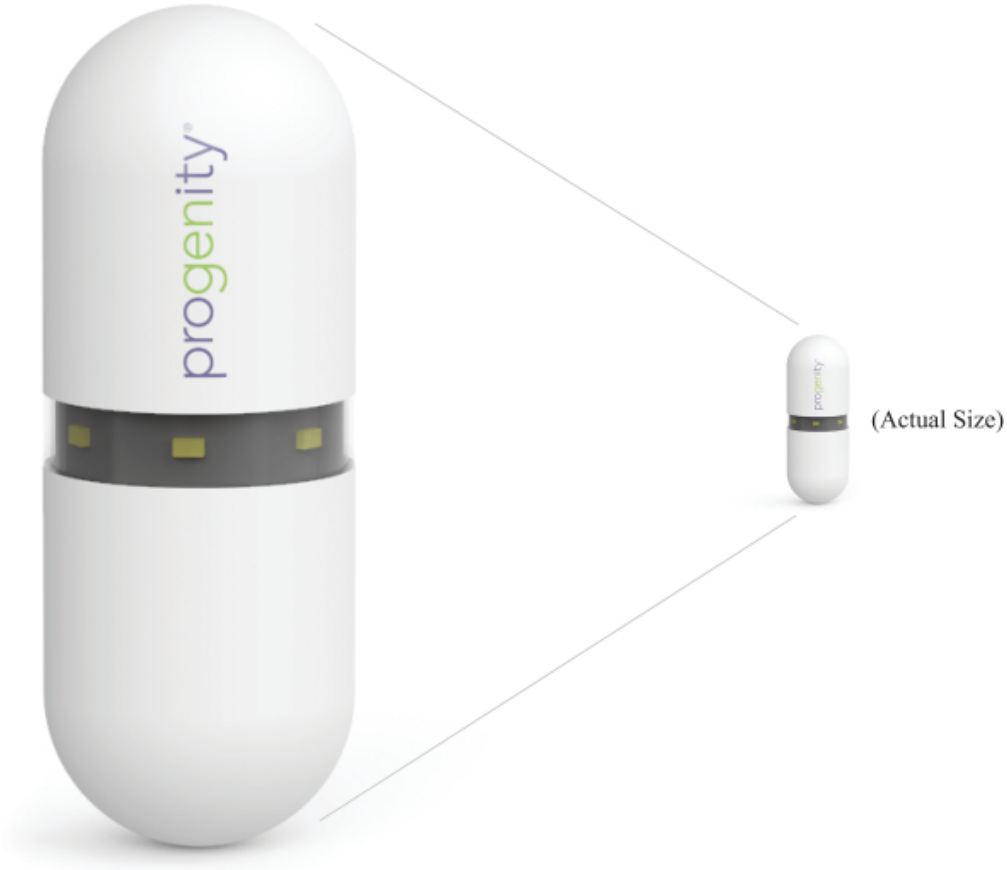
SIBO is a clinical condition associated with abnormally high bacterial counts in the small intestine that are characterized by symptoms such as bloating, abdominal pain, and diarrhea. These symptoms can be very debilitating and are believed to be caused primarily by an over production of gas by the bacteria. A reduction in the bacteria through antibiotic therapy generally alleviates the symptoms, at least temporarily. SIBO is substantially under-diagnosed and limitations exist with currently available testing methods, and as a result, patients with SIBO are poorly served. According to studies in the American Journal of Gastroenterology and the Gastroenterology Journal, there are approximately 105 million patient visits in the United States annually with symptoms that may be suggestive of SIBO. The current standard of care to diagnose SIBO is a duodenal or jejunal aspirate obtained via an invasive upper GI endoscopy which is then transported to a microbiology laboratory for culture, with results generally available several days later. There is high variability in the technique for the aspiration and culture from laboratory to laboratory, leading to inconsistent results between laboratories. This current standard of care is not only costly and time consuming, but it also requires sedation and is highly invasive, thus making our capsule technology a potentially attractive alternative. In addition, there are various breath tests which rely on the detection of hydrogen or methane as a proxy for bacterial presence in the small intestine. These breath tests suffer from lack of sensitivity and specificity which limit their effectiveness.

In addition, there are several different conditions that have similar symptoms, further complicating its diagnosis. As a result, SIBO is under-diagnosed. We believe that our SCBDS capsule, if successfully developed and cleared or approved, may fulfill an unmet medical need by accurately identifying patients that have SIBO so that physicians can treat and monitor their patients more effectively. It is estimated that SIBO may be as prevalent as up to 6% of healthy populations, up to 50% of patients on chronic proton-pump inhibitor treatment, up to 67% of patients with celiac disease, up to 88% of patients with Crohn’s disease, and up to 44% of patients with diabetes. We estimate the total addressable market for the treatment of SIBO to be in excess of $36 billion.

***Targeted Therapeutics***

We are developing a pipeline of investigational drug/device combinations that are designed to treat disease at its site in the GI tract and achieve high concentration in the affected tissues with the potential to drive efficacy and minimize systemic exposure and toxicity.

*Drug Delivery System*




Our targeted therapeutics pipeline leverages our targeted drug delivery system, or DDS, capsule in an effort to deliver drugs to the site of disease in the GI tract and incorporate drug formulations designed to improve stability and uptake in the GI tract. The DDS capsule is designed to identify the ileal/ileocecal region of the GI tract using our autonomous localization technology and deliver medication to that region. The DDS capsule is an investigational, single-use ingestible device with an outer casing made of inert material and rounded for ease of swallowing. It is designed to passively deliver a precise dose of drugs that can act locally in the GI tract, thereby potentially limiting systemic absorption and the associated toxicity side effects. Candidate drugs and biologics for this form of delivery are approved drugs and biologics that predominately act in the intestinal tissues, but that we believe have limited efficacy because of systemic toxicities. Examples of such drugs include adalimumab and tofacitinib.

There is research, including research conducted by us, that suggests this may be a viable therapeutic approach. For anti-TNFs such as infliximab and adalimumab, clinical studies have shown that in patients with active IBD, the tissue TNF level far exceeded the amount of drug reaching the actively inflamed tissue, and we believe that current approaches to drug delivery are therefore inadequate to suppress the inflammatory response. Moreover, preclinical studies have shown that monoclonal antibodies, or mAbs,

such as adalimumab and vedolizumab were found in inflamed colonic tissue when given directly into the lumen of the colon. We have conducted preclinical studies which indicate that these mAbs, given locally, were as efficacious as drugs given via a systemic route of administration. We believe delivering mAbs and other drugs locally at the site of inflammation will result in a higher concentration of drug in the intestinal tissues of patients with IBD, potentially leading to greater efficacy. We believe that local delivery at the site of disease will result in less systemic exposure and may require lower drug administration, potentially reducing the severe adverse event profiles seen with some of these therapeutics. We also believe that because this technology is designed to have lower systemic absorption, it may be ideal for use in combination therapy with the potential to boost efficacy without adversely affecting the active drug's safety profile.

Our current internal pipeline includes PGN-001, an oral version of adalimumab (a drug with approximately $19 billion in annual sales and for which we have produced a GMP batch). As a result of our use of known molecules, we believe that rapid proof of concept and value inflexion with preclinical and phase 1 pharmacokinetic results is possible.

Our lead DDS programs are in preclinical proof-of-concept stage and we recently announced successful completion of an *in vivo* preclinical device function study. We are expecting to initiate a device clinical function study in the first quarter of 2021. Assuming successful results, we expect to initiate Phase 1 clinical studies followed by Phase 2 studies and subsequent Phase 3 studies to support MAA filings in Europe and NDA or BLA submissions in the United States. We believe certain programs may be eligible for the 505(b)(2) pathway in the United States and/or the hybrid MAA pathway in Europe.

Our investigational drug/device combinations with the DDS capsule are initially pursuing the targeted topical delivery of certain IBD therapies. We estimate this market to be in excess of $15 billion.

*Oral Biotherapeutic Delivery System*

Over the past two decades, biologic drugs have become the standard of care for a variety of diseases including rheumatoid arthritis, psoriasis, diabetes, Crohn's disease, ulcerative colitis, and a range of cancers. Generally, these biologics are administered systemically via subcutaneous or intravenous injection. We are developing drug/device combinations designed to deliver biologics systemically, via a more convenient oral route of administration. Our unique approach to oral delivery of biologic drugs is through use of an ingestible capsule designed to spray a liquid drug substance past the mucosal surface into the submucosal tissues of the small intestine where it can be absorbed systemically. This ingestible capsule technology is designed to protect the drug from acids and proteolytic enzymes of the gut until it reaches the site of delivery through means other than our autonomous localization technology where it may be triggered and spray the preloaded drug substance past the intestinal barrier. The device design is simple, low-cost, and has the appearance of a typical drug capsule. We initially developed an endoscopically or surgically placed, liquid jet device for optimization and early preclinical work and have since progressed to an autonomous fully integrated prototype device for further evaluation. With the endoscopically or surgically placed device we assessed the potential bioavailability rates that may be achieved with our device in preclinical swine studies with drugs such as human insulin, dulaglutide, and adalimumab. In these studies we have observed bioavailability of approximately 19% (n=18), 29% (n=11), and 27% (n=11), respectively. We believe this technology, if successfully developed, has broad applications beyond GI diseases and can be applied to numerous drugs that currently demand a parenteral route of administration.

In conjunction with our development of this device, we anticipate potential partnership opportunities, including with manufacturers of biologic drugs, in the parenteral protein market. We estimate this market to be in excess of $250 billion (or over $100 billion for monoclonal antibodies alone) with strong patient and physician preferences for the oral delivery of proteins as compared to subcutaneous injections.

Our current internal pipeline includes PGN-OB1, an oral version of adalimumab (a drug with approximately $19 billion in annual sales and for which we have produced a GMP batch), and PGN-OB2, an oral version of a GLP-1 analog (a drug with a projected $15 billion market by 2025). As a result of our use of known molecules, we believe that rapid proof of concept and value inflexion with preclinical and phase 1 pharmacokinetic results is possible.

Our lead oral biotherapeutic delivery system programs are in preclinical proof-of-concept stage and we expect to complete a preclinical study demonstrating the first fully autonomous device in the first quarter of 2021. Assuming successful results, we expect to initiate Phase 1 clinical studies followed by Phase 2 studies and subsequent Phase 3 studies to support MAA filings in Europe and NDA or BLA submissions in the United States. We believe certain programs may be eligible for the 505(b)(2) pathway in the United States and/or the hybrid MAA pathway in Europe.

***Key Targeted Therapeutic Opportunities in Gastrointestinal Disease***

*Inflammatory Bowel Diseases*

IBDs are a heterogeneous group of inflammatory disorders of the GI tract, and broadly include two major groups: Crohn's disease and ulcerative colitis. According to the Crohn's and Colitis Foundation, or CCF, there are approximately 1.6 million Americans affected by IBD. The disease typically has an onset before 30 years of age and is a lifelong illness that can be potentially life-threatening. The body's immune system which normally protects the body from external insults like bacteria and viruses becomes dysregulated in patients with IBD and this causes the immune system to attack the body's own tissues. Although IBD has no known cause, there is strong evidence that genetics, a dysregulated immune system, the environment and the gut microbiome all play a role initially in causing the disease, and then perpetuating the inflammation.

*Ulcerative Colitis*

Ulcerative colitis, or UC, is characterized by inflammation and ulceration of the mucosal lining of the colon. The typical symptoms include diarrhea, bleeding and often abdominal pain. In the more severe cases, there can be large amount of blood loss, which can be life-threatening and require emergency surgery. The goal of medical treatment for all forms of IBD is to reduce the inflammation and to induce remission initially with medication, followed by the administration of maintenance medication to prevent a relapse of the disease. Treatment for UC depends on the severity of the disease, complications, and response to previous treatment. Most patients with mild to moderate UC will first be treated with aminosalicylates. For patients with moderate to severe UC who do not respond to aminosalicylates, more potent systemic therapies such as infliximab and adalimumab are used. The CCF estimates that UC may affect as many as 907,000 Americans.

*Crohn's Disease*

Similar to UC, Crohn's disease, or CD, is a chronic disorder that causes inflammation of the digestive tract, but unlike UC, CD may involve all layers of the intestine and can affect any part of the intestines. The symptoms of CD range from mild to severe with the most common symptoms being diarrhea, abdominal pain, fever, and sometimes rectal bleeding. Mild symptoms may be treated with topical corticosteroids and aminosalicylates. For moderate to severe CD, the biologics described above are commonly used to treat UC. The CCF estimates as many as 780,000 Americans have CD, and states that it is most often diagnosed in adolescents and young adults between the ages of 20 and 30 years.

*Other Diseases of Interest*

While the abovementioned diseases are our initial focus, we believe our precision medicine platform may have broad application beyond SIBO and IBD and into other diseases where a dysbiosis of the small

bowel microflora has been implicated, including irritable bowel syndrome, nonalcoholic fatty liver disease and NASH, cardiovascular diseases, and central nervous system disorders like Parkinson's disease, depression, and autism. It is well accepted that the current technology of characterizing the stool microbiome is not optimal to understand the host-microbe interaction, especially for evaluating the bacteria in the small intestine. Current technologies to assess the small intestinal microbial flora are highly invasive, imprecise, and/or impractical for larger studies; therefore, we believe that a device that has the ability to collect and characterize the bacteria, and analyze their function would dramatically advance our knowledge and understanding of the complex host-microbe interaction. We believe that our product candidates, if successfully developed, may be able to achieve these outcomes.

Another area of precision medicine research and development interest for us is the early detection or recurrence of GI tumors such as liver cancer, pancreatic cancer, and colorectal cancer, an addressable market we estimate to be approximately $4.5 billion. We believe that DNA fragments from GI tumors will be detected in intestinal fluids at higher concentrations than in the blood and therefore our products may be more sensitive than screening through a blood sample or via commercially-available diagnostic tests that analyze stool samples.

***Key Features of our Precision Medicine Platform***

Our platform is distinguished by several key elements:

- ***Robust discovery and development talent.*** Our multi-disciplinary precision medicine team is comprised of over 25 full-time, experienced drug discoverers, researchers, and innovators working to create solutions to improve patient outcomes. In addition to our full-time staff, our team is augmented by more than 60 contract researchers, manufacturers, and consultants. We have also added key R&D employees as part of our acquisitions, including the former Chief Scientific Officer of Medimetrics.
- ***Disciplined approach to target identification and prioritization***. We intend to target diseases with large markets and where current treatments have limited efficacy and very high morbidity, such as IBD. In addition to prioritizing diseases with high unmet need, we will look for the potential to expand the portion of the population that can be treated as our targeted therapeutics may have lower systemic toxicity, lower immunogenicity, and increase market penetration.
- ***Opportunistic approach to drug candidate selection***. Using our precision medicine platform, we are developing potentially improved versions of existing drugs with established mechanisms of action. We intend to only pursue mature and approved drugs with expiring patents that we believe are biologically suited to address the target disease. We believe this strategy of starting with an approved therapeutic is core to operating our precision medicine drug development programs in a scalable and capital efficient manner.
- ***Operational efficiency***. By starting with approved drugs with known mechanisms of action, we believe we can efficiently and cost-effectively evaluate opportunities that we believe are the most promising, and very quickly discontinue programs that do not meet performance thresholds. We believe this will enable us to develop a sustainable and scalable platform to develop multiple drug/device candidates.
- ***Rational and optimized ownership for each program***. With each product candidate, we intend to strategically evaluate the most effective and efficient means for development. When we believe we are best suited to continue a program's development, we intend to continue to fund it internally to commercialization. However, if we believe a partner is better suited to progress a specific program, we may consider entering into strategic partnerships for our programs when we believe such partnerships are economically attractive. We entered into a

collaboration agreement with a third-party in August 2020 for one of our precision medicine products and we continue to pursue additional collaborations, although none of these relationships are material individually or in the aggregate.

**Laboratories**

Our corporate offices are located in San Diego, California. We own and operate a certified CLIA and CAP accredited laboratory located in Ann Arbor, Michigan specializing in the molecular testing market serving women's health providers in the obstetric, gynecological, fertility, and maternal fetal medicine specialty areas in the United States. Distribution is managed by a dedicated sales force and a field operations team who support all logistical functions in receiving clinical samples to the laboratory for analysis. Through our affiliation with Mattison Pathology, LLP, a Texas limited liability partnership doing business as Avero Diagnostics, located in Lubbock and Irving, Texas, our operations have expanded to provide anatomic and molecular pathology tests in the United States.

We have a GI-focused laboratory in Irving, Texas to support our precision medicine platform. We believe that the technologies under development will provide quantitative analysis for the RSS capsule and the PIL Dx capsule, as well as for precision medicine-related studies. The team members located at the laboratory are developing and validating reagents and assays to analyze protein, nucleic acid, metabolite, and bacterial analytes. The assays will be used for a range of nonclinical and clinical studies in conditions including SIBO and IBD, and in oncology.

***Avero Diagnostics***

Through Avero Diagnostics, our operations have expanded to provide anatomic and molecular pathology tests in the United States. Our specialized pathology tests provide expertise in the area of women's healthcare and full-service anatomic pathology. Our expertise in pathology covers a broad spectrum of subspecialties which include gynecologic pathology, breast pathology, urologic pathology, GI pathology, molecular pathology, and dermatopathology. We currently offer histopathology, cytopathology, molecular pathology, and fluorescence in-situ hybridization tests to a network of clients located throughout the United States through Avero Diagnostics. We currently also offer genetic tests for NIPT and carrier screening through Avero Diagnostics. See "Business—Government Regulation—Avero Diagnostics Relationship and the Corporate Practice of Medicine" for more information regarding our relationship with Avero Diagnostics.

***Laboratory Operations and Processes***

Our laboratory utilizes islands of automation and an integrated laboratory information system, or LIS, to deliver high quality results, while maximizing efficiency and agility. Samples are received by the laboratory directly from individual practices or collected by courier services via commercial shippers. Once received, sample and patient demographic information are entered into the LIS. Patient information is entered directly from physician practices (EMR orders), partner laboratories via interface to an EMR, manually from standard requisition forms, or via scanning (using an optical character recognition platform). Samples are linked to patient records via barcoded labels and distributed to testing departments or a partner laboratory.

Our islands of automation strategy utilize automated liquid handling systems to perform high complexity and repetitive tasks in a structured and reproducible manner multiplying the productivity of each staff member. Each task is verified by highly trained staff before being passed to the next step. This strategy is designed to allow optimization of staff and equipment through daily volume fluctuations while also permitting continuous process improvement and updating for new product offerings without requiring redevelopment of a fully automated process.

In-house testing first proceeds to the hematology department, if applicable, and samples are loaded onto the testing platforms. Loaded samples are automatically scanned as they are fed into the testing

instruments. Preparent and Innatal samples are then delivered to the DNA extraction group. Samples are scanned while being loaded on the extraction systems, and the sample ID, plate, and plate location are captured in our LIS system, linking sample information to plate and location. Isolated DNA is split so that one isolation can be used for multiple different next generation sequencing, or NGS, and non-NGS tests, thereby reducing the need for multiple extractions and reducing labor and materials costs.

After extraction, samples are processed in batches utilizing color coded and barcoded pre-aliquoted reagent plates. Our internally prepared reagent plates reduce technologist time and improve throughput and turnaround time. Use of the color coding system and barcoding allows traceability of all reagents without requiring laborious and error prone manual recording. Continuing with automation islands, steps requiring transfer of samples as well a multi-step process are performed by internally developed automation systems. This includes amplification set-up and sample addition. Each sample plate, reagent plate, liquid handling system, thermocycler, sequencer/detection system, and performing technologist is recorded.

After amplification, library preparation and indexing samples are pooled and quantitated to allow for optimal loading on the sequencing instruments. Due to the islands of automation strategy, multiple workflows coexist on common equipment maximizing utilization while ensuring the required turnaround time. In order to ensure maximum quality during the manual steps, the materials and set-up are verified by a second trained technologist.

Once patient data is processed through the laboratory, and sent through any applicable bioinformatics pipelines, it goes to the laboratory directors for analysis and resulting. Depending on the test, analysis is performed through either a proprietary, internally-built, web-based software platform, or a commercially available desktop-based software. Laboratory directors review run-level quality metrics and positive/negative/no-template control results to confirm that each patient test run meets pre-defined criteria for reporting. Results for each patient are then carefully reviewed and the laboratory director makes the decision to either report the results, rerun the patient sample, or report the test as failed analysis. These decisions are made based on standard operating procedures and laboratory director discretion.

When laboratory director-approved results are available for a given patient report, the report is automatically generated in Progenity Report Writer, a web-based software. Laboratory directors then review each patient report and approve or edit the report as needed. Most report content is pre-programmed and automatically added to each report. Only a subset of reports require manual edits before approval and release to the ordering provider. Progenity Report Writer is also the software that the laboratory directors use to approve and release all reports generated by third-party laboratories for tests not run in our laboratories.

Our board-certified laboratory directors also work closely with the laboratory's medical science liaisons, or MSLs, who are also all board-certified genetic counselors. The MSLs are the outward facing clinical group, and they take calls from ordering providers and patients. If a clinician calls in with information that could be relevant to the analysis and reporting of their patient's test, the MSLs pass this information on to the laboratory directors. Laboratory directors also work with the MSLs any time complex results are found that require additional information from the ordering provider. MSLs also assist laboratory directors with writing custom report language for complex cases to make sure it can be easily understood by the ordering provider.

Finally, laboratory directors are responsible for ensuring compliance with CLIA regulations, applicable state-specific regulations, and recommendations from professional societies such as CAP, ACMG, and Clinical and Laboratory Standards Institute. The laboratory directors fulfill this requirement by working with the operations department to confirm that all laboratory personnel have the proper credentials and training, procedural requirements are met, and the relevant quality metrics are monitored over time to identify any possible problems that could affect patient results.

Once complete, results are provided to clients through either an interface to an EMR, or by electronic facsimile. We staff an internal team of genetic counselors to provide additional resources to clinicians, and to speak to patients who need additional counseling. Our client service representatives serve as a final resource. These representatives support our sales team and clients in addressing challenges related to correctly populated requisitions or supplementary information necessary for clinical interpretation.

***Laboratory Supplies***

We are party to a supply and service agreement, as amended, or the Supply Agreement, with Illumina, pursuant to which Illumina provides us products and services that we use in our laboratory operations, including certain sequencing instruments and reagents, as well as services for the installation, maintenance, and repair of the sequencing instruments.

Pursuant to the Supply Agreement, we have agreed to exclusively use Illumina consumables and equipment for all NIPT laboratory tests that we perform during the term of the Supply Agreement, with the exception of certain reagents that are not available for purchase from Illumina. In addition, we have a minimum purchase requirement per calendar quarter for consumables. We also must maintain a service contract on each sequencing instrument that we use for our NIPT laboratory services.

During the term of the Supply Agreement, we are required to make a rolling, non-binding forecast of our expected needs for reagents and other consumables, and place purchase orders for reagents and other consumables. Illumina may not unreasonably reject conforming purchase orders. Subject to discounts that vary depending on the volume of hardware and reagents and other consumables ordered, the price for sequencing instruments and other services is based on Illumina list prices, and the price for reagents is based on contract prices that are fixed for a set period of time and may increase thereafter subject to limitations.

The initial term of the Supply Agreement continues until June 2022. We may terminate the Supply Agreement in our discretion at any time by giving 90 days' prior written notice to Illumina.

**Sales and Marketing**

We have a commercial team of more than 160 individuals in the United States, including a sales force of more than 150 individuals, a marketing team of 16 individuals, and a managed care team of six individuals. Our sales force promotes our products across four regions with a focus exclusively on OB/GYNs and maternal-fetal medicine providers in the women's health market and offers our full product portfolio in an effort to maximize cross-selling opportunities. We are expanding into adjacent specialty markets with sales and marketing teams targeting customers in genetic counseling and reproductive medicine, with further expansion into gastrointestinal medicine planned for 2023. We are also evaluating the expansion of our business internationally to leverage our portfolio, with our Preeclampsia test representing one potential avenue for expansion.

Engagement with our customers not only generates testing volume, but also opens access to key opinion leaders, potential clinical research partners, and decision-makers in large combined practice groups. We expect that strong relationships with key players in these markets, as we expand our women's health portfolio, will allow us to carefully address the needs, motivations, and business goals of our customers.

Our marketing strategy is focused on driving adoption of genetic testing protocols and educating healthcare professionals on the value of genetic testing for healthcare management decisions. Our marketing activities include presenting clinical research at medical conferences and scientific meetings, conducting provider education campaigns and hosting medical education events through field medical science liaisons and sales representatives, using online advertising, social media, and public relations channels to raise product and company awareness, and developing strategic business partnerships.

Our managed care team works with the government and the commercial sector, with a focus on health systems, hospitals, and large physician groups.

**Reimbursement**

Laboratory tests are classified for reimbursement purposes under a coding system known as Current Procedure Terminology, or CPT, which we and our physician customers must use to bill payors and to receive payment for our molecular tests. These CPT codes are associated with the particular molecular test that we have provided to the patient. Once the AMA establishes a CPT code, CMS or its contractors may establish payment levels and coverage rules with respect to our molecular tests under Medicare and Medicaid. In addition, commercial third-party payors independently establish reimbursement rates and coverage rules for our molecular tests under their respective plans.

We currently submit for reimbursement using CPT codes that we believe are appropriate for our testing, but codes may be rejected or withdrawn and payors may seek refunds of amounts that they claim were inappropriately billed to a specified CPT code.

We generate revenue from the sales of our molecular tests and receive payments for such tests from four distinct channels: commercial third-party payors, government health benefits programs such as Medicare and Medicaid, laboratory distribution partners, and individual patients. Reimbursements from payors, including commercial third-party payors and government health benefits programs, constituted 97% of our revenue during the year ended December 31, 2019. We are currently contracted with payors representing an estimated approximately 145 million covered lives.

***Commercial Third-Party Payors***

We submit claims for reimbursement and receive associated payments from commercial third-party payors. Our contracts with commercial third-party payors provide for contracted rates of reimbursement. For instances where we are not contracted with a particular commercial third-party payor, we submit claims seeking reimbursement on a non-contracted basis.

If we become an in-network provider in a commercial third-party payor health plan, we become subject to the terms of contracts entered into with such payors and we may be subject to discipline, breach of contract actions, non-renewal, or other contractual remedies for noncompliance with the requirements of these contracts (which may include reduced reimbursement rates) and we are also subject to associated state or federal laws.

We have entered into settlement agreements with commercial third-party payors in order to settle claims related to past billing and coding practices that have been discontinued, including, without limitation: Connecticut General Life Insurance Company and Cigna Health and Life Insurance Company, or Cigna, United HealthCare Services, Inc. and UnitedHealthcare Insurance Company, or United, and Aetna Health Management, Inc., or Aetna. In December 2018, we and Avero Diagnostics entered into settlement agreements with Cigna pursuant to which Avero Diagnostics agreed to pay Cigna $12 million in a series of installments and we agreed to guarantee $6 million of such payment. We and Avero Diagnostics also agreed to certain covenants regarding our billing practices. We have paid $11.5 million under such agreement to date. In September 2019, we entered into a settlement agreement with United that governs past benefit claims and a corrective action plan which governs future benefit claims that we submit for reimbursement at an arm’s length, out-of-network basis to United. The total settlement amount was $30 million, to be paid in a series of installments. We have paid $12.0 million under such agreement to date. In November 2019, we entered into a settlement agreement with Aetna, which was amended in April 2020, pursuant to which we agreed to pay Aetna $15.0 million in a series of installments. We have paid $10.0 million under such agreement to date. As part of the Aetna settlement, we also entered into an in-network participation agreement with Aetna that became effective January 1, 2020. Each of these settlement agreements provides for a release of past claims by all parties.

***Government Health Benefits Programs***

We are enrolled and eligible to receive payment from government health benefits programs, including Medicare and Medicaid. We are a participating provider under most state Medicaid plans.

In April 2014, Congress passed the Protecting Access to Medical Care Act of 2014, or PAMA, which included substantial changes to the way in which clinical laboratory services are paid under Medicare. Under PAMA, laboratories such as us that receive the majority of their Medicare revenue from payments made under the Clinical Laboratory Fee Schedule or the Physician Fee Schedule are required to report to CMS, beginning in 2017 and every three years thereafter (or annually for "advanced diagnostic laboratory tests"), commercial third-party payor reimbursement rates and the volume of tests that they have performed for such payors. Laboratories that fail to report the required information may be subject to substantial civil monetary penalties. If we determine that our tests meet the current definition of advanced diagnostic laboratory tests, we will be required to comply with these reporting requirements on an annual basis.

For clinical diagnostic laboratory tests furnished on or after January 1, 2017, Medicare reimbursement is paid based upon the weighted median of the reported commercial third-party payor payments for the same test, as calculated using the data collected by applicable laboratories and reported to CMS during the specified data collection and reporting period. For clinical diagnostic laboratory tests that are assigned a new or substantially revised code, initial payment rates are assigned by the cross-walk or gap-fill methodology that existed under the prior law. The cross-walk methodology applies when a new test or substantially revised test is determined to be similar to an existing test, multiple existing test codes, or a portion of an existing test code, which can then be utilized to determine a payment. The gap-fill methodology applies when no comparable, existing test is available. In this case, the Medicare Administrative Contractor, or MAC, develops a local payment amount for the new test code and CMS calculates a national limitation amount after a year of payment at the local MAC rates based on the median of rates for the test code across all MACs. Initial payment rates for new advanced diagnostic laboratory tests are based on the actual list charge for the laboratory test.

The revised reimbursement methodology described above generally results in relatively lower reimbursement amounts under Medicare for clinical laboratory services than has been historically reimbursed. Any reductions to reimbursement rates resulting from the new methodology are limited to 10% per test per year in each of 2018 through 2020 and to 15% per test per year in each of 2021 through 2023. The CARES Act amended the timeline for reporting private payer payment rates and delayed by one year the payment reductions scheduled for 2021.

In addition to the CARES Act, Congress has enacted other laws in response to the COVID-19 pandemic to provide financial relief to healthcare providers and suppliers, including diagnostic laboratories, and encourage implementation of diagnostic testing and treatment for COVID-19. For instance, the Families First Coronavirus Response Act, enacted on March 18, 2020, requires certain governmental and commercial insurance plans to provide coverage of COVID-19 diagnostic testing services without imposing cost-sharing (e.g., copays, deductibles, or coinsurance) or other utilization management requirements. The CARES Act and the Paycheck Protection Program and Health Care Enhancement Act, enacted on April 24, 2020, each appropriated approximately $100 billion to provide financial relief for certain healthcare providers and to expand treatment and diagnostic testing capacity for COVID-19. The CARES Act also suspended, for the period from May 1, 2020 to December 31, 2020, the 2% Medicare payment reduction created under the sequestration required by the Budget Control Act of 2011 (as amended by the American Taxpayer Relief Act of 2012), and extended the sequester by one year, through 2030.

***Laboratory Distribution Partners***

We have contracted with other clinical and genetic laboratories for distribution of our products. Our reimbursement for these products comes directly from the contracted laboratory. In some instances, our distribution partners will request that we bill the payor for the provided test on their behalf. In these instances, we collect payment directly from the payor.

***Individual Patients***

We generally seek to collect co-payments and deductibles directly from patients in cases where we have billed the payor. For these patients, we offer a range of flexible payment plans to assist in the payment of co-payments and deductibles. We also seek to collect payment directly from patients for cash paying patients who do not have or have elected not to use medical insurance. Patients paying out of pocket are generally offered a discounted price. We are not currently promoting or offering direct-to-consumer testing products.

We are subject to applicable state and federal laws regarding who should be billed, how they should be billed, how business should be conducted, and how patient obligations regarding cost sharing should be handled.

**Competition in Molecular Testing**

***Women's Health Molecular Testing***

We compete with numerous companies that have developed and commercialized some combination of our core product portfolio: NIPT; carrier screening; and hereditary cancer screening. Our primary competitors include Invitae, Myriad Genetics (which acquired Counsyl in 2018), and Natera. Secondary competitors include Ambry Genetics, GeneDx (a subsidiary of Bio-Reference Laboratories), LabCorp, Quest Diagnostics, Roche Diagnostics, Sema4, and other commercial and academic laboratories. We expect additional competition as other established and emerging companies enter the women's health molecular testing market, including through business combinations.

We believe the principal competitive factors in our market include the following:

- test performance, including sensitivity, specificity, failure rates, and turnaround time, as demonstrated in clinical validation;
- value of product offerings, including pricing and impact on healthcare spending;
- coverage and reimbursement arrangements with third-party payors;
- convenience of testing;
- additional value-added services and digital healthcare tools;
- effectiveness of sales and marketing efforts;
- development and introduction of new, innovative products;
- key opinion leader support;
- brand awareness; and
- ease of integration with healthcare provider practices.

We believe that we compete favorably on the basis of the factors above, particularly in test performance, additional value-added services, and digital healthcare tools, value of product offerings, and effectiveness of sales and marketing efforts.

***Preeclampsia***

The U.S. market for preeclampsia tests currently includes certain positive or predictive tests such as the predictive Preeclampsia Screen T1 offered by NTD Labs (purchased from Perkin Elmer in 2016) and the GestAssured preeclampsia test using congo red staining offered by GestVision. We expect to offer a noninvasive biomarker test designed to rule out preeclampsia. We anticipate that our test would compete favorably by providing superior sensitivity, specificity, and high NPV to rule out preeclampsia in symptomatic women as compared to existing clinical assessment tools, including those discussed above.

***Testing Services***

The market for anatomic pathology and molecular testing is highly competitive. We compete with a vast network of local and regional pathology groups, national laboratories, hospital-based laboratories, and physician-owned laboratories. Competition in the industry is based on several factors including price, quality of service, accuracy of results, clinical expertise, test menu, turnaround time of test results, commercial strategy and execution, ability to retain high-quality staff, client relationships, and reputation.

**Competition in Precision Medicine**

The biotechnology and pharmaceutical industries are characterized by rapid technological advancement, intense competition, and a strong emphasis on intellectual property and proprietary products.

While we believe that our proprietary technology platform, knowledge, experience, and scientific expertise provide us with competitive advantages, we face substantial competition from major pharmaceutical companies, biotechnology companies, academic institutions, government agencies, and public and private research institutions. For any products that we eventually commercialize, we will not only compete with existing technologies and therapies but also with those that may become available in the future.

Given our technology's potential utility across multiple applications, we expect to face intense competition from a diverse set of competitors. Many of our competitors, either alone or with strategic partners, have significantly greater financial, technical and human resources than we do. Competitors may also possess more experience developing, obtaining regulatory approval for, and marketing novel treatments and technologies in the areas we are pursuing. These factors could give our competitors an advantage in recruiting and retaining qualified personnel, completing clinical development, securing strategic partnerships, and commercializing their products. We believe the key competitive factors that will affect the development and commercial success of our product candidates are efficacy, safety and tolerability profile, reliability, method of administration, convenience of dosing, price, and reimbursement.

***Recoverable Sampling System***

To our knowledge, there are no commercially available ingestible sampling devices representing an immediate competitive threat to our technology. This is, however, a nascent space, and we expect to see future competition from new entrants as companies develop potentially competitive technologies.

***PIL Dx—Progenity Ingestible Laboratory Diagnostics***

Although we believe that they are comparatively limited in functionality and capability, we face competition from a small number of currently marketed or in-development diagnostic devices and tests specifically targeting GI disorders, such as those from Medtronic and Commonwealth Diagnostics International. Additionally, we will similarly face competition from new entrants as advances in diagnostics and engineering bring new technologies to market.

***Drug Delivery System***

The current IBD market is both established and mature, comprised of a range of therapeutic agents including branded and generic small molecules, biologics, biosimilars, and involving multiple mechanisms of action as well as routes of administration. Although we believe our technology platform will provide us with a competitive advantage in its ability to enable targeted delivery of therapeutic agents (and, in particular, biologics) via oral administration, we will face competition from several companies whose current R&D efforts will likely result in the emergence of newer pharmaceuticals touting oral administration, more convenient dosing frequency, novel mechanisms of action, and improved safety profiles and drug availability. We believe that the majority of competition will come from those companies marketing or developing biologics and small molecule therapeutics, such as AbbVie, Eli Lilly, Galapagos, Gilead, J&J, Pfizer, Roche, Takeda, and UCB.

***Oral Biotherapeutic Delivery System***

We expect to face competition from a number of technologies currently marketed or being developed to enhance or facilitate the oral administration of therapeutic agents. There is a wide range of competitive technologies and mechanisms that may challenge us.

The primary categories of oral biotherapeutic technologies currently available or being developed by our competitors include:

- Functional excipients designed to enhance the solubility and/or permeability of peptides and small molecules: Emisphere Technologies and Enteris Biopharma;
- Enteric coating technologies designed to prevent gastric degradation of active pharmaceutical ingredients and facilitate GI delivery: Assembly Biosciences, Catalent, Cosmo Pharmaceuticals, Intract Pharma, Lonza, and Tillotts Pharma; and
- Ingestible devices designed for the targeted delivery of a therapeutic payload: Lyndra Therapeutics and Rani Therapeutics.

Intellectual Property

The proprietary nature of, and intellectual property protection for, our existing and future products, processes, and know-how are important to our business. Our success depends in part on our ability to obtain patent and other legal protection for our products, technology, and know-how, to operate without infringing on the proprietary rights of others, and to prevent others from infringing on our proprietary rights. We rely on a combination of patents, trade secrets, know-how, license agreements, and nondisclosure and other contractual provisions to protect our intellectual property rights. These rights cover our proprietary tests, processes, databases, information, and materials across our different businesses. We seek and maintain patent protection in the United States and internationally for our over 425 issued patents and pending patent applications, while also in-licensing technology, inventions, and improvements that we consider important to the success of our business. In addition to patent protection, we intend to use other means to protect our products, technology and know-how, including pursuing terms of marketing or data exclusivity for our products, orphan drug status (if applicable) and similar rights that are available under regulatory provisions in certain territories, including the United States and Europe. We also rely on know-how and continuing technological innovation that are protected as trade secrets to develop and maintain our competitive position.

***Molecular Testing Technology Patent Portfolio***

Intellectual property rights relating to the molecular testing technology include a patent portfolio consisting of 23 distinct patent families. The 23 families include a total of 55 issued patents and 36 pending applications. Of these patents and applications, the latest to expire issued U.S. patents are

projected to expire in 2037 and the latest to expire U.S. patent applications, if converted to PCT or non-provisional applications in 2020, would be projected to expire in 2040, in each case, subject to potential term extensions. Two patent families have not yet published. In general, we file our molecular testing patent applications in the United States, Europe, Canada, China, and sometimes Japan.

The 91 patents and pending applications in this portfolio include claims that are directed to a range of molecular testing-related methods, systems and compositions, including but not limited to, the following:

- detecting chromosomal abnormalities including copy number variations;
- determining allele dosages;
- determining methylation status;
- isolating and analyzing rare cells; and
- diagnosing pregnancy-associated conditions like preeclampsia and preterm birth.

In addition to the patents and applications described above, our intellectual property rights relating to the molecular testing business include know-how relating to proprietary assays, databases, and software products. Examples include the following:

- Proprietary NGS and highly multiplexed polymerase chain reaction assays and panels;
- Discovery and diagnostic algorithms;
- Laboratory, billing, and reimbursement information systems; and
- Variant classification, annotation, and reporting systems.

***Precision Medicine Technology Patent Portfolio***

Intellectual property rights relating to our precision medicine technology include a patent portfolio consisting of 79 distinct patent families. The 79 families include a total of 134 issued or allowed patents and 202 pending applications. Of these patents and applications, the latest to expire issued U.S. patents are projected to expire in 2037 and the latest to expire U.S. patent applications, if converted to PCT or non-provisional applications in 2020, would be projected to expire in 2040, in each case, subject to potential term extensions. Thirty of the families were acquired in connection with the acquisition of certain tangible and intangible assets relating to the business formerly operated by Medimetrics GmbH, Medimetrics Personalized Drug Delivery B.V., and Medimetrics Personalized Drug Delivery Inc. In general, we file our precision medicine patent applications in the following patent jurisdictions: the United States, Australia, China, Canada, Europe, and Japan; and sometimes in these additional jurisdictions: Brazil, Eurasia, Hong Kong, Israel, India, South Korea, Mexico, and Singapore.

The 336 patents and pending applications in this portfolio include claims that are directed to a range of gastroenterology-related methods, systems, and compositions, including but not limited to, the following:

- autonomous localization of an ingestible device in the GI tract using visible or infrared light;
- GI sampling mechanisms and compositions, including preservatives for GI analytes;
- ingestible device assays, optics and analytics for detecting and quantifying GI analytes;
- ingestible device drug delivery mechanisms and systems;
- targeted topical and systemic delivery of therapeutics, including biologics, peptides, small molecules, nucleic acids, or cells for the treatment of GI conditions;
- ingestible devices for diagnosing, treating, and aiding in the treatment of GI conditions; and
- GI-specific drug formulations and dosing regimens.

***Trademarks***

Our reputation and brand awareness are very important to us. Accordingly, we invest significant resources in the protection of our trademarks. We have and will continue to pursue the registration of our trademarks, including trademarks for the name Progenity, our logo, and certain of our products, in relevant jurisdictions.

**Government Regulation**

***Regulations Related to Clinical Laboratories***

*Clinical Laboratory Improvement Amendments of 1988 and State Regulation*

As a clinical laboratory, we are required to hold certain federal certifications under the CLIA to conduct our business. Our clinical laboratory facility located in Ann Arbor, Michigan is CLIA certified and is accredited by CAP, a CLIA-approved accrediting organization, which means that our laboratory has been certified as following CAP guidelines in operating the laboratory and in performing tests that ensure the quality of our results.

Under CLIA, a laboratory is any facility that performs laboratory testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention, or treatment of disease or the impairment or assessment of health. CLIA requires that such laboratories obtain certification from the federal government and maintain compliance with various operational, personnel qualification, facilities administration, quality control and assurance, and proficiency testing requirements intended to ensure the accuracy, reliability, and timeliness of patient test results. CMS administers the CLIA certification program. CLIA certification is also necessary to bill state and federal healthcare programs, as well as many commercial third-party payors, for laboratory testing services.

CLIA requires that we hold a certificate that specifies the types of testing we perform and that we comply with certain standards applicable to such tests. In addition, CLIA specifies certain testing categories requiring periodic proficiency testing, and certified laboratories performing these tests must enroll in an approved proficiency testing program. To demonstrate proficiency, such laboratories must test specimens received from an outside proficiency testing organization, such as CAP, and then, submit the results back to that organization for evaluation. Failing to achieve a passing score on a proficiency test may lead to loss of certification to perform testing in the corresponding category. Furthermore, failure to comply with other proficiency testing regulations, can result in revocation of the referring laboratory's entire CLIA certification.

In addition, as a condition of CLIA certification, our laboratory is subject to survey and inspection every other year, as well as random inspections at CMS's discretion. The biannual survey is conducted by CMS, a CMS agent (typically a state agency), or, if the laboratory holds a CLIA Certificate of Accreditation, a CMS-approved accreditation organization. Because CLIA is user-fee funded, all costs of administering the program must be covered by the regulated facilities such as ours, including certification and survey costs.

Laboratories performing high-complexity testing are required to meet more stringent requirements than laboratories performing less complex tests. A high-complexity laboratory like ours that is certified under CLIA may develop, validate, and use proprietary tests referred to as LDTs. To date, the FDA has taken the position that generally it will exercise enforcement discretion and not require PMA, or pre-market notification (510(k)) for LDTs, but laboratories may voluntarily submit 510(k) or PMA applications, or *de novo* classification requests, for LDTs to obtain FDA clearance or approval following a demonstration of clinical validity. On the other hand, the CLIA program requires laboratories to demonstrate the analytical validity of any LDT used in clinical testing. All of our current products are LDTs.

CLIA provides that a state may adopt laboratory regulations that are more stringent than those under federal law, and a number of states have implemented their own more stringent laboratory regulatory requirements. State laws may require that laboratory personnel meet certain qualifications, specify certain quality control procedures, facility requirements, or prescribe record maintenance requirements.

*California Laboratory Licensing*

In addition to federal certification requirements for laboratories under CLIA, licensure is required and maintained for our clinical laboratory under California law because we receive specimens for testing from California. The California licensure law establishes standards for the day-to-day operation of a clinical laboratory, including the training and skills required of personnel and quality control. In addition, California law mandates proficiency testing, which involves testing of specimens that have been specifically prepared for the laboratory.

If a clinical laboratory is out of compliance with California standards, the California Department of Public Health, Laboratory Field Services branch, may suspend, restrict, or revoke its license to operate the clinical laboratory, assess substantial civil money penalties, or impose specific corrective action plans.

*New York Laboratory Licensing*

Our laboratory receives specimens from New York state, and so we are required to maintain a New York clinical laboratory license, under New York laws and regulations, which establish standards for: (1) day-to-day operation of a clinical laboratory, including training and skill levels required of laboratory personnel; (2) physical requirements of a facility; (3) equipment; and (4) validation and quality control.

New York law also mandates proficiency testing for laboratories licensed under New York state law, regardless of whether or not such laboratories are located in New York. If a laboratory is out of compliance with New York statutory or regulatory standards, the New York State Department of Health may suspend, limit, revoke or annul the laboratory's New York license, censure the holder of the license or assess civil money penalties. Statutory or regulatory noncompliance may result in a laboratory's operator being found guilty of a misdemeanor under New York law. The New York State Department of Health also must approve each specific LDT before the test is offered in New York.

*Other State Laboratory Licensing Laws*

In addition to New York and California, other states, including Maryland, Pennsylvania, and Rhode Island, require licensing of out-of-state laboratories under certain circumstances. We have obtained licenses in these additional states and believe we are in compliance with applicable licensing laws.

Potential sanctions for violation of state statutes and regulations include significant fines, the disapproval of licensure applications and the suspension or loss of various licenses, certificates and authorizations, which could harm our business. CLIA does not preempt state laws that have established laboratory quality standards that are at least as stringent as federal law.

*State Genetic Testing Laws*

Many states have implemented genetic testing and privacy laws imposing specific patient consent requirements and protecting test results. In some cases, we are prohibited from conducting certain tests without a certification of patient consent by the physician ordering the test. Requirements of these laws and penalties for violations vary widely.

*Federal Oversight of Laboratory Developed Tests*

The laws and regulations governing the marketing of diagnostic products are evolving, extremely complex, and in many instances, there are no significant regulatory or judicial interpretations of these

laws and regulations. Clinical laboratory tests are regulated under CLIA, as administered by CMS, as well as by applicable state laws In addition, pursuant to its authority under the FD&C Act, the FDA has jurisdiction over medical devices, which include, among other things, in vitro diagnostic devices, or IVDs, intended for clinical purposes. LDTs are diagnostic tests that are designed, manufactured, and used within a single laboratory, and the FDA has regulated LDTs as a subset of IVDs. The FDA regulates, among other matters, the research, testing, manufacturing, safety, labeling, storage, recordkeeping, premarket clearance or approval, marketing and promotion and sales and distribution of medical devices, including IVDs, in the United States to ensure that such products on the domestic market are safe and effective for their intended uses. In addition, the FDA regulates the import and export of medical devices.

Although the FDA has statutory authority to assure that medical devices, are safe and effective for their intended uses, the FDA has historically exercised its enforcement discretion and not enforced applicable provisions of the FD&C Act and regulations with respect to LDTs. We believe our tests fall within the scope of the agency's LDT definition. As a result, we believe our molecular tests are not currently subject to the FDA's regulations and the FD&C Act provisions applicable to medical devices and IVDs.

Legislative and administrative proposals to amend FDA's oversight of LDTs have been introduced in recent years and we expect that new legislative and administrative proposals will continue to be introduced from time to time. It is possible that legislation could be enacted into law or regulations or guidance could be issued by the FDA which may result in new or increased regulatory requirements for us to continue to offer our LDTs or to develop and introduce new tests as LDTs. For example, in recent years, FDA stated its intention to modify its enforcement discretion policy with respect to LDTs. Specifically, on July 31, 2014, the FDA notified Congress of its intent to modify, in a risk-based manner, its policy of enforcement discretion with respect to LDTs. On October 3, 2014, the FDA issued two draft guidance documents outlining a method for extending regulatory oversight to LDTs. These draft guidance documents were titled "Framework for Regulatory Oversight of Laboratory Developed Tests," or Framework Guidance, and "FDA Notification and Medical Device Reporting for Laboratory Developed Tests," or Notification Guidance. The Framework Guidance stated that FDA intended to end its policy of enforcement discretion with respect to most LDTs and apply a risk-based regulatory compliance and enforcement approach consistent with the classification of medical devices generally in Classes I through III. The Notification Guidance would have further enabled FDA to collect information regarding the LDTs currently being offered for clinical use through a notification process, as well as to enforce its regulations for reporting safety issues and collecting information on any known or suspected adverse events related to the use of an LDT. The 2014 Framework and Notification Guidances were the subject of much controversy among the device and laboratory industries, healthcare providers, the U.S. Congress, and other stakeholders, and on November 18, 2016, the FDA announced that it would not finalize either guidance document. On January 13, 2017, FDA released a document titled "Discussion Paper on Laboratory Developed Tests," or the Discussion Paper, which stated that the agency had declined to finalize the LDT guidances to allow for additional discussion on appropriate regulatory oversight. The Discussion Paper presented a more focused approach to LDT oversight, and stated that under the FDA's current thinking, LDTs marketed before any regulatory framework becomes effective would not be expected to comply with the requirements. In addition, the FDA continued to caution against the use of pharmacogenetic tests that had not been reviewed by the FDA and raised concerns about the clinical validation of high-risk tests that purport to predict a drug response but that may be inconsistent with FDA-approved drug labeling.

In April 2017, Congress released a discussion draft of the Diagnostic Accuracy and Innovation Act, or DAIA, the first legislative attempt to reform the regulatory framework for LDTs and IVDs since the FDA proposed to overhaul its policy of enforcement discretion with respect to LDTs. DAIA sought to carve LDTs and certain IVDs out of the current definition of "medical devices" by codifying a new defined term, in vitro clinical tests, or IVCTs. IVCTs would constitute products currently regulated as IVDs and

LDTs, and such products would be regulated differently from medical devices. DAIA proposed a three-tiered risk classification system with corresponding premarket review pathways for each tier. It also sought to establish jurisdictional boundaries between the FDA, CMS, and the states, with FDA oversight over development and manufacturing, CMS oversight over laboratory operations, and individual state oversight over medical use and interpretation. In August 2018, the FDA provided technical drafting assistance on DAIA, issuing comments in the form of a revised version of the draft legislation. Unlike DAIA, the FDA's technical assistance proposed a bifurcated risk classification for IVCTs that would eliminate the middle-risk tier, subject most high-risk IVCTs to premarket approval, and exempt most low-risk IVCTs from premarket review. It would also establish a precertification program that would enable an IVCT developer to be certified by the FDA, or potentially by an FDA-accredited body, as having sufficient skill at developing IVCTs, so as to not require premarket review for each individual test marketed by a certified developer. If included in any enacted law, the FDA's recommendations would also centralize the FDA's jurisdiction, giving the FDA authority to withdraw approvals, request raw data, and take corrective action against test developers. In December 2018, legislators released a discussion draft of a new bill, the Verifying Accurate, Leading-edge IVCT Development, or VALID, Act, which largely incorporated the FDA's proposals, and in April 2019, HHS, issued technical assistance comments on the VALID Act, which largely expressed support for maintaining the FDA's jurisdiction over IVCTs and the proposed precertification program. Even if passed by Congress and signed in to law, many of the proposals in the VALID Act, including the proposed requirements for premarket review and precertification of IVCTs, may take time to be worked out and fully implemented by the FDA, CMS and other regulatory authorities.

In August 2020, HHS announced that the FDA will not require premarket review for any LDTs without first conducting notice-and-comment rulemaking proceedings. As a result, the FDA may not rely on guidance documents, policy statements, or other informal decision-making to impose premarket review requirements on LDTs. The HHS announcement includes EUAs for LDTs relating to the COVID-19 pandemic, and the FDA subsequently announced that it would no longer review EUA requests for these LDTs. While the HHS announcement permits laboratories to use LDTs without an EUA or FDA premarket clearance or approval, such use will not be protected by the federal Public Readiness Emergency Preparedness (PREP) Act, which provides immunity from tort liability claims (except willful misconduct) to individuals or organizations involved in the manufacture, distribution, or dispensing of medical countermeasures. Further, such use remains subject to regulation by CMS under the CLIA.

*Advertising of Laboratory Services or LDTs*

Whether regulated by the FDA as a Class I or Class II device or subject to FDA's enforcement discretion as an LDT, our advertising for laboratory services and tests is subject to federal truth-in-advertising laws enforced by the Federal Trade Commission, or FTC, as well as comparable state consumer protection laws. Under the Federal Trade Commission Act, or FTC Act, the FTC is empowered, among other things, to (a) prevent unfair methods of competition and unfair or deceptive acts or practices in or affecting commerce; (b) seek monetary redress and other relief for conduct injurious to consumers; and (c) gather and compile information and conduct investigations relating to the organization, business, practices, and management of entities engaged in commerce. The FTC has very broad enforcement authority, and failure to abide by the substantive requirements of the FTC Act and other consumer protection laws can result in administrative or judicial penalties, including civil penalties, injunctions affecting the manner in which we would be able to market services or products in the future, or criminal prosecution.

**Medical Device Regulation**

Pursuant to its authority under the FD&C Act, the FDA has jurisdiction over medical devices, including IVDs and other products we are currently developing. The FDA regulates, among other things, the research, design, development, preclinical and clinical testing, manufacturing, safety, effectiveness,

packaging, labeling, storage, recordkeeping, pre-market clearance or approval, adverse event reporting, marketing, promotion, sales, distribution and import and export of medical devices. Unless an exemption applies, each new or significantly modified medical device we seek to commercially distribute in the United States will require either a premarket notification to the FDA requesting permission for commercial distribution under Section 510(k) of the FD&C Act, also referred to as a 510(k) clearance, or FDA approval of a PMA application. Although the tests we currently market are LDTs, which are subject to the recent announcement by HHS and FDA's enforcement discretion, we intend to develop certain product candidates, such as ingestible diagnostic products, that are subject to the FDA's premarket review requirements applicable to medical devices.

*Device Classification*

Under the FD&C Act, medical devices are classified into one of three classes—Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of control needed to provide reasonable assurances with respect to safety and effectiveness.

Class I includes devices with the lowest risk to the patient and are those for which safety and effectiveness can be reasonably assured by adherence to General Controls, which require compliance with the applicable portions of the FDA's QSR, facility registration and product listing, reporting of adverse events and malfunctions, and appropriate, truthful and non-misleading labeling and promotional materials. Some Class I devices also require premarket clearance by the FDA through the 510(k) premarket notification process described below. Most Class I products are exempt from the premarket notification requirements.

Class II devices are those that are subject to the General Controls, as well as Special Controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These Special Controls can include performance standards, patient registries, FDA guidance documents, and post-market surveillance. Most Class II devices are subject to premarket review and clearance by the FDA. Premarket review and clearance by the FDA for Class II devices is accomplished through the 510(k) premarket notification process.

Class III devices include devices deemed by the FDA to pose the greatest risk such as life-supporting or life-sustaining devices, or implantable devices, in addition to those deemed novel and not substantially equivalent following the 510(k) process. The safety and effectiveness of Class III devices cannot be reasonably assured solely by the General Controls and Special Controls described above. Therefore, these devices are subject to the PMA application process, which is generally more costly and time-consuming than the 510(k) process. Through the PMA application process, the applicant must submit data and information demonstrating reasonable assurance of the safety and effectiveness of the device for its intended use to the FDA's satisfaction.

*510(k) Pathway*

To obtain 510(k) clearance, we must submit a premarket notification under Section 510(k) of the FD&C Act demonstrating that the proposed device is "substantially equivalent" to a predicate device. A predicate device is a legally marketed device that is not subject to premarket approval, i.e., a device that was legally marketed prior to May 28, 1976 (pre-amendments device) and for which a PMA is not required, a device that has been reclassified from Class III to Class II or I, or a device that was found substantially equivalent through the 510(k) process. To be "substantially equivalent," the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data is sometimes required to support substantial equivalence. The FDA's 510(k) clearance pathway usually takes from three to 12 months from the date the notification is submitted, but it can take considerably longer, depending on the

extent of FDA's requests for additional information and the amount of time a sponsor takes to fulfill them. After a 510(k) is submitted, the FDA determines whether to accept it for substantive review. If it lacks necessary information for substantive review, the FDA will refuse to accept the 510(k) submission. If it is accepted for filing, the FDA begins a substantive review. By statute, the FDA is required to complete its review of a 510(k) premarket notification within 90 days of receiving the 510(k) submission. As a practical matter, clearance often takes longer, and clearance is never assured.

Although many 510(k) premarket notifications are cleared without clinical data, the FDA may require further information, including clinical data, to make a determination regarding substantial equivalence, which may significantly prolong the review process. If the FDA agrees that the device is substantially equivalent to a predicate device, it will grant clearance to commercially market the device. If the FDA determines that the device is not "substantially equivalent" to a predicate device, or if the device is automatically classified into Class III, the device sponsor must then fulfill the much more rigorous premarketing requirements of the PMA approval process, or seek reclassification of the device through the *de novo* process.

After a device receives 510(k) clearance, any modification, including modification to or deviation from design, manufacturing processes, materials, packaging and sterilization that could significantly affect its safety or effectiveness, or that would constitute a new or major change in its intended use, may require a new 510(k) clearance or, depending on the modification, could require a PMA application. The FDA requires each manufacturer to make this determination initially, but the FDA can review any such decision and can disagree with a manufacturer's determination. If the FDA requires a new 510(k) clearance or approval of a PMA application for any modifications to a previously cleared product, the applicant may be required to cease marketing or recall the modified device until clearance or approval is received. In addition, in these circumstances, the FDA can impose significant regulatory fines or penalties for failure to submit the requisite 510(k) or PMA application(s).

Medical device types that the FDA has not previously classified as Class I, II, or III are automatically classified into Class III regardless of the level of risk they pose. The Food and Drug Administration Modernization Act of 1997 established a new route to market for low to moderate risk medical devices that are automatically placed into Class III due to the absence of a predicate device, called the "Request for Evaluation of Automatic Class III Designation," or the *de novo* classification procedure.

The *de novo* classification procedure allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA application. Prior to the enactment of the Food and Drug Administration Safety and Innovation Act of 2012, or FDASIA, a medical device could only be eligible for *de novo* classification if the manufacturer first submitted a 510(k) premarket notification and received a determination from the FDA that the device was not substantially equivalent. FDASIA streamlined the *de novo* classification pathway by permitting manufacturers to request *de novo* classification directly without first submitting a 510(k) premarket notification to the FDA and receiving a not substantially equivalent determination. Under FDASIA, the FDA is required to classify the device within 120 days following receipt of the *de novo* application, though in practice the process may take significantly longer. If the manufacturer seeks reclassification into Class II, the manufacturer must include a draft proposal for Special Controls that are necessary to provide a reasonable assurance of the safety and effectiveness of the medical device. In addition, the FDA may reject the reclassification petition if it identifies a legally marketed predicate device that would be appropriate for a 510(k) or determines that the device is not low to moderate risk or that General Controls would be inadequate to control the risks and Special Controls cannot be developed.

***PMA Pathway***

We must submit a PMA if a device cannot be cleared through the 510(k) clearance or *de novo* process. A PMA application must be supported by extensive data, including, but not limited to, technical information, preclinical data, clinical trial data, manufacturing data, and labeling, to demonstrate to the FDA's satisfaction the safety and efficacy of the device for its intended use.

Following receipt of a PMA application, the FDA conducts an administrative review to determine whether the application is sufficiently complete to permit a substantive review. If it is not, the agency will refuse to file the PMA. If it is, the FDA will accept the application for filing and begin the review. The FDA, by statute and by regulation, has 180 days to review a filed PMA application, although the review of an application more often occurs over a significantly longer period of time. During this review period, the FDA may request additional information or clarification of information already provided, and the FDA may issue a major deficiency letter to the applicant, requesting the applicant's response to deficiencies communicated by the FDA. The FDA considers a PMA or PMA supplement to have been voluntarily withdrawn if an applicant fails to respond to an FDA request for information (*e.g.*, major deficiency letter) within a total of 360 days. Before approving or denying a PMA, an FDA advisory panel may review the PMA at a public meeting and provide the FDA with the committee's recommendation on whether the FDA should approve the submission, approve it with specific conditions, or not approve it. The FDA is not bound by the recommendations of an advisory panel, but it considers such recommendations carefully when making decisions. Prior to approval of a PMA, the FDA may conduct a bioresearch monitoring inspection of the clinical trial data and clinical trial sites, and a QSR inspection of the manufacturing facility and processes. The FDA can delay, limit, or deny approval of a PMA application for many reasons, including:

- the device may not be shown safe or effective to the FDA's satisfaction;
- the data from preclinical studies and/or clinical trials may be found unreliable or insufficient to support approval;
- the manufacturing process or facilities may not meet applicable requirements; and
- changes in FDA approval policies or adoption of new regulations may require additional data.

If the FDA evaluation of a PMA is favorable, the FDA will issue either an approval letter, or an approvable letter, the latter of which usually contains a number of conditions that must be met in order to secure final approval of the PMA. When and if those conditions have been fulfilled to the satisfaction of the FDA, the agency will issue a PMA approval letter authorizing commercial marketing of the device, subject to the conditions of approval and the limitations established in the approval letter. If the FDA's evaluation of a PMA application or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. The FDA also may determine that additional tests or clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and data are submitted in an amendment to the PMA, or the PMA is withdrawn and resubmitted when the data are available. The PMA process can be expensive, uncertain, and lengthy and a number of devices for which the FDA approval has been sought by other companies have never been approved by the FDA for marketing.

New PMA applications or PMA supplements may be required for modifications to the manufacturing process, equipment or facility, quality control procedures, sterilization, packaging, expiration date, labeling, device specifications, components, materials or design of a device that has been approved through the PMA process. PMA supplements often require submission of the same type of information as an initial PMA application, except that the supplement is limited to information needed to support any changes from the device covered by the approved PMA application and may or may not require as

extensive technical or clinical data or the convening of an advisory panel, depending on the nature of the proposed change.

In approving a PMA application, as a condition of approval, the FDA may also require some form of postmarket studies or postmarket surveillance, whereby the applicant follows certain patient groups for a number of years and makes periodic reports to the FDA on the clinical status of those patients when necessary to protect the public health or to provide additional or longer term safety and effectiveness data for the device. The FDA may require postmarket surveillance for certain devices approved under a PMA or cleared under a 510(k) notification, such as implants or life-supporting or life-sustaining devices used outside a device user facility, devices where the failure of which would be reasonably likely to have serious adverse health consequences, or devices expected to have significant use in pediatric populations. The FDA may also approve a PMA application with other post-approval conditions intended to ensure the safety and effectiveness of the device, such as, among other things, restrictions on labeling, promotion, sale, distribution, and use.

*Clinical Trials*

Clinical trials are almost always required to support a PMA and are sometimes required for a 510(k) premarket notification. In the United States, these trials often require submission of an application for an IDE if the investigation involves a significant risk device. Some types of studies deemed to present "non-significant risk" are deemed to have an approved IDE—without affirmative submission of an IDE application to the FDA—once certain requirements are addressed and IRB approval is obtained. The IDE application must be supported by appropriate data, such as animal and laboratory testing results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE must be approved in advance by the FDA for a specified number of patients, unless the product candidate is deemed a non-significant risk device and is eligible for more abbreviated IDE requirements. Clinical trials for a significant risk device may begin once the IDE application is approved by the FDA and appropriate IRBs at the clinical trial sites. Submission of an IDE will not necessarily result in the ability to commence clinical trials, and although the FDA's approval of an IDE allows clinical testing to go forward for a specified number of subjects, it does not bind the FDA to accept the results of the trial as sufficient to prove the product's safety and efficacy, even if the trial meets its intended success criteria.

Future clinical trials involving our product candidates will most likely require that we obtain an IDE from the FDA prior to commencing clinical trials and that the trial be conducted under the oversight of IRBs at the clinical trial sites. All clinical trials must be conducted in accordance with the FDA's IDE regulations that govern investigational device labeling, prohibit promotion, and specify an array of recordkeeping, reporting and monitoring responsibilities of study sponsors and study investigators. Clinical trials must further comply with the FDA's GCP requirements for IRB approval and for informed consent and other human subject protections. Required records and reports are subject to inspection by the FDA. The results of clinical testing may be unfavorable, or, even if the intended safety and efficacy success criteria are achieved, may not be considered sufficient for the FDA to grant marketing approval or clearance of a product candidate.

*Breakthrough Device Designation*

The Breakthrough Devices Program is a voluntary program intended to expedite the review, development, assessment and review of certain medical devices that provide for more effective treatment or diagnosis of life-threatening or irreversibly debilitating human diseases or conditions for which no approved or cleared treatment exists or that offer significant advantages over existing approved or cleared alternatives. For Breakthrough Devices, the FDA intends to provide interactive and timely communication with the sponsor during device development and throughout the review process. FDA also intends to assign staff to be available within a reasonable time to address questions by institutional review committees concerning the conditions and clinical testing expectations applicable to the

investigational use of a Breakthrough Device. In addition, all submissions for devices designated as Breakthrough Devices will receive priority review, meaning that the review of the submission is placed at the top of the appropriate review queue and receives additional review resources, as needed.

*Postmarket Requirements—U.S.*

After the FDA permits a device to enter commercial distribution, numerous regulatory requirements continue to apply. These include:

- Establishment registration and device listing with the FDA;
- The FDA's QSR, which requires manufacturers, including third-party manufacturers, to follow stringent design, testing, production, control, supplier/contractor selection, complaint handling, documentation and other quality assurance procedures during all aspects of the manufacturing process;
- Labeling regulations, unique device identification requirements and FDA prohibitions against the promotion of products for uncleared, unapproved or off-label uses;
- Advertising and promotion requirements;
- Restrictions on sale, distribution or use of a device;
- PMA annual reporting requirements;
- PMA approval or clearance of a 510(k) for product modifications;
- Medical device reporting, or MDR, regulations, which require that manufacturers report to the FDA if their device may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur;
- Medical device correction and removal reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FD&C Act that may present a risk to health;
- Recall requirements, including a mandatory recall if there is a reasonable probability that the device would cause serious adverse health consequences or death;
- An order of repair, replacement or refund;
- Device tracking requirements; and
- Post-market surveillance regulations, which apply when necessary to protect the public health or to provide additional safety and effectiveness data for the device.

Additionally, once devices are commercialized, manufacturers are subject to unannounced inspections by the FDA to determine compliance with the QSR, which cover the methods and the facilities and controls for the design, manufacture, testing, production, processes, controls, quality assurance, labeling, packaging, distribution, installation and servicing of finished devices intended for human use. The QSR also requires, among other things, maintenance of a device master file, device history file, and complaint files. Manufacturers are subject to periodic scheduled or unscheduled inspections by the FDA. A failure to maintain compliance with the QSR requirements could result in the shut-down of, or restrictions on, manufacturing operations and the recall or seizure of products. The discovery of previously unknown problems with products, including unanticipated adverse events or adverse events of increasing severity or frequency, whether resulting from the use of the device within the scope of its clearance or approval or off-label by a physician in the practice of medicine, could result in restrictions on the device, including the removal of the product from the market or voluntary or mandatory device recalls. In addition, the

FDA can issue warning letters or untitled letters, impose injunctions, suspend regulatory clearance or approvals, ban certain medical devices, detain or seize adulterated or misbranded medical devices, order repair, replacement or refund of these devices, and require notification of health professionals and others with regard to medical devices that present unreasonable risks of substantial harm to the public health. The FDA may also initiate action for criminal prosecution of such violations.

There are also certain requirements of state, local, and foreign governments that must be complied with in the manufacturing and marketing of our products once we have the appropriate marketing approvals. We maintain customer complaint files, record all lot numbers of disposable products, and conduct periodic audits to assure compliance with applicable regulations. We will place special emphasis on customer training and advise all customers that device operation should be undertaken only by qualified personnel. In addition to laws and regulations in the United States, we are subject to a variety of laws and regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our product candidates.

*Postmarket Requirements—EU*

The regulatory review process varies from country to country and may in some cases require the submission of clinical data. Our international sales will be subject to regulatory requirements in the countries in which our product candidates are sold. These regulations will be significantly modified in the next couple of years. For example, in May 2017, the EU Medical Devices Regulation (Regulation 2017/745) was adopted. The EU Medical Devices Regulation, or EU MDR, repeals and replaces the EU Medical Devices Directive. The EU MDR, among other things, is intended to establish a uniform, transparent, predictable, and sustainable regulatory framework across the EEA for medical devices and ensure a high level of safety and health while supporting innovation. The EU MDR will however only become applicable three years after publication (in May 2020). Once applicable, the new regulations will among other things:

- strengthen the rules on placing devices on the market and reinforce surveillance once they are available;
- establish explicit provisions on manufacturers' responsibilities;
- improve the traceability of medical devices;
- set up a central database to provide comprehensive information on products available in the EU; and
- strengthen rules for the assessment of certain high-risk devices before they are placed on the market.

In the meantime, the current EU Medical Devices Directive continues to apply.

***Drug and Biologics Regulation***

*Premarket Requirements—U.S.*

Generally, a new drug may be marketed in the United States only if FDA has approved a NDA containing substantial evidence that the new drug is safe and effective for its intended use. A new biologic may generally only be marketed in the United States if FDA has approved a BLA containing substantial evidence that the biologic is safe, pure, and potent for its intended use. The results of preclinical studies and clinical trials, along with information regarding the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA/BLA, and FDA review and approval of the NDA/BLA is necessary prior to any commercial marketing or sale of a drug or biologic in the United States.

The process generally required by the FDA before a biologic or drug product candidate may be marketed in the United States involves the following:

- completion of preclinical laboratory tests and animal studies performed in accordance with the FDA's Good Laboratory Practice, or GLP, requirements, the Animal Welfare Act, and other laws and regulations, as applicable;
- submission to the FDA of an IND which must become effective before human clinical trials may begin and must be updated at least once annually;
- approval by an IRB, or ethics committee at each clinical site before the trial is initiated;
- performance of adequate and well-controlled clinical trials in accordance with the FDA's GCP requirements and other applicable regulations to establish the safety, purity and potency of the proposed biologic, and the safety and efficacy of the proposed drug for each indication;
- preparation of and submission to the FDA of a BLA or NDA after successful completion of all pivotal clinical trials;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of an NDA or BLA to file the application for substantive review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product candidate is produced to assess cGMP and to assure that the facilities, methods and controls are adequate for manufacturing of the drug or biologic according to its specifications; and
- FDA review and approval of the BLA or NDA prior to any commercial marketing or sale of the biologic or drug product in the United States.

*Preclinical Testing*

Before testing any compound or biologic in human subjects in the United States, we must generate extensive preclinical data. Preclinical testing generally includes laboratory evaluation of product chemistry and formulation, as well as toxicological and pharmacological studies in several animal species to assess the quality and safety of the product candidate. Certain animal studies must be performed in compliance with the FDA's GLP regulations and the U.S. Department of Agriculture's Animal Welfare Act.

*IND Submission*

Human clinical trials for drugs or biologics in the United States cannot commence until an IND is submitted and becomes effective. A company must submit preclinical testing results, together with manufacturing information and analytical data, to the FDA as part of the IND, and the FDA must evaluate whether there is an adequate basis for testing the drug in initial clinical studies in human volunteers. The sponsor will also include a protocol detailing, among other things, the objectives of the initial clinical trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated, if the initial clinical trial lends itself to an efficacy evaluation. Some preclinical testing may continue even after the IND is submitted. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to the proposed clinical studies. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before clinical studies can begin. Once human clinical trials have commenced, the FDA may stop the clinical trials by placing them on "clinical hold" because of concerns about the safety of the product candidate being tested, or for other reasons.

*Clinical Trials*

Clinical trials involve the administration of the drug to healthy human volunteers or to patients, under the supervision of a qualified investigator. The conduct of clinical trials is subject to extensive regulation, including compliance with the FDA's bioresearch monitoring regulations and GCP requirements, which establish standards for conducting, recording data from, and reporting the results of, clinical trials, and are intended to assure that the data and reported results are credible and accurate, and that the rights, safety, and well-being of study participants are protected. Clinical trials must be conducted under protocols that detail the study objectives, parameters for monitoring safety, and the efficacy criteria, if any, to be evaluated. Each protocol is reviewed by the FDA as part of the IND. In addition, each clinical trial must be reviewed and approved by, and conducted under the auspices of an IRB. Companies sponsoring the clinical trials, investigators, and IRBs also must comply with, as applicable, regulations and guidelines for obtaining informed consent from the study subjects, following the protocol and investigational plan, adequately monitoring the clinical trial, and timely reporting of adverse events. Foreign studies conducted under an IND must meet the same requirements that apply to studies being conducted in the United States. Data from a foreign study not conducted under an IND may be submitted in support of an NDA or BLA if the study was conducted in accordance with GCP requirements and the FDA is able to validate the data.

A study sponsor is required to publicly post certain details about clinical trials and clinical trial results on government or independent websites (such as http://clinicaltrials.gov). Human clinical trials typically are conducted in three or four sequential phases, although the phases may overlap with one another:

- Phase 1 clinical trials include the initial administration of the investigational drug or biologic to humans, typically to a small group of healthy human subjects, but occasionally to a group of patients with the targeted disease or disorder. Phase 1 clinical trials generally are intended to determine the metabolism and pharmacologic actions of the drug or biologic, the side effects associated with increasing doses, and, if possible, to gain early evidence of effectiveness.
- Phase 2 clinical trials generally are controlled studies that involve a relatively small sample of the intended patient population, and are designed to develop data regarding the product candidate's effectiveness, to determine dose response and the optimal dose range, and to gather additional information relating to safety and potential adverse effects.
- Phase 3 clinical trials are conducted after preliminary evidence of effectiveness has been obtained, and are intended to gather the additional information about safety and effectiveness necessary to evaluate the drug's overall risk-benefit profile for a particular use, and to provide a basis for physician labeling. Generally, Phase 3 clinical development programs consist of expanded, large-scale studies of patients with the target disease or disorder to obtain statistical evidence of the efficacy and safety of the drug at the proposed dosing regimen, or the safety, purity, and potency of a biological product candidate.
- Phase 4 clinical trials may be conducted in some cases, including where the FDA conditions approval of an NDA or BLA for a product candidate on the sponsor's agreement to conduct additional clinical studies after approval. In other cases, a sponsor may voluntarily conduct additional clinical studies after approval to gain more information about the product candidate. Such post-approval studies are typically referred to as Phase 4 clinical trials.

A pivotal trial is a clinical study that is designed to generate substantial evidence of product candidate's safety and efficacy to meet regulatory agency requirements and serve as the basis for approval of the product candidate. Generally, pivotal trials are Phase 3 trials, but the FDA may accept results from Phase 2 trials if the trial design provides a well-controlled and reliable assessment of clinical benefit, particularly in situations where there is an unmet medical need and the results are sufficiently robust.

The sponsoring company, the FDA, or the IRB may suspend or terminate a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk. Further, success in early-stage clinical trials does not assure success in later-stage clinical trials. Data obtained from clinical activities are not always conclusive and may be subject to alternative interpretations that could delay, limit, or prevent regulatory approval. Additionally, some clinical studies are overseen by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board or data monitoring committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access to certain data from the trial. We may also suspend or terminate a clinical study based on safety or efficacy concerns, evolving business objectives and/or competitive climate.

During the development of a new drug or biologic, sponsors may seek opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA or BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach agreement on the next phase of development. For example, sponsors typically use the meetings at the end of the Phase 2 trial to discuss Phase 2 clinical results and present plans for the pivotal Phase 3 clinical trial that they believe will support approval of the new drug or biologic.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality, and purity of the final drug. In addition, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life. While the IND is active and before approval, progress reports summarizing the results of the clinical trials and nonclinical studies performed since the last progress report must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar drugs, findings from animal or *in vitro* testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction compared to that listed in the protocol or investigator brochure.

There are also requirements governing the reporting of ongoing clinical trials and completed trial results to public registries. Sponsors of certain clinical trials of FDA regulated products are required to register and disclose specified clinical trial information, which is publicly available at www.clinicaltrials.gov. Information related to the product, patient population, phase of investigation, trial sites and investigators and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to disclose certain results of their clinical trials after completion.

***NDA/BLA Submission and Review***

After completing clinical testing of an investigational drug or biologic, a sponsor must prepare and submit an NDA or BLA for review and approval by the FDA. The NDA is a comprehensive, multi-volume application that includes, among other things, the results of preclinical and clinical studies, information about the drug's composition, and plans for manufacturing, packaging, and labeling the drug. For certain product candidates, such as immunotherapeutic antibodies, this information is submitted in a BLA. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of the product candidate, or from a number of alternative sources, including

studies initiated by investigators. Under federal law, the submission of most NDAs and BLAs is subject to an application user fee, and the sponsor of an approved NDA or BLA is also subject to annual prescription drug program fees. These fees are typically increased annually. A waiver of user fees may be obtained under certain limited circumstances.

When an NDA or BLA is submitted, the FDA conducts a preliminary review to determine whether the application is sufficiently complete to be accepted for filing. If it is not, the FDA may refuse to file the application and request additional information, in which case the application must be resubmitted with the supplemental information, and review of the application is delayed.

FDA performance goals generally provide for action on a standard NDA or an original BLA submission within 10 months of the 60-day filing date, but that goal may be extended in certain circumstances. Moreover, the review process is often significantly extended by FDA requests for additional information or clarification. Before approving a BLA or NDA, the FDA typically will inspect the facility or facilities at which the product candidate is manufactured. The FDA will not approve the application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product candidate within required specifications. Additionally, before approving a BLA or NDA, the FDA will typically inspect one or more clinical sites or investigators to assure compliance with GCP requirements. If the FDA determines that the application, clinical data, manufacturing process, or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

As part of its review, the FDA may refer an NDA or BLA to an advisory committee for evaluation and a recommendation as to whether the application should be approved. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. Although the FDA is not bound by the recommendation of an advisory committee, the agency carefully considers such recommendations when making decisions. The FDA may also determine that a REMS is necessary to ensure that the benefits of a new product candidate outweigh its risks, and the product candidate can therefore be approved. A REMS may include various elements, ranging from medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools, depending on what the FDA considers necessary for the safe use of the drug.

After review of an NDA or BLA, the FDA may decide to not approve the application and issue a Complete Response letter outlining the deficiencies in the submission. The Complete Response letter also may request additional information, including additional preclinical or clinical data. Even if such additional information and data are submitted, the FDA may decide that the NDA or BLA still does not meet the standards for approval. Data from clinical trials are not always conclusive and the FDA may interpret data differently than the sponsor. Obtaining regulatory approval often takes a number of years, involves the expenditure of substantial resources, and depends on a number of factors, including the severity of the disease in question, the availability of alternative treatments, and the risks and benefits demonstrated in clinical trials. Additionally, as a condition of approval, the FDA may impose restrictions that could affect the commercial success of a drug or require post-approval commitments, including the completion within a specified time period of additional Phase 4 clinical studies.

In addition, the Pediatric Research Equity Act, or PREA, requires a sponsor to conduct pediatric clinical trials for most drugs and biologics, including for a new active ingredient, new indication, new dosage form, new dosing regimen, or new route of administration. Under PREA, original NDAs, BLAs, and supplements thereto must contain a pediatric assessment unless the sponsor has received a deferral or

waiver. The required assessment must evaluate the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The sponsor or FDA may request a deferral of pediatric clinical trials for some or all of the pediatric subpopulations. A deferral may be granted for several reasons, including a finding that the drug or biologic is ready for approval for use in adults before pediatric clinical trials are complete or that additional safety or effectiveness data needs to be collected before the pediatric clinical trials begin.

Post-approval modifications to the drug or biologic product candidate, such as changes in indications, labeling, or manufacturing processes or facilities, may require a sponsor to develop additional data or conduct additional preclinical or clinical trials, to be submitted in a new or supplemental NDA or BLA, which would require FDA approval.

***Expedited Development and Review Programs***

The FDA has established a number of programs intended to expedite the development and review of products intended to treat serious and life-threatening diseases or conditions. First, the FDA has a Fast Track program that is designed to expedite or facilitate the process for reviewing new drug products intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the product and the specific indication for which it is being studied. For a Fast Track-designated product, the FDA may consider for review sections of the NDA or BLA on a rolling basis before the complete application is submitted.

A product, including a product with a Fast Track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis, or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug designated for priority review in an effort to facilitate the review. The FDA endeavors to review applications with priority review designations within six months of the filing date as compared to ten months for review of original BLAs and new molecular entity NDAs under its standard review goals.

In addition, a product may be eligible for accelerated approval. Drug and biologic products intended to treat serious or life-threatening diseases or conditions may be eligible for accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality but that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform confirmatory clinical trials after approval. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Fast Track designation, priority review, and accelerated approval do not change the standards for approval but may expedite the development or approval process.

The FDA also designates certain products as “breakthrough therapies,” if the product is intended, alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. This designation includes all of the Fast Track

program features, as well as more intensive FDA interaction and guidance. The Breakthrough Therapy Designation is a distinct status from both accelerated approval and priority review, which can also be granted to the same drug if relevant criteria are met. All requests for breakthrough therapy designation will be reviewed within 60 days of receipt, and the FDA will either grant or deny the request.

Fast track designation, priority review, accelerated approval, and breakthrough therapy designation do not change the standards for approval and may not result in fast or more efficient review.

***Hatch-Waxman Act***

The Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, establishes two abbreviated approval pathways for pharmaceutical products that are in some way follow-on or bioequivalent versions of drugs approved through the NDA process.

*Generic Drugs*

A generic version of an approved drug is approved by means of an abbreviated new drug application, or ANDA. An ANDA is a comprehensive submission that contains, among other things, data, and information pertaining to the active pharmaceutical ingredient, drug product formulation, specifications and stability of the generic drug, as well as analytical methods, manufacturing process validation data and quality control procedures. Premarket applications for generic drugs are termed abbreviated because they generally do not include preclinical and clinical data to demonstrate safety and effectiveness. Instead, a generic applicant must demonstrate that its product performs in the same manner as, or is bioequivalent to, the innovator drug, also referred to as a reference listed drug, or RLD. In certain situations, an applicant may obtain ANDA approval of a generic product with a strength or dosage form that differs from a referenced innovator drug pursuant to the filing and approval of an ANDA Suitability Petition. The FDA will approve the generic product as suitable for an ANDA application if it finds that the generic product does not raise new questions of safety and effectiveness as compared to the innovator product. A product is not eligible for ANDA approval if the FDA determines that it is not bioequivalent to the referenced innovator drug, if it is intended for a different use, or if it is not subject to an approved Suitability Petition. However, such a product might be approved under an NDA, with supportive data from clinical trials.

*505(b)(2) NDAs*

Section 505(b)(2) of the FD&C Act provides an alternate regulatory pathway to obtain FDA approval for product candidates that represent modifications to formulations or uses of previously approved drug products. Specifically, Section 505(b)(2) permits the filing of an NDA where at least some of the information required for approval comes from studies not conducted by or for the applicant and for which the applicant has not obtained a right of reference. The applicant may rely to some extent upon the FDA's findings of safety and effectiveness for an approved product that acts as the RLD and submit its own product-specific data—which may include data from preclinical studies or clinical trials conducted by or on behalf of the applicant—to address differences between the product candidate and the RLD. Unlike an ANDA, this does not excuse the sponsor from demonstrating the proposed product candidate's safety and effectiveness. Rather, the sponsor is permitted to rely to some degree on the FDA's finding that the RLD is safe and effective, and must submit its own product candidate-specific data of safety and effectiveness to an extent necessary because of the differences between the products. An NDA approved under Section 505(b)(2) may in turn serve as an RLD for subsequent applications from other sponsors.

*RLD Patents*

In seeking approval for a drug through an NDA, including a 505(b)(2) NDA, applicants are required to list with the FDA certain patents whose claims cover the applicant's product. Upon approval of an NDA,

each of the patents listed in the application for the drug is then published in the FDA publication, *Approved Drug Products with Therapeutic Equivalence Evaluations*, which is referred to as the *Orange Book*. Any applicant who files an ANDA seeking approval of a generic equivalent version of a drug listed in the Orange Book or a 505(b)(2) NDA referencing a drug listed in the Orange Book must certify to the FDA that (1) no patent information on the drug product that is the subject of the application has been submitted to the FDA; (2) such patent has expired; (3) the date on which such patent expires; or (4) such patent is invalid or will not be infringed upon by the manufacture, use or sale of the drug product for which the application is submitted. This last certification is known as a paragraph IV certification. A notice of the paragraph IV certification must be provided to each owner of the patent that is the subject of the certification and to the holder of the approved NDA to which the ANDA or 505(b)(2) application refers. The applicant may also elect to submit a "section viii" statement certifying that its proposed label does not contain (or carves out) any language regarding the patented method-of-use rather than certify to a listed method-of-use patent. If the reference NDA holder and patent owners assert a patent challenge directed to one of the Orange Book listed patents within 45 days of the receipt of the paragraph IV certification notice, the FDA is prohibited from approving the application until the earlier of 30 months from the receipt of the paragraph IV certification expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the applicant. The ANDA or 505(b)(2) application also will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the branded reference drug has expired as described in further detail below.

*Regulatory Exclusivities*

The Hatch-Waxman Act provides periods of regulatory exclusivity for products that would serve as RLDs for an ANDA or 505(b)(2) application. For example, a pharmaceutical manufacturer may obtain five years of non-patent exclusivity upon NDA approval of a "new chemical entity," or NCE—which is a drug that contains an active moiety that has not been approved by the FDA in any other NDA. An "active moiety" is defined as the molecule or ion responsible for the drug substance's physiological or pharmacologic action. During this five year exclusivity period, the FDA may not accept for filing any ANDA seeking approval of a generic version of that drug or any 505(b)(2) application for a drug with the same active moiety. An ANDA or 505(b)(2) application may be submitted after four years, however, if the sponsor of the application makes a Paragraph IV certification.

A product that is not an NCE, including a product approved through a 505(b)(2) NDA, may qualify for a three-year period of exclusivity if the NDA contains new clinical data, derived from studies conducted by or for the sponsor (other than bioavailability or bioequivalence studies), that were essential for approval. In that instance, the exclusivity period does not preclude filing or review of the ANDA or 505(b)(2) application; rather, the FDA is precluded from granting final approval to the ANDA or 505(b)(2) application until three years after approval of the RLD. Additionally, the exclusivity applies only to the conditions of approval that required submission of the clinical data. For example, if an NDA is submitted for a product candidate that is not an NCE, but that seeks approval for a new indication, and clinical data were required to demonstrate the safety or effectiveness of the product candidate for that new application, the FDA could not approve an ANDA or 505(b)(2) application for another product candidate with that active moiety for that use.

*Other Exclusivities*

Pediatric Exclusivity. Section 505A of the FD&C Act provides for six months of additional exclusivity or patent protection if an NDA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show that the product is effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity or *Orange Book* listed patent protection that cover the drug are extended by six months. This is not a

patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve an ANDA or 505(b)(2) application owing to regulatory exclusivity or listed patents. If and when any drug or biologic product candidate is approved, we will evaluate seeking pediatric exclusivity as appropriate.

Orphan Drug Exclusivity. Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States or, if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making a drug or biologic product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan designation must be requested before submitting an NDA or BLA. After the FDA grants orphan designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity or inability to manufacture the product in sufficient quantities. The orphan designation of such drug or biologic also entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user fee waivers. However, competitors, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan exclusivity also could block the approval of one of our product candidates for seven years if a competitor obtains approval of the same drug or biologic as defined by the FDA or if our product candidate is determined to be contained within the scope of the orphan exclusivity of the competitor’s product for the same indication or disease. Orphan drug status in the European Union has similar but not identical benefits in that jurisdiction.

***The Biologics Price Competition and Innovation Act***

The ACA includes a subtitle called the Biologics Price Competition and Innovation Act, which authorizes the FDA to license a biological product candidate that is biosimilar to or interchangeable with an FDA-licensed biologic through an abbreviated pathway. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. Complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being addressed by the FDA.

The BPCIA establishes criteria for determining that a product candidate is biosimilar to an already-licensed biologic, or reference product, and establishes a process by which a BLA for a biosimilar product candidate is submitted, reviewed, and licensed. The BPCIA provides periods of exclusivity that protect a reference product from biosimilars competition. Under the BPCIA, the FDA may not accept a biosimilar application for review until four years after the date of first licensure of the reference product, and the

biosimilar may not be licensed until at least 12 years after the reference product's approval. During this twelve year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well controlled clinical trials to demonstrate the safety, purity, and potency of their product.

Additionally, the BPCIA establishes procedures by which the biosimilar applicant provides information about its application and product candidate to the reference product sponsor, and by which information about potentially relevant patents may be shared and litigation over patents may proceed in advance of approval. The timing of final FDA approval of a biosimilar for commercial distribution depends on a variety of factors, including whether the manufacturer of the reference product is entitled to one or more statutory exclusivity periods, during which time the FDA is prohibited from approving any product candidates that are biosimilar to the branded product. The BPCIA also provides a period of exclusivity for the first biosimilar determined by the FDA to be interchangeable with the reference product. To date, the FDA has not approved an interchangeable biosimilar product, and at this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, as these substitution practices are governed by state pharmacy law.

The contours of the BPCIA continue to be defined as the statute is implemented over a period of years. This likely will be accomplished by a variety of means, including decisions related to the statute by the relevant federal courts. The FDA has to date issued various guidance documents and other materials indicating the agency's thinking regarding a number of issues implicated by the BPCIA. Additionally, the FDA's approval of a number of biosimilar applications in recent years has helped define the agency's approach to certain issues. However, the ultimate impact, implementation, and meaning of the BPCIA remains subject to significant uncertainty.

***Post-Approval Regulation of Drug and Biologic Products***

Once a drug or biologic is approved, it and its manufacturer will be subject to continuing regulation by the FDA. If ongoing regulatory requirements are not met or if safety problems occur after a product reaches the market, the FDA may at any time withdraw product approval or take actions that would limit or suspend marketing. Additionally, the FDA may require post-marketing studies or clinical trials if new safety information develops.

Once we are engaged in manufacturing approved drug or biologic products or their components, we must comply with applicable cGMP requirements and product-specific regulations enforced by the FDA and other regulatory agencies. Compliance with cGMP includes adhering to requirements relating to organization and training of personnel, buildings and facilities, equipment, control of components and drug product containers and closures, production and process controls, quality control and quality assurance, packaging and labeling controls, holding and distribution, laboratory controls, and records and reports. The FDA regulates and inspects equipment, facilities, and processes used in manufacturing pharmaceutical or biologic products prior to approval. If, after receiving approval, a company makes a material change in manufacturing equipment, location, or process (all of which are, to some degree, incorporated in the NDA or BLA), additional regulatory review and approval may be required. The FDA also conducts regular, periodic visits to re-inspect equipment, facilities, and processes following the initial approval of a product. Failure to comply with applicable cGMP requirements and conditions of product approval may lead the FDA to seek sanctions, including fines, civil penalties, injunctions, suspension of manufacturing operations, operating restrictions, withdrawal of FDA approval, seizure, or recall of products, and criminal prosecution.

The FDA and other federal regulatory agencies closely regulate the marketing and promotion of drugs and biologics through, among other things, standards and regulations for direct-to-consumer advertising,

advertising and promotion to healthcare professionals, communications regarding unapproved uses, industry-sponsored scientific and educational activities, and promotional activities involving the Internet. A product candidate cannot be promoted as safe or effective for any use before it is approved. After approval, product promotion can include only those claims relating to safety and effectiveness that are consistent with the labeling approved by the FDA. Healthcare providers are permitted to prescribe drugs and biologics for "off-label" uses—that is, uses not approved by the FDA and therefore not described in the product's labeling—because the FDA does not regulate the practice of medicine. However, FDA regulations impose stringent restrictions on manufacturers' communications regarding off-label uses. Broadly speaking, a manufacturer may not promote a drug or biologic for off-label use, but under certain conditions may engage in non-promotional, balanced, scientific communication regarding off-label uses. Failure to comply with applicable FDA requirements and restrictions in this area may subject a company to adverse publicity and enforcement action by the FDA, the DOJ, or the HHS Office of Inspector General, or OIG, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug or biological products.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- adverse publicity, fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

*Other Requirements*

In addition, if we hold approved NDAs or BLAs and/or manufacture or distribute drug or biological products, we must comply with other regulatory requirements, including registration and listing, submitting annual reports, reporting information about adverse drug experiences, and maintaining certain records. Similar, and in some cases additional, requirements exist in other countries, including the EU.

*EU Requirements*

We must obtain the requisite marketing authorizations from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of a product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application, or CTA, much like an IND, prior to the commencement of clinical trials. In the EU, for example, a CTA must be submitted to the national health authority of each EU Member State in which the clinical trial is to be conducted and to an independent ethics committee, much like the FDA and an IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed.

The requirements and process governing the conduct of clinical trials, product licensing, pricing, and reimbursement vary from country to country. In all cases in EU Member States, for example, the clinical

trials must be conducted in accordance with GCP requirements, applicable regulatory requirements, and ethical principles that have their origin in the Declaration of Helsinki. Other EU requirements include regulations concerning marketing authorizations, pricing and reimbursement, patient rights in cross-border healthcare, advertising, and promotion, interactions with physicians, bribery, and corruption.

For other countries outside of the EU, such as countries in Eastern Europe, Central and South America, or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing, and reimbursement vary from country to country. In all cases, again, the clinical trials are conducted in accordance with GCP requirements, applicable regulatory requirements, and ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, warning letters or untitled letters, injunctions, civil, administrative, or criminal penalties, monetary fines or imprisonment, suspension or withdrawal of regulatory approvals, suspension of ongoing clinical studies, refusal to approve pending applications or supplements to applications filed by us, suspension or the imposition of restrictions on operations, product recalls, the refusal to permit the import or export of our products or the seizure or detention of products.

***Combination Products***

A combination product is the combination of two or more regulated components, i.e., drug/device, biologic/device, drug/biologic, or drug/device/biologic, that are combined or mixed and produced as a single entity; packaged together in a single package or as a unit; or a drug, device, or biological product packaged separately that according to its investigational plan or proposed labeling is intended for use only with an approved individually specified drug, device, or biological product where both are required to achieve the intended use, indication, or effect.

To determine which the FDA center or centers will review a combination product candidate submission, companies may submit a request for assignment to the FDA. Those requests may be handled formally or informally. In some cases, jurisdiction may be determined informally based on FDA experience with similar products. However, informal jurisdictional determinations are not binding on the FDA. Companies also may submit a formal Request for Designation to the FDA Office of Combination Products. The Office of Combination Products will review the request and make its jurisdictional determination within 60 days of receiving a Request for Designation.

FDA will determine which center or centers within the FDA will review the product candidate and under what legal authority the product candidate will be reviewed. Depending on how the FDA views the product candidates that are developed, the FDA may have aspects of the product candidate reviewed by the FDA's Center for Biologics Evaluation and Research, Center for Devices and Radiological Health and Center for Drug Evaluation and Research, though one center will be designated as the center with primary jurisdiction, based on the product candidate's primary mode of action. The FDA determines the primary mode of action based on the single mode of action that provides the most important therapeutic action of the combination product candidate—the mode of action expected to make the greatest contribution to the overall intended therapeutic effects of the combination product candidate. The review of such combination product candidates is often complex and time consuming, as the FDA may select the combination product candidate to be reviewed and regulated by one or multiple of the FDA centers identified above, which could affect the path to regulatory clearance or approval. Furthermore, the FDA may also require submission of separate applications to multiple centers.

We are developing certain product candidates, that are subject to regulation in the United States as combination products. We believe that the primary mode of action of these candidates is the drug or biologic component. We expect to seek approval for these candidates through submission of a BLA for

biologic candidates and through submission of a NDA submitted under Section 505(b)(2) of the FD&C Act for small molecule candidates. Based on a pre-IND meeting, we do not expect that the FDA will require a separate marketing authorization for each constituent of these product candidates.

The post-market requirements that apply to the cleared or approved product will largely be aligned with the agency center determined to have primary jurisdiction over the product candidate and that provided marketing authorization, but manufacturers must also comply with certain post-market requirements with respect to the constituent parts of combination products. In April 2019, FDA published a final guidance document entitled Compliance Policy for Combination Product Postmarketing Safety Reporting, which is intended to assist manufacturers of combination products comply with reporting requirements applicable to such products. In December 2019, FDA issued two additional draft guidance documents that are intended to clarify how sponsors of combination products can: (1) establish the scientific relevance of information from another development program to support an application for FDA approval of a combination product, and (2) obtain feedback from FDA on scientific and regulatory questions pertaining to the combination product.

After issuing marketing authorizations, the FDA has discretion in determining post-approval compliance requirements for combination products and could thus require compliance with certain cGMP requirements as well as QSR requirements for device components of a combination product. Other post-market requirements analogous to those described above for medical devices and drugs/biologics will also apply, depending on the application type and center overseeing regulation of the combination product, including:

- Post-market adverse event and Medical Device Reporting requirements;
- Labeling regulations and FDA prohibitions against the promotion of products for uncleared, unapproved or off-label uses;
- Advertising and promotion requirements;
- Restrictions on sale, distribution or use of the product;
- Requirements for recalls being conducted and recall reporting;
- Product tracking requirements;
- Post-market surveillance or clinical trials; and
- Other record-keeping requirements.

***HIPAA and Other Data Privacy and Security Laws***

We are subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. The regulations promulgated under HIPAA, as amended by HITECH, impose privacy, security and breach reporting obligations with respect to individually identifiable health information upon “covered entities” (health plans, healthcare clearinghouses and certain healthcare providers), and their respective “business associates,” individuals or entities that create, receive, maintain, or transmit PHI, in connection with providing a service for or on behalf of a covered entity. Under HIPAA, covered entities must also enter into agreements with their business associates, which require the business associates to protect any PHI provided by the covered entity against improper use or disclosure. HITECH also increased the civil and criminal penalties that may be imposed against covered entities and business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney’s fees and costs associated with pursuing federal civil actions. Additionally, HITECH mandates the reporting of certain breaches of health information to HHS, affected individuals, and if the breach is large enough, the media.

HITECH makes specific HIPAA privacy and security requirements directly applicable to business associates. We are both a covered entity and a business associate of our covered entity customers. Under the terms of the business associate agreements into which we have entered, we have certain obligations regarding the use and disclosure of any PHI that may be provided to us, and we could incur significant liability if we do not meet such obligations.

HHS promulgated various requirements under HIPAA with which we must comply. HHS rules define standards for electronic transactions, which establish standards for common healthcare transactions, such as claims information, plan eligibility, payment information, and the use of electronic signatures. We must also follow standards for the privacy of individually identifiable health information, which limit use and disclosure of most written and oral communications, including those in electronic form, regarding a patient's past, present or future physical or mental health or condition or disclosing healthcare provided to the individual or payment for that healthcare, if the individual may be identified from such information. In addition, HIPAA's security standards require us to ensure the confidentiality, integrity, and availability of all electronic PHI we create, receive, maintain, or transmit, to protect against reasonably anticipated threats or hazards to the security of such information and to protect such information from unauthorized use or disclosure.

There are significant civil and criminal fines and other penalties that may be imposed for violating HIPAA. A covered entity or business associate is also liable for civil money penalties for a violation that is based on an act or omission of any of its agents, which may include a downstream business associate, as determined according to the federal common law of agency. HITECH also increased the civil and criminal penalties applicable to covered entities and business associates and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorneys' fees and costs associated with pursuing federal civil actions. To the extent that we submit electronic healthcare claims and payment transactions that do not comply with the electronic data transmission standards established under HIPAA and HITECH, payments to us may be delayed or denied.

Regardless of the applicability of HIPAA or other data privacy laws or regulations, failing to take what the FTC perceives to be appropriate steps to keep consumers' personal information secure may result in the FTC bringing a claim that a company has engaged in unfair or deceptive acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 U.S.C. § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards. In addition, state consumer protection laws, which may or may not be modeled on the FTCA, may provide state-law causes of action for allegedly unfair or deceptive practices, among other things, including causes of action for alleged data privacy violations.

Moreover, various state and non-U.S. laws and regulations, such as the CCPA and GDPR, may govern the privacy and security of health information in certain circumstances. Some of these laws and regulations are more stringent than HIPAA, and many differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation.

***Healthcare Fraud and Abuse Laws***

The federal Anti-Kickback Statute, or AKS, makes it a crime for a provider or supplier, including a laboratory, to knowingly and willfully offer, pay, solicit, or receive payments, directly or indirectly, in order to induce business reimbursable under any federal healthcare program. An intentional violation of

the AKS may result in imprisonment for up to ten years and/or significant criminal fines. The U.S. government may also assess civil monetary penalties under AKS and seek to exclude the provider from participation in Medicare, Medicaid, and other federal healthcare programs.

Actions that violate the federal AKS or similar laws may also involve liability under the federal False Claims Act, or FCA, which prohibits knowingly presenting or causing to be presented a false, fictitious, or fraudulent claim for payment to the U.S. government. Although the AKS and FCA apply only to federal healthcare programs, a number of states have passed substantially equivalent laws in which similar types of prohibitions are made applicable to other, non-federal health plans and third-party payors.

Federal and state law enforcement authorities scrutinize arrangements between healthcare providers and potential referral sources to ensure that the arrangements are not designed as a mechanism to induce patient care referrals and opportunities. The law enforcement authorities, the courts, and Congress have also demonstrated a willingness to look behind the formalities of a transaction to determine the underlying purpose of payments between healthcare providers and actual or potential referral sources. Generally, courts have taken a broad interpretation of the scope of the federal AKS, holding that the statute may be violated if merely one purpose of a payment arrangement is to induce future referrals.

In December 1994 and in June 2014, the OIG issued Special Fraud Alerts on arrangements for the provision of clinical laboratory services and relationships between laboratories and referring physicians. The alerts described multiple practices allegedly employed by some clinical laboratories and healthcare providers that potentially violate federal fraud and abuse laws, including the AKS. The OIG emphasized that when a purpose of such arrangements is to induce referrals for reimbursed laboratory testing, both the clinical laboratory and the healthcare provider may be liable under the AKS, and may be subject to criminal prosecution and exclusion from participation in Medicare and Medicaid.

Recognizing that the AKS is broad and may technically prohibit innocuous or beneficial arrangements for the provision of healthcare services, HHS developed a series of regulatory “safe harbors.” These safe harbor provisions assure healthcare providers and other parties that they may not be prosecuted under the AKS, as long as all applicable requirements are met. Although full compliance with these provisions protects against prosecution under the AKS, the failure of a transaction or arrangement to fit squarely within a specific safe harbor does not necessarily mean that it is illegal or that the OIG will pursue prosecution under the AKS. While we believe we are not in violation of the AKS, we cannot provide assurance that our relationships with physicians, hospitals, and other customers will not be subject to scrutiny or will survive regulatory challenge. If imposed for any reason, sanctions under the AKS could have a negative effect on our business.

In addition to the requirements that are discussed above, there are several other healthcare fraud and abuse laws that could have an impact on our business. The federal FCA prohibits a person from knowingly submitting or causing to be submitted false claims or making a false record or statement in order to secure payment by the federal government. In addition to actions initiated by the government itself, the statute’s “whistleblower,” or “*qui tam*,” provisions authorizes actions to be brought on behalf of the federal government by a private party having knowledge of the alleged fraud, also known as a relator. Because a *qui tam* complaint is initially filed under seal, the action may be pending for some time before the defendant is even aware of the action. If the government is ultimately successful in obtaining monetary damages in the matter, or if the relator succeeds in obtaining monetary damages without the government’s involvement, the relator will receive a percentage of the recovery. Violation of the FCA may result in fines of up to three times the actual damages sustained by the government, plus significant mandatory civil penalties for each separate false claim, imprisonment, or both, and possible exclusion from government healthcare programs, including Medicare and Medicaid.

In October 2018, the Eliminating Kickbacks in Recovery Act of 2018, or EKRA, was passed as part of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act (the SUPPORT Act). The EKRA creates criminal penalties for knowingly and willfully paying, offering to pay, soliciting, or receiving any remuneration (including any kickback, bribe, or rebate), whether directly or indirectly, overtly or covertly, in cash or in kind, to induce a referral of an individual to a recovery home, clinical treatment facility, or laboratory, or in exchange for an individual using the services of that recovery home, clinical treatment facility, or laboratory, unless a specific exception applies. Unlike the federal AKS, the EKRA applies to all "health care benefit programs," including private health care programs, and is not limited to government health care programs. Most of the safe harbors available under the federal AKS are not reiterated under the EKRA's exceptions. Therefore, compliance with a federal AKS safe harbor does not guarantee protection under the EKRA. As such, the EKRA potentially expands the universe of arrangements that could be subject to enforcement under federal fraud and abuse laws. Violation of the EKRA may result in significant fines and imprisonment up to 10 years for each occurrence. Because the EKRA is a new law, there is very little additional guidance to indicate how and to what extent it will be applied and enforced by government agencies in our industry. Our relationships with physicians, sales representatives, hospitals, or customers may be subject to scrutiny under the EKRA. If imposed for any reason, sanctions under the EKRA could have a negative effect on our business.

We are also subject to a federal law commonly known as the Stark Law, which prohibits, with certain exceptions, "self-referrals," which in our case means payments made by a laboratory to a physician in exchange for the provision of clinical laboratory services, presenting or causing to be presented claims to Medicare and Medicaid for laboratory tests referred by physicians who personally, or through a family member, have an investment interest in, or a compensation arrangement with, the clinical laboratory performing the tests. A person who attempts to circumvent the Stark Law may be subject to significant fines for each arrangement or scheme that violates the statute. In addition, any person who presents or causes to be presented a claim to the Medicare or Medicaid programs in violation of the Stark Law is subject to significant civil monetary penalties on a per claim basis, plus up to three times the amount of reimbursement claimed, and possible exclusion from government healthcare programs, including Medicare and Medicaid. Claims that violate the Stark Law may not be paid by Medicare or Medicaid, and any person collecting any amounts under such claims is obligated to refund the payment. Various states have also enacted self-referral restrictions with which we have to comply and which differ from those imposed by the federal Stark Law.

While we have attempted to comply with the federal fraud and abuse laws, and similar laws of other states, some of our arrangements could be subject to regulatory scrutiny, and we cannot provide assurance that we will be found to be in compliance with these laws following regulatory review.

Further, in addition to the privacy and security regulations stated above, HIPAA created two federal crimes: (1) healthcare fraud and (2) false statements relating to healthcare matters. The healthcare fraud statute prohibits knowingly and willfully defrauding a healthcare benefit program, including private payors. A violation of this statute may result in fines, imprisonment, or exclusion from government healthcare programs. The false statements statute prohibits knowingly and willfully falsifying, concealing, or covering up a material fact or making a materially false, fictitious, or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items, or services. A violation of this statute may result in fines or imprisonment.

Finally, federal law prohibits any entity from offering or transferring to a Medicare or Medicaid beneficiary any remuneration that the entity knows or should know is likely to influence the beneficiary's selection of a particular provider, practitioner or supplier of Medicare or Medicaid payable items or services, including waivers of copayments and deductible amounts (or any part thereof) and transfers of items or services for free or for other than fair market value. Any violation of these prohibitions may

result in significant civil monetary penalties for each wrongful act. Although we believe that our sales and marketing practices comply in all materials respects with all applicable federal and state laws and regulations, regulatory authorities may disagree. Any identified violation of applicable fraud and abuse laws could result in significant fines or our exclusion from Medicare, Medicaid, and other governmental programs, which could have a material adverse effect on our business, results of operations, financial condition, and cash flows.

***Regulations Related to Our Precision Medicine Business***

Due to the variety of product candidates that we are developing, we and our product candidates will be subject to a wide variety of regulations promulgated by the FDA. Specifically, our product candidates are subject to regulation by the FDA's Center for Biologics Evaluation and Research, Center for Devices and Radiological Health and Center for Drug Evaluation and Research, as well as other non-U.S. regulatory bodies (should we develop the product candidates and seek to obtain regulatory clearances or approvals to market outside of the United States).

***Avero Diagnostics Relationship and the Corporate Practice of Medicine***

Through one of our wholly-owned subsidiaries, we have a contractual relationship with Mattison Pathology, LLP, dba Avero Diagnostics, a professional partnership organized in Texas. In accordance with the terms of a management services agreement, we provide certain management services, including required office functions, to Avero Diagnostics and we also agree that Avero Diagnostics will be solely and exclusively in control of its provision of professional medical services and we will neither have nor exercise any control or discretion over the methods by which the physicians employed by Avero Diagnostics practice medicine. For additional information regarding our relationship with Avero Diagnostics, please see Note 3. Variable Interest Entity to our audited financial statements for the year ended December 31, 2019, included in this prospectus. A separate nominee agreement provides us the right, but not the obligation, to designate persons to purchase the stock of Avero Diagnostics at any time for a nominal amount. We receive a management fee equal to the net operating income of Avero Diagnostics. In the event that Avero Diagnostics incurs losses, we have no obligation to absorb those losses or provide additional cash support to Avero Diagnostics, but we may choose to do so and have done so in the past. We have determined that Avero Diagnostics is a variable interest entity and that Progenity is the primary beneficiary, resulting in the consolidation of Avero Diagnostics as required by the accounting guidance for consolidation.

The laws of certain states in which we operate or may operate in the future prohibit non-physician entities from practicing medicine, exercising control over physicians or engaging in certain practices such as fee-splitting with physicians. Although we believe that we have structured our affiliation with Avero Diagnostics so that the physicians maintain exclusive authority regarding the delivery of medical care, there can be no assurance that these laws will be interpreted in a manner consistent with our practices or that other laws or regulations will not be enacted in the future that could have a material adverse effect on our business. Regulatory authorities and other parties, including our associated physicians, may assert that, despite the management service agreement and other arrangements through which we operate, we are engaged in the prohibited corporate practice of medicine and/or that our contractual arrangement with Avero Diagnostics constitutes unlawful fee-splitting. If a corporate practice of medicine or fee-splitting law is interpreted in a manner that is inconsistent with our practices, we would be required to restructure or terminate our relationship with Avero Diagnostics to bring its activities into compliance with such law. A determination of noncompliance, the termination of or failure to successfully restructure this relationship could result in disciplinary action, penalties, damages, fines, and/or a loss of revenue, any of which could have a material adverse effect on our business, financial condition, or operating results.

### Environmental Matters

Our operations require the use of hazardous materials (including biological materials), which materials subject us to a variety of federal, state, and local environmental and safety laws and regulations. Some of these laws and regulations provide for strict liability, potentially holding a party liable without regard to fault or negligence. We could be held liable for damages and fines as a result of our, or others', business operations should contamination of the environment or individual exposure to hazardous materials occur. We cannot predict how new, or changes in, laws or regulations will affect our business, operations, or the cost of compliance.

### Facilities

Our headquarters are located in San Diego, California, where we lease 25,795 square feet of office space. Our lease expires in June 2023.

We own property in Ann Arbor, Michigan that we use for laboratory testing and research and such property is subject to a mortgage. We also lease approximately 26,000 square feet of office space in Ann Arbor, Michigan. Our lease expires in October 2023, and we have an option to extend it through at least October 2028.

We own property located in Lubbock, Texas that we use for the purpose of laboratory testing for Avero Diagnostics and such property is subject to a mortgage. We also lease approximately 42,000 square feet of laboratory testing and research space for Avero Diagnostics in Irving, Texas. Our lease expires in November 2022, and we have an option to extend it through November 2027.

We believe that our current facilities are adequate for our needs. We also believe we will be able to obtain additional space, as needed, on commercially reasonable terms.

### Employees

As of September 30, 2020, we had 702 full-time employees. None of our employees is represented by a labor union or covered by a collective bargaining agreement with respect to his or her employment with us. We consider our relationship with our employees to be good.

On November 16, 2020, we approved a reduction in force that is expected to result in the termination of approximately 9.5% of our workforce, or approximately 67 employees. The reduction in force is being implemented in order to enable us to decrease our costs and more effectively align resources to business priorities. The reduction in force is a component of our broader efforts to materially reduce the research and development expenses by focusing on key milestones and to limit progression of other costs to track our top line performance. The employees impacted by the reduction in force will leave us in the fourth quarter of 2020. We estimate that we will incur expenses of approximately $1.3 million related to the reduction in force, which will be incurred in the fourth quarter of 2020 and will consist of one-time termination benefits to the affected employees, including severance and healthcare benefits and payments for accrued vacation time.

### Legal Proceedings

***Federal Investigations***

In April 2018, we received a civil investigative demand from an Assistant U.S. Attorney for the Southern District of New York, or SDNY, and a HIPAA subpoena issued by an Assistant U.S. Attorney for the Southern District of California, or SDCA. In May 2018, we received a subpoena from the State of New York Medicaid Fraud Control Unit.

On July 21, 2020, July 23, 2020 and October 1, 2020, we entered into agreements with certain governmental agencies and the 45 states participating in the settlement or the State AGs to resolve, with respect to such agencies and State AGs, all of such agencies' and State AGs' outstanding civil, and, where applicable, federal criminal investigations described above. Specifically, we entered into:

- a civil settlement agreement, effective July 23, 2020, with the DOJ through SDNY, and on behalf of the Office of Inspector General of the Department of Health and Human Services, or the OIG, and with the relator named therein, or the SDNY Civil Settlement Agreement;
- a civil settlement agreement, effective July 23, 2020, with the DOJ through SDCA, and on behalf of the Defense Health Agency, the Tricare Program and the Office of Personnel Management, which administers the Federal Employees Health Benefits Program, or the SDCA Civil Settlement Agreement;
- a non-prosecution agreement, effective July 21, 2020, with SDCA, or the Non-Prosecution Agreement, in resolution of all criminal allegations;
- a corporate integrity agreement, effective July 21, 2020, with the OIG, or the Corporate Integrity Agreement; and
- civil settlement agreements, effective October 1, 2020, with the State AGs, or the State Settlement Agreements.

We refer to the SDNY Civil Settlement Agreement, the SDCA Civil Settlement Agreement, the Non-Prosecution Agreement, the Corporate Integrity Agreement, and the State Settlement Agreements collectively as the Agreements.

*SDNY Civil Settlement Agreement*

Pursuant to the SDNY Civil Settlement Agreement, we are required to pay a settlement amount of approximately $19.4 million, which includes approximately $9.7 million designated as restitution to the U.S. federal government. During the three months ended September 30, 2020, we paid approximately $9.1 million. We paid an additional approximately $4.1 million subsequent to September 30, 2020, for an aggregate of approximately $13.1 million paid to date. The outstanding settlement amount is payable in three installments as follows:

- approximately $1.6 million on or before December 31, 2020;
- approximately $2.0 million on or before December 31, 2021; and
- approximately $2.8 million on or before December 31, 2022.

The remaining amounts payable to the government will be subject to interest at a rate of 1.25% per annum, and any or all amounts may be paid earlier at our option.

Furthermore, we have agreed that, if during calendar years 2020 through 2023, and so long as amounts payable to the government remain unpaid, we receive any civil settlement, damages awards, or tax refunds, to the extent that the amounts exceed $5.0 million in a calendar year, we will pay 26% of the amount received in such civil settlement, damages award, or tax refunds as an accelerated payment of the scheduled amounts set forth above, up to a maximum total acceleration of $4.2 million. During the three months ended March 31, 2020, we recorded a discrete tax benefit of $37.7 million related to the net operating loss carryback provisions available under the Coronavirus Aid, Relief and Economic Security Act, or the CARES Act, for taxes we paid in years 2013, 2014, 2015 and 2017, or the CARES Act Tax Benefit. In June 2020, we received a tax benefit payment of approximately $22.7 million for a portion of the CARES Act Tax Benefit, and because this tax refund was received prior to the effective date of the SDNY Civil Settlement Agreement, the payment the initial settlement payment installment included an

added payment of approximately $5.9 million. In addition, because we received a tax benefit payment of approximately $15.7 million in September 2020, an accelerated payment of approximately $4.1 million was made on October 1, 2020, with a corresponding reduction in the previously agreed upon payment term and subsequent payment amounts. Additionally, under the SDNY Civil Settlement Agreement, the U.S. federal government and the relator agreed to dismiss all civil claims asserted by the relator under the *qui tam* provisions of the federal False Claims Act.

*SDCA Civil Settlement Agreement*

Pursuant to the SDCA Civil Settlement Agreement, we are required to pay a settlement amount of approximately $16.4 million, which includes approximately $10.0 million designated as restitution to the U.S. federal government. During the three months ended September 30, 2020, we paid approximately $7.7 million. We paid an additional $3.4 million subsequent to September 30, 2020, for an aggregate of $11.1 million paid to date. The outstanding settlement amount is payable in three installments as follows:

- approximately $1.4 million on or before December 31, 2020;
- approximately $1.8 million on or before December 31, 2021; and
- approximately $2.2 million on or before December 31, 2022.

The remaining amounts payable to the government will be subject to interest at a rate of 1.25% per annum, and any or all amounts may be paid earlier at our option.

On July 21, 2020, we issued a promissory note to the U.S. federal government for the full settlement amount in connection with the SDCA Civil Settlement Agreement, or the Promissory Note. The Promissory Note contains customary events of default and related acceleration of payment provisions. In addition, the Promissory Note provides, among other terms, that, if during calendar years 2020 through 2023, and so long as amounts payable to the government remain unpaid, we receive any civil settlement, damages awards, or tax refunds, to the extent that the amounts exceed $5.0 million in a calendar year, we will pay 22% of the amount received in such civil settlement, damages award, or tax refunds as an accelerated payment of the scheduled amounts set forth above, up to a maximum total acceleration of approximately $3.4 million. Because we received a tax benefit payment of approximately $22.7 million for a portion of the CARES Act Tax Benefit in June 2020 and because this tax refund was received prior to the effective date of the Promissory Note, the initial settlement payment installment included an added payment of $4.9 million. In addition, because we received a tax benefit payment of approximately $15.7 million in September 2020, an accelerated payment of approximately $3.4 million was made on October 1, 2020, with a corresponding reduction in the previously agreed upon payment term and subsequent payment amounts.

*Non-Prosecution Agreement*

Effective July 21, 2020, we entered into the Non-Prosecution Agreement, pursuant to which we agreed with the DOJ to (i) pay the restitution provided for under the SDCA Civil Settlement Agreement, (ii) not commit any felonies, (iii) continue to implement a compliance and ethics program designed to prevent and detect violations of applicable fraud and kickback laws throughout our operations and (iv) fulfill certain other disclosure, reporting and cooperation obligations. The DOJ agreed that it will not prosecute us for any conduct described in the Non-Prosecution Agreement provided that we perform our obligations under the Non-Prosecution Agreement during the period from July 21, 2020 through July 21, 2021. The Non-Prosecution Agreement provides that the DOJ may unilaterally, upon notice to us, extend the term of the agreement in 6-month increments, for a maximum total term of 24 months (that is, two 6-month extensions).

*Corporate Integrity Agreement*

In connection with the resolution of the investigated matters, and in exchange for the OIG's agreement not to exercise its authority to permissively exclude us from participating in federal healthcare programs, effective July 21, 2020, we entered into a five-year Corporate Integrity Agreement with the OIG. The Corporate Integrity Agreement requires, among other matters, that we maintain a Compliance Officer, a Compliance Committee, board review and oversight of certain federal healthcare compliance matters, compliance programs, and disclosure programs; provide management certifications and compliance training and education; engage an independent review organization to conduct claims and arrangements reviews; and implement a risk assessment and internal review process. If we fail to comply with our obligations under the Corporate Integrity Agreement, we could face monetary penalties and/or be excluded from participating in federal healthcare programs.

*State Settlement Agreements*

Effective October 1, 2020, we entered into agreements with the State AGs with respect to the investigated matters. The State Settlement Agreements require the Company to pay a settlement amount of approximately $13.2 million the participating states. The State Settlement Agreements include acceleration provisions similar to the SDNY Civil Settlement Agreement and the SDCA Civil Settlement Agreements described above upon our receipt of civil settlements, damages awards, and tax refunds, with the amount to be accelerated and the timing of accelerated payment subject to such receipts. Because we received the June 2020 and September 2020 tax benefits totaling approximately $38.4 million, the initial payment to the participating states included added payments reflecting 17% of that amount, for a total initial payment on October 2, 2020 of approximately $8.7 million. The outstanding settlement amount is payable in four installments as follows:

- approximately $1.1 million on or before December 31, 2020;
- approximately $1.4 million on or before December 31, 2021;
- approximately $1.9 million on or before December 31, 2022; and
- approximately $0.2 million on or before December 31, 2023.

*Settlement Accruals*

As of December 31, 2019, we had accrued an aggregate of $35.8 million associated with a potential settlement with the DOJ and the participating State AGs within accrued expenses and other current liabilities and as a reduction of revenue as reflected on the consolidated balance sheet of the Company as of December 31, 2019 and consolidated statement of operations for the year ended December 31, 2019. In addition, in the quarter ended March 31, 2020, we accrued an additional $13.2 million with respect to the total amount to be paid under the agreement in principle to the DOJ and the participating State AGs, and additional amounts for related costs as of and for the quarterly period ended March 31, 2020. As of September 30, 2020, the Company's accrual consists of $20.2 million included in accrued expenses and other current liabilities and $12.1 million included in other long-term liabilities.

***OIG Inquiry***

On October 16, 2019, we received an inquiry from the Texas Health & Human Services Commission Office of Inspector General, or the TX OIG, alleging that we did not hold the required CLIA Laboratory Certificate of Accreditation to perform, bill for, or be reimbursed by the Texas Medicaid Program for certain tests performed by us from January 1, 2015 through December 31, 2018. Although we believe that we hold and have held all required CLIA certificates and/or subcontract with third-party laboratories that hold and have held such certificates to perform all of the tests subject to the TX OIG inquiry, there can be no assurance that the TX OIG will agree with this position. We submitted a written response to the inquiry on October 23, 2019 and are awaiting a response from the TX OIG on the matter. It is not possible to predict the outcome of these matters and the timing for resolution.

***Natera Lawsuit***

On June 17, 2020, Natera, Inc., or Natera, filed suit in the Western District of Texas (W.D. Texas Civil Action No. 6:20-cv-532) asserting our infringement of six Natera patents based on a portion of our NIPT product offering. On June 19, 2020, Natera filed a substantially similar second suit in the Northern District of Texas (N.D. Texas Civil Action No. 3:20-cv-1634). On July 31, 2020, Progenity filed a motion to dismiss the Western District of Texas case based on improper venue. The parties are now conducting limited discovery related to this motion after which Natera will file its responsive pleadings. The Northern District of Texas case has been stayed until a decision with respect to the motion to dismiss is made.

On July 2, 2020, we filed a Complaint for Declaratory Judgment of Non-Infringement against Natera in the Southern District of California (S.D. California Civil Action No. 3:20-cv-1252). This case has been stayed pending the outcome of our venue motion in the Western District of Texas.

We believe that the claims in Natera's complaints are without merit and we are vigorously defending against them.

***IPO Litigation***

On June 23, 2020, we closed our initial public offering of our common stock, or the IPO. Subsequent to the IPO, two lawsuits were filed against the Company, certain of its executive officers and directors, and the underwriters of the IPO. The lawsuits allege that our registration statement and related prospectus for the IPO made false and misleading statements and omissions in violation of the Securities Act of 1933 by failing to disclose that we (i) had overbilled government payors by $10.3 million in 2019 and early 2020; (ii) would need to refund this overpayment in the second quarter of 2020; and (iii) were allegedly suffering from accelerating negative trends with respect to testing volumes, revenues, and product pricing during the second quarter of 2020. Both lawsuits seek, among other things, unspecified compensatory damages, interest, costs, and attorneys' fees. We intend to vigorously defend against these claims. Given the uncertainty of litigation, the preliminary stages of these cases, and the legal standards that must be met for, among other things, success on the merits, we are unable to predict the ultimate outcome of these actions, and therefore cannot estimate the reasonably possible loss or range of loss, if any, that may result from these actions. Subject to a reservation of rights, we are advancing expenses subject to indemnification by the underwriters of the IPO. More details on each lawsuit are below:

- Soe Action. On August 28, 2020, a putative securities class action was filed in the U.S. District Court for the Southern District of California, entitled *Aung Kyaw Soe v. Progenity, Inc., et al.*, No. 3:20-cv-01683-CAB-AHG. The plaintiff, Aung Kyaw Soe, seeks to bring this action on behalf of all purchasers of Progenity common stock pursuant to or traceable to the registration statement issued in connection with the IPO. On September 23, 2020, the court ordered that no defendant has any obligation to answer or otherwise respond to the complaint in this action pending appointment of a lead plaintiff and the lead plaintiff's filing of an amended complaint or designation of the existing complaint as the operative complaint.
- Brickman Investments Inc. Action. On September 11, 2020, another putative securities class action was filed in the U.S. District Court for the Southern District of California, entitled *Brickman Investments Inc. v. Progenity, Inc., et al.*, No. 3:20-cv-01795-BEN-LL. The plaintiff, Brickman Investments Inc., seeks to bring this action on behalf of all purchasers of Progenity common stock pursuant to or traceable to the registration statement and related prospectus issued in connection with the IPO. In addition to the remedies described above, the plaintiff seeks rescission or rescissory damages. Motions for appointment of lead plaintiff and lead counsel, as well as to consolidate the two actions, are pending.

# MANAGEMENT

## Directors, Executive Officers, and Key Employees

The following table sets forth certain information regarding our directors, executive officers, and key employees as of the date of this prospectus.

| Name | Age | Position |
|---|---|---|
| Harry Stylli, Ph.D. | 59 | Chairman and Chief Executive Officer |
| Jeffrey D. Alter(1)(2) | 58 | Director |
| John T. Bigalke(1)(3) | 66 | Director |
| Jeffrey A. Ferrell(2)(3) | 46 | Director |
| Brian L. Kotzin, M.D.(2)(4) | 71 | Director |
| Samuel R. Nussbaum, M.D.(3)(4) | 72 | Director |
| Lynne Powell(1)(4) | 54 | Director |
| Eric d'Esparbes | 53 | Chief Financial Officer |
| Damon Silvestry | 52 | Chief Operating Officer |
| Sami Shihabi | 49 | Chief Commercial Officer |
| Matthew Cooper, Ph.D. | 48 | Chief Scientific Officer |
| Troy Seelye | 57 | Chief Information Officer |
| Clarke Neumann, J.D. | 57 | General Counsel and Secretary |
| George Gianakopoulos | 59 | Senior Vice President of Sales |

(1) Member of the Audit Committee.
(2) Member of the Compensation Committee.
(3) Member of the Nominating/Corporate Governance Committee.
(4) Member of the Science Committee.

The following is a biographical summary of the experience of our directors, executive officers, and key employees:

***Harry Stylli, Ph.D.*** Dr. Stylli has served as the Chairman of our Board and our Chief Executive Officer since August 2018. Previously, he served as the Executive Chairman of our Board from January 2013 to August 2018 and as the Chairman of our Board from January 2011 to January 2013. He has also served as executive chairman of the board of directors at Immunis.Al (formerly OncoCell MDx), a diagnostic testing company, since April 2019. He previously served as Chief Executive Officer and chairman of the board of directors of OncoCell MDx from June 2010 to April 2019. From June 2005 to September 2009, Dr. Stylli was President, Chief Executive Officer, and a member of the board of directors of Sequenom, Inc., a molecular diagnostic testing and genetics analysis company. From December 2003 to February 2005, Dr. Stylli was President and Chief Executive Officer of Xencor, Inc., a biopharmaceutical company. From April 2002 to July 2003, Dr. Stylli served as co-founder, President and Chief Executive Officer of CovX Pharmaceuticals Inc., a biopharmaceutical company. In May 1995, he co-founded Aurora Biosciences Corp., a biotechnology company. From May 1995 to April 2001, when Aurora Biosciences Corp. was acquired by Vertex Pharmaceuticals Incorporated, he held various senior roles at Aurora Biosciences Corp. From April 2001 to June 2002, following the acquisition, Dr. Stylli served as President of Aurora Biosciences Corp. and PanVera Corporation, a biotechnology company. Dr. Stylli received his B.S. from the University of East London, his M.B.A. from Open University in the United Kingdom, and his Ph.D. from London University.

We believe Dr. Stylli is qualified to serve on our Board because of his extensive experience forming and building biotechnology companies.

***Jeffrey D. Alter*** Mr. Alter has served as a member of our Board since January 2019. Mr. Alter has served as the Executive Vice President, IngenioRX and Anthem Health Solutions, at Anthem, Inc., a

health benefits company, since September 2020. Prior to joining Anthem, Inc., from April 2004 to June 2018, Mr. Alter served in various chief leadership positions at UnitedHealthcare, a health plan business, including as Chief Executive Officer of its commercial group from November 2014 to June 2018, as Chief Executive Officer of its employer and individual business from January 2011 to November 2014, as Chief Executive Officer, Northeast Region from June 2008 to January 2011, as Chief Operating Officer from April 2005 to June 2008, and as Chief Financial Officer, Northeast Region from April 2004 to April 2005. Mr. Alter earned both his B.S. in Marketing and his M.B.A. in Finance from Saint John's University, New York.

We believe Mr. Alter is qualified to serve on our Board because of his extensive leadership experience in the healthcare industry and finance experience.

***John T. Bigalke*** Mr. Bigalke has served as a member of our Board since January 2019. Mr. Bigalke has served as the Chief Executive Officer of Second Half Healthcare Advisors, a healthcare strategy firm, since its founding by Mr. Bigalke in August 2016. Prior to founding Second Half Healthcare Advisors, he served as Vice Chairman and Senior Partner, Global Health Care Practice at Deloitte USA LLP, an accounting and consulting firm, from April 2012 to August 2016 and as Vice Chairman and National Industry Leader for the Health Care and Life Science Practice at Deloitte USA LLP from June 1998 until April 2012. Mr. Bigalke has served as a member of the board of directors of Premier, Inc., a healthcare improvement company, since October 2019, as a member of the advisory board for Concord Health Partners, a healthcare focused investment firm, since December 2018, and as a director for AdventHealth, a health system company, since June 2012. He previously served as a member of the board of directors of Deloitte USA, LLP from June 2004 to May 2007. Mr. Bigalke earned his B.S. in Financial Management from Clemson University. Mr. Bigalke is a Certified Public Accountant.

We believe Mr. Bigalke is qualified to serve on our Board because of his extensive experience in the healthcare and life sciences industry and his finance and accounting experience.

***Jeffrey A. Ferrell*** Mr. Ferrell has served as a member of our Board since June 2014. Mr. Ferrell has served as the Managing Partner of Athyrium Capital Management, LP, a life sciences focused investment and advisory company, since November 2008. Mr. Ferrell served as a director of Lpath, Inc. from April 2007 to December 2016. Prior to Lpath, Inc., Mr. Ferrell served in a number of roles at Lehman Brothers, including as Senior Vice President from December 2005 to November 2008 and as Vice President in Lehman Brothers' private equity division from December 2002 to December 2005. From June 1997 to February 2001, Mr. Ferrell was a principal at Schroder Ventures Life Sciences. Mr. Ferrell earned his A.B. in Biochemical Sciences from Harvard University.

We believe Mr. Ferrell is qualified to serve on our Board because of his extensive experience investing in and guiding early stage life sciences companies.

***Brian L. Kotzin, M.D.*** Dr. Kotzin has served as a member of our Board since June 2019. Dr. Kotzin has served as Senior Vice President, Clinical Development at Nektar Therapeutics, a biopharmaceutical company, since April 2017. Prior to Nektar, Dr. Kotzin was at Amgen Inc., where he served as Vice President, Global Clinical Development and Head, Inflammation Therapeutic Area from July 2004 to January 2015. During his employment at Amgen Inc., he also served as Vice President, Translational Sciences and Head of Medical Sciences from February 2006 to July 2011. Before joining Amgen, Dr. Kotzin was a faculty member in the Division of Rheumatology of the Department of Medicine and Department of Immunology at the University of Colorado Health Sciences Center in Denver, Colorado from September 1981 to July 2004. During this time at the University of Colorado Health Sciences Center, he was also head of Clinical Immunology in the Department of Medicine and director of the Autoimmunity Center of Excellence from July 1998 to July 2004. He has served as a member of the board of directors of Vera Therapeutics, Inc. since April 2020, Kyverna Therapeutics, Inc. since August

2019, and Rigel Pharmaceuticals, Inc. since August 2017. Dr. Kotzin earned his medical degree from Stanford University and his B.S. in Mathematics from the University of Southern California.

We believe Dr. Kotzin is qualified to serve on our Board because of his extensive academic research experience in immunology and experience as a senior executive for life sciences companies.

***Samuel R. Nussbaum, M.D.*** Dr. Nussbaum has served as a member of our Board since January 2019. Dr. Nussbaum has served as a Strategic Consultant for EBG Advisors, the consulting arm for Epstein Becker and Green, since January 2016. Dr. Nussbaum has also served as a Senior Advisor to Sandbox Industries, a venture fund, since January 2017, and Ontario Teachers' Pension Fund since August 2016. From January 2000 until December 2015, Dr. Nussbaum served as Executive Vice President, Clinical Health Policy, and Chief Medical Officer of Anthem, Inc., a health insurance company. Dr. Nussbaum has served as a member of the board of directors of The Able Channel, a streaming and digital health platform company, since January 2020, Atrio Health Plans, a Medicare Advantage health plan provider, since September 2019, Coherus BioSciences, Inc., a biosimilar company, since May 2018, Motus GI Holdings, Inc., a medical technology company, since March 2017, and PhyMed Healthcare Group, an anesthesia management company, since July 2016. Dr. Nussbaum is a Professor of Clinical Medicine at Washington University School of Medicine and an adjunct professor at the Olin School of Business, Washington University and serves as Senior Fellow at the University of Southern California Schaeffer Center for Health Policy and Economics. Dr. Nussbaum earned his B.A. from New York University and his M.D. from Mount Sinai School of Medicine. He trained in internal medicine at Stanford University and Massachusetts General Hospital and in endocrinology at Harvard Medical School and Massachusetts General Hospital.

We believe Dr. Nussbaum is qualified to serve on our Board because of his experience advising life sciences and healthcare companies and his extensive experience as a senior executive and board member in the pharmaceutical and healthcare industries.

***Lynne Powell*** Ms. Powell has served as a member of our Board since February 2019. Since September 2019 and October 2019, Ms. Powell has served as Chief Executive Officer and as a member of the board of directors, respectively, of Druggability Technologies Holdings Ltd, a specialty pharmaceutical company. In September 2020, Druggability was reorganized into Tavanta Therapeutics, which Ms. Powell continues to serve as Chief Executive Officer. Prior to joining Tavanta, Ms. Powell served as Senior Vice President and Chief Commercial Officer of BioCryst Pharmaceuticals, Inc., a biotherapeutics company, from January 2015 to July 2019. From January 2010 to October 2014, Ms. Powell served as Senior Vice President of North American Commercial Operations at CSL Behring, a biotherapeutics company. She earned her B.S. in Applied Biology, Pharmacology & Toxicology from the University of East London and her M.B.A. from Monash University (Australia) and Warwick University (UK).

We believe Ms. Powell is qualified to serve on our Board because of her extensive experience as a senior executive and board member in the pharmaceutical industry.

***Eric d'Esparbes*** Mr. d'Esparbes has served as our Chief Financial Officer since May 2019. From September 2014 to August 2018, Mr. d'Esparbes served as the Chief Financial Officer of Innoviva, Inc., a biotechnology company, where he was responsible for all aspects of the finance function including financial accounting, capital planning, audit, tax, and investor relations. Mr. d'Esparbes also served as the interim Principal Executive Officer of Innoviva from February 2018 to June 2018. Prior to Innoviva, he served as Chief Financial Officer for Joule Unlimited, an energy company, from December 2010 to March 2014, Vice President of Finance for AEI, Inc., a global energy company, from February 2010 to December 2010, Chief Financial Officer of AEI Asia Limited from May 2007 to February 2010, and Chief Financial Officer for Meiya Power Company (now CNG New Energy), an energy company, from October 1999 to May 2007. Mr. d'Esparbes earned his bachelor's degree from Hautes Études Commercial in Montréal, Canada.

***Damon Silvestry*** Mr. Silvestry has served as our Chief Operating Officer since May 2020. Previously, Mr. Silvestry served as the Senior Vice President of Operations and People at Natera, Inc., a cell-free DNA testing company, from April 2018 to May 2020, Senior Vice President of Operations from April 2016 to April 2018, and Vice President of Operations from April 2015 to April 2016. Prior to Natera, Mr. Silvestry was the Senior Vice President of Operations at Miraca Life Sciences (now known as Inform Diagnostics) from June 2011 to October 2014, an anatomic pathology provider. Prior to Miraca, Mr. Silvestry served in a number of roles at Dell, Inc., including as the Executive Director for Latin America & Canada Sales Operations, Director of Dell Americas Engineering, Senior Manager of New Product Introductions and in various leadership roles within engineering. Mr. Silvestry earned his B.S. in Industrial Engineering from Southern Illinois University and his master's degree in Manufacturing Engineering from New York University—Polytechnic School of Engineering.

***Sami Shihabi*** Mr. Shihabi has served as our Chief Commercial Officer since October 2019. From January 2018 to October 2019, he served as our Senior Vice President of Marketing and Portfolio Strategy, where he was responsible for leading the marketing strategies for our women's health business. Previously, Mr. Shihabi was the Vice President, Head of Commercial for Prometheus Laboratories Inc., a diagnostic company, from October 2016 to January 2018, where he was responsible for leading the commercials sales, marketing, and managed care organizations. Also at Prometheus, he served as Executive Director, Global Strategic Marketing from October 2015 to October 2016. Prior to Prometheus, he served as Global Commercial and Marketing Lead at Nestlé Health Science, a health science company, from January 2014 to October 2015. Mr. Shihabi earned his B.S. in Biological Sciences from the University of California, Davis, his master's degree in Molecular Biology from Pennsylvania State University, and his M.B.A. from the University of California Irvine.

***Matthew Cooper, Ph.D.*** Dr. Cooper has served as our Chief Scientific Officer since March 2015. Previously, Dr. Cooper was the Chief Executive Officer and founder of Carmenta Bioscience, Inc., a biotechnology company, from February 2012 until we acquired Carmenta in March 2015. Prior to Carmenta, he was founding Chief Scientific Officer at Syapse Inc., a precision medicine software platform company, from February 2010 to February 2012. Previously, he served as Head of Non-Clinical Safety Information at Hoffmann-La Roche, a healthcare company, from January 2009 to April 2010 and as Principal Research Scientist at Hoffman-La Roche from February 2006 to January 2009. He was a scientist at Biogen Idec from February 2001 to February 2006. Dr. Cooper earned his B.S. in Chemistry from the University of Tulsa, dual M.B.A.s from Columbia Business School and the Berkeley Haas School of Business, and his Ph.D. in Toxicology from the University of Kentucky College of Medicine.

***Troy Seelye*** Mr. Seelye has served as our Chief Information Officer since March 2020. Previously, Mr. Seelye served as Chief Information Officer of Teradata Corp., a provider of data warehousing and analytics solutions, from January 2017 to March 2020. Prior to Teradata, he served in various roles at Illumina Inc., a genetic testing company, including as the Head of Global IT Operations from February 2014 to January 2017 and as the Senior Director of Global Information Systems from September 2008 to February 2014. Prior to Illumina, Mr. Seelye spent 17 years in a number of roles at Amgen Inc., including as Senior Manager, Network Infrastructure Engineering, Senior Manager, Data Center Operations, and Senior Architect, where he led global expansion across Asia and Europe. Mr. Seelye earned his B.S. from California Lutheran University.

***Clarke Neumann, J.D.*** Mr. Neumann has served as our General Counsel and Secretary since September 2014. Previously, Mr. Neumann served as Vice President, Associate General Counsel, and Assistant Secretary of Sequenom, Inc., a molecular diagnostic testing and genetics analysis company, from October 2012 to August 2014, as Vice President and General Counsel and Assistant Secretary from May 2001 to October 2012, and as Corporate Counsel from July 1999 to May 2001. From October 1993 to May 1999, Mr. Neumann was an attorney at Lyon & Lyon, LLP, specializing in intellectual property

litigation, strategic counseling, business litigation, and transactional matters. Mr. Neumann earned his B.S. in chemical engineering from Pennsylvania State University and his J.D. from Loyola Law School, Los Angeles.

***George Gianakopoulos*** Mr. Gianakopoulos has served as our Senior Vice President of Sales since October 2019. He previously served as our Corporate Vice President of Sales from January 2018 to October 2019 and as our Vice President of Sales from September 2014 to January 2018. Prior to joining our company, Mr. Gianakopoulos served as a sales leader in the oncology division of Myriad Genetics, Inc., a diagnostics company, from June 2006 to August 2014. Mr. Gianakopoulos earned his B.S.B.A. and his M.B.A. from Indiana University.

**Board Structure**

Our business and affairs are managed under the direction of our Board, which currently consists of seven members. Each of our current directors will continue to serve until the election and qualification of his or her successor, or his or her earlier death, resignation or removal.

In accordance with our eighth amended and restated certificate of incorporation and amended and restated bylaws, our entire Board will stand for election at each annual meeting of stockholders. Each director will hold office for a one-year term and until the election and qualification of his or her successor. The authorized number of directors is determined from time to time solely by resolution of the Board. Our certificate of incorporation and bylaws provide sole authority to our Board to fill vacancies and any additional directorships resulting from an increase in the authorized number of directors.

**Board Leadership Structure**

Our Board has designated Dr. Stylli, our Chief Executive Officer, to serve as Chairman of the Board. Combining the roles of Chief Executive Officer and Chairman allows one person to drive strategy and agenda setting at the board level while maintaining responsibility for executing on that strategy as Chief Executive Officer. On May 21, 2020, our independent directors elected Jeffrey Alter as Lead Independent Director. In accordance with our Principles of Corporate Governance, in such role, Mr. Alter has responsibility for: (a) presiding at meetings of the Board at which the Chairman of the Board is not present, including executive sessions of the independent directors; (b) overseeing the process of informing the Board, including addressing timing, nature and scope of information and materials disseminated to the Board; (c) collaborating with the Chairman on the agenda and schedule for Board meetings to provide that there is sufficient time for discussion of all agenda items; (d) serving as liaison between the CEO/Chairman of the Board and the independent directors, while ensuring no impediments to direct communication; (e) being available for consultation and communication with major stockholders upon request; and (f) performing such other designated duties as the Board may determine from time to time.

Although our amended and restated bylaws do not require that we combine the Chief Executive Officer and Chairman positions, our Board believes that having the positions be combined is the appropriate leadership structure for us at this time. Our Board recognizes that, depending on the circumstances, other leadership models, such as separating the roles of Chief Executive Officer and Chairman, might be appropriate. Accordingly, our board of directors may periodically review its leadership structure. Our Board believes its administration of its risk oversight function has not affected its leadership structure.

Our independent directors will meet alone in executive session regularly throughout each year, or otherwise as called by the lead independent director. The purpose of these executive sessions is to promote open and candid discussion among independent directors.

***Role of our Board in Risk Oversight***

We face a number of risks, including those described under the section titled “Risk Factors” included elsewhere in this prospectus. Our board of directors believes that risk management is an important part

of establishing, updating, and executing on the company's business strategy. Our Board, as a whole and at the committee level, has oversight responsibility relating to risks that could affect the corporate strategy, business objectives, compliance, operations and the financial condition and performance of the company.

Our Board focuses its oversight on the most significant risks facing the company and on its processes to identify, prioritize, assess, manage, and mitigate those risks. Our Board and its committees receive regular reports from members of the company's senior management on areas of material risk to the company, including strategic, operational, financial, legal, and regulatory risks. While our Board has an oversight role, management is principally tasked with direct responsibility for management and assessment of risks and the implementation of processes and controls to mitigate their effects on the company.

**Board Committees**

Our Board has established an audit committee, or the Audit Committee, a compensation committee, or the Compensation Committee, a nominating and corporate governance committee, or the Nominating/Corporate Governance Committee, and a science committee, or the Science Committee. We believe that the functioning of these committees complies with the requirements of the Sarbanes-Oxley Act, the rules of Nasdaq, and SEC rules and regulations that are applicable to us. Each committee has the responsibilities described below.

***Audit Committee***

The members of our Audit Committee are Messrs. Bigalke and Alter and Ms. Powell, each of whom qualifies as an independent director for audit committee purposes, as defined under the rules of the SEC and the applicable Nasdaq listing rules and has sufficient knowledge in financial and auditing matters to serve on the audit committee. Mr. Bigalke chairs the Audit Committee. Additionally, Mr. Bigalke qualifies as an "audit committee financial expert" as that term is defined in the rules and regulations established by the SEC.

The primary responsibilities of our Audit Committee are to oversee our accounting and financial reporting processes, including the audits of the financial statements, and the internal and external audit processes. The Audit Committee also oversees the system of internal control established by management. The Audit Committee oversees the independent auditors, including their independence and objectivity. The Audit Committee is empowered to retain outside legal counsel and other advisors as it deems necessary or appropriate to assist it in fulfilling its responsibilities, and to approve the fees and other retention terms of the advisors.

***Compensation Committee***

The members of our Compensation Committee are Messrs. Alter and Ferrell and Dr. Kotzin, each of whom qualifies as an independent director, as defined under applicable Nasdaq qualification standards, and also meets the additional, heightened independence criteria applicable to members of the Compensation Committee. Mr. Alter chairs the Compensation Committee.

The primary responsibilities of our Compensation Committee are to periodically review and approve the compensation and other benefits for our senior officers and directors. This includes reviewing and approving corporate goals and objectives relevant to the compensation of our senior officers, evaluating the performance of these officers in light of the goals and objectives, and setting the officers' compensation. Our Compensation Committee also administers and makes recommendations to the Board regarding equity incentive plans that are subject to the Board's approval and approve the grant of equity awards under the plans.

*Nominating/Corporate Governance Committee*

The members of our Nominating/Corporate Governance Committee are Dr. Nussbaum and Messrs. Bigalke and Ferrell, each of whom qualifies as an independent director, as defined under applicable Nasdaq qualification standards. Dr. Nussbaum chairs the Nominating/Corporate Governance Committee.

The Nominating/Corporate Governance Committee is responsible for engaging in succession planning for the Board, developing and recommending to the Board criteria for identifying and evaluating qualified director candidates, and making recommendations to the Board regarding candidates for election or reelection to the Board at each annual stockholders' meeting. In addition, the Nominating/Corporate Governance Committee is responsible for overseeing our corporate governance practices and making recommendations to the Board concerning corporate governance matters. The Nominating/Corporate Governance Committee is also responsible for making recommendations to the Board concerning the structure, composition, and functioning of the Board and its committees.

*Science Committee*

The members of our Science Committee are Dr. Kotzin, Dr. Nussbaum, and Ms. Powell. Dr. Kotzin chairs the Science Committee. The Science Committee is responsible for assisting our Board in ensuring that our research and development organization is optimized to support our strategic goals, and reviewing and monitoring the science, technology, processes, procedures, and infrastructure underlying our major discovery and development programs.

**Code of Conduct and Ethics**

Our Board has adopted a Code of Conduct and Ethics that establishes the standards of ethical conduct applicable to all our directors, officers, and employees. It addresses, among other matters, compliance with laws and policies, conflicts of interest, corporate opportunities, regulatory reporting, external communications, confidentiality requirements, insider trading, proper use of assets, and how to report compliance concerns. We intend to disclose any amendments to the Code of Conduct and Ethics, or any waivers of its requirements, on our website to the extent required by applicable rules. Our Board is responsible for applying and interpreting our Code of Conduct and Ethics in situations where questions are presented to it.

**Compensation Committee Interlocks**

None of the members of our Compensation Committee has at any time during the prior three years been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of our Board or Compensation Committee of any entity that has one or more executive officers serving on our Board or Compensation Committee.

**Director Independence**

Our Board has reviewed the independence of all directors in light of each director's (or any family member's, if applicable) affiliations with the company and members of management, as well as significant holdings of our securities. The Board uses the definition of independence under Nasdaq listing standards to assess independence of our directors. These rules establish objective tests and a subjective test for determining who is an "independent director." The subjective test states that an independent director must be a person who lacks a relationship that, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The Board has not established categorical standards or guidelines to make these subjective determinations, but considers all relevant facts and circumstances. After considering the foregoing factors, our Board has determined that Messrs. Alter, Bigalke, Ferrell, Nussbaum, Dr. Kotzin, and Ms. Powell qualify as "independent directors" as defined by Nasdaq rules. Dr. Stylli is not deemed to be independent under Nasdaq rules by virtue of his employment with the company.

The members of our Audit Committee must satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act, or Rule 10A-3. In order to be considered independent for purposes of Rule 10A-3, no member of the Audit Committee may, other than in his or her capacity as a member of the Audit Committee, the Board or any other committee of the Board: (i) accept, directly or indirectly, any consulting, advisory or other compensatory fee from us or any of our subsidiaries; or (ii) directly, or indirectly through one or more intermediaries, control, be controlled by or be under common control with us or any of our subsidiaries.

**Director Compensation**

***Outside Director Compensation Policy***

We adopted a policy for compensating our non-employee directors with a combination of cash and equity, with such equity awards being subject to the terms and conditions of the 2018 Plan and the Restricted Stock Unit Agreement and Stock Option Agreement thereunder and related forms of grant notices approved by the Board.

***Cash Compensation.*** All non-employee directors are entitled to receive a $50,000 annual cash retainer for serving as a member of the board of directors as well as the following additional annual cash retainers for their board committee service:

| | Chair | Member |
|---|---|---|
| Audit Committee | $20,000 | $ 8,000 |
| Compensation Committee | $15,000 | $ 6,000 |
| Nominating/Corporate Governance Committee | $10,000 | $ 5,000 |
| Science Committee | $15,000 | $ 6,000 |

Each annual cash retainer and additional annual fee is paid quarterly in advance on a prorated basis. We have reimbursed and will continue to reimburse all of our directors for their reasonable out-of-pocket expenses, including travel, food, and lodging, incurred in attending meetings of our Board and/or its committees.

***Equity Compensation.*** During 2019, all non-employee directors, other than Jeffrey Ferrell, who elected not to receive any compensation from us for his services in 2019, received an initial equity grant which was awarded in the form of 65,812 restricted stock units and 131,625 stock options. Subject to the director's continued service, the initial equity award vests in equal annual installments over a four-year period following the date of grant. In March of 2020, after consideration of market data presented by the compensation committee's compensation consultant, Compensia, the compensation committee approved a revised policy for compensating non-employee directors with equity awards. New non-employee directors are entitled to receive an initial equity grant with a target grant date fair value of $350,000, half of which is awarded in the form of restricted stock units and half of which is awarded in the form of stock options. Subject to the director's continued service, initial equity awards will vest in equal installments over a four-year period following the date of grant. In addition, each non-employee director is entitled to receive an annual equity grant with a target grant date fair value of $150,000, half of which is awarded in the form of restricted stock units and half of which is awarded in the form of stock options. The annual equity awards will vest in full on the one-year anniversary of the date of grant subject to the director's continued service through such date.

*Fiscal Year 2019 Outside Director Compensation Table*

| Name | Fees Earned or Paid in Cash ($) | Stock Awards ($)(1) | Option Awards ($)(1) | Total ($) |
|---|---|---|---|---|
| Jeffrey D. Alter | 67,250 | 199,411 | 204,796 | 471,457 |
| John T. Bigalke | 85,092 | 199,411 | 204,796 | 489,299 |
| Jeffrey A. Ferrell(2) | — | — | — | — |
| Brian L. Kotzin, M.D. | 33,518 | 121,753 | 135,127 | 290,398 |
| Samuel R. Nussbaum, M.D. | 71,000 | 199,411 | 204,796 | 475,207 |
| Lynne Powell | 63,667 | 199,411 | 204,796 | 467,874 |

(1) Amounts shown in this column represent the aggregate grant date fair value (calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718) of stock awards and stock options granted during the year. A description of the methodologies and assumptions we use to value equity awards and the manner in which we recognize the related expense are described in Note 9 to our consolidated financial statements, Stock-Based Compensation. These amounts may not correspond to the actual value eventually realized by each director because the value depends on the market value of our common stock at the time the award vests or is exercised. As of December 31, 2019, Mr. Alter held 10,652 restricted stock units and 21,305 stock options, Mr. Bigalke held 10,652 restricted stock units and 21,305 stock options, Mr. Ferrell held 0 restricted stock units and 0 stock options, Dr. Kotzin held 10,652 restricted stock units and 21,305 stock options, Dr. Nussbaum held 10,652 restricted stock units and 21,305 stock options and Ms. Powell held 10,652 restricted stock units and 21,305 stock options.

(2) Mr. Ferrell elected not to receive any compensation from us for his services in 2019.

Directors who are also employees, such as Dr. Stylli, did not and do not receive any compensation for their services as our directors. The compensation received by Dr. Stylli for his services to us as our chief executive officer is presented in the 2019 Summary Compensation Table in “Executive Compensation” below. We do not expect to compensate our employee directors for their service on our board of directors in the future.

**Indemnification Agreements**

We have entered into indemnification agreements with our officers and directors. The indemnification agreements and our amended and restated bylaws require us to indemnify these individuals to the fullest extent permitted by Delaware law.

## EXECUTIVE COMPENSATION

Our named executive officers, or NEOs, for 2019, which consist of our principal executive officer and the next two most highly-compensated executives, are:

- Dr. Harry Stylli, our Chief Executive Officer, or CEO, and Chairman of our Board;
- Matthew Cooper, our Chief Scientific Officer; and
- Sami Shihabi, our Chief Commercial Officer.

### 2019 Summary Compensation Table

The following table summarizes the compensation awarded to, earned by, or paid to our NEOs for 2019.

| Name and Principal Position | Year | Salary ($) | Stock Awards ($)(1) | Option Awards ($)(1) | Non-Equity Incentive Plan Compensation ($)(2) | All Other Compensation ($)(3) | Total ($) |
|---|---|---|---|---|---|---|---|
| Harry Stylli, *CEO and Chairman of the Board* | 2019 | 395,000 | — | — | — | — | 395,000 |
| Matthew Cooper, *Chief Scientific Officer* | 2019 | 382,306 | 228,938 | 257,475 | — | 11,400 | 880,119 |
| Sami Shihabi, *Chief Commercial Officer* | 2019 | 415,520 | 241,875 | 285,483 | — | — | 942,878 |

(1) Amounts shown in this column represent the aggregate grant date fair value (calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718) of stock awards and stock options granted during the year. A description of the methodologies and assumptions we use to value equity awards and the manner in which we recognize the related expense are described in Note 9 to our consolidated financial statements, Stock-Based Compensation. These amounts may not correspond to the actual value eventually realized by each NEO because the value depends on the market value of our common stock at the time the award vests or is exercised.

(2) Each named executive officer, other than Dr. Stylli who does not currently participate in our annual incentive bonus program, had a target bonus equal to 40% of base salary. In lieu of paying cash bonuses for the fiscal year ended December 31, 2019, on March 3, 2020, the compensation committee approved granting Dr. Cooper 3,916 restricted stock units with a fair value on such date of $38,231 and 6,614 stock options with a fair value on such date of $41,787 and Mr. Shihabi 6,385 restricted stock units with a fair value on such date of $62,336 and 10,783 stock options with a fair value on such date of $68,126. The grant date for all awards was March 4, 2020. The stock options will be fully-vested as of the date of grant and the restricted stock units will vest on the one-year anniversary of the date of grant. In accordance with applicable SEC rules, the grant date fair value of each award will appear in next year's Summary Compensation Table as Stock Awards and Option Awards.

(3) Amounts shown in this column represent the value of 401(k) contributions made by the Company.

### Outstanding Equity Awards at 2019 Fiscal-Year End

The following table sets forth information regarding outstanding equity awards at the end of 2019 for each of our NEOs.

| | | Option Awards | | | | Stock Awards | | | |
|---|---|---|---|---|---|---|---|---|---|
| Name | Grant Date | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Option Exercise Price ($)(1) | Option Expiration Date | Number of Shares or Units of Stock That Have Not Vested (#) | Market Value of Shares or Units of Stock That Have Not Vested ($) | | |
| Harry Stylli, Ph.D. | — | — | — | — | — | — | — | — | — |
| Matthew Cooper | 03/30/2015(2) | 36,419 | — | 10.75 | 03/30/2025 | — | — | — | — |
| | 02/24/2016(2) | 9,162 | 398 | 12.54 | 02/24/2026 | — | — | — | — |
| | 02/23/2017(2) | 17,198 | 7,081 | 13.34 | 02/23/2027 | — | — | — | — |
| | 02/22/2018(3) | 3,710 | 4,383 | 18.84 | 02/22/2028 | 2,191(5) | $ 21,390 | — | — |
| | 04/15/2019(4) | 2,967 | 37,094 | 14.21 | 04/15/2029 | 18,546(5) | $ 181,058 | — | — |
| Sami Shihabi | 01/15/2018(2) | 17,451 | 18,968 | 20.51 | 01/15/2028 | — | — | — | — |
| | 02/22/2018(3) | 1,854 | 2,192 | 18.84 | 02/22/2028 | 1,138(5) | $ 11,110 | — | — |
| | 04/15/2019(4) | 2,697 | 25,628 | 14.21 | 04/15/2029 | 12,813(5) | $ 125,089 | — | — |
| | 11/15/2019(3) | 337 | 15,849 | 11.30 | 11/15/2029 | 7,924(5) | $ 77,359 | — | — |

(1) Following the end of the fiscal year, on January 9, 2020, our Board and stockholders approved the reduction of the exercise price of each of the stock options granted on or after February 23, 2017 to $9.88 to reflect the current fair market value of our common stock on such date.
(2) These stock options vest over a four-year period, with 25% vesting on the one-year anniversary of the date of grant and then in equal monthly installments thereafter.
(3) These stock options vest in equal monthly installments over a four-year period beginning on the 15th of the month following the date of grant.
(4) 22,256 of Dr. Cooper's stock options and 12,139 of Mr. Shihabi's stock options vest in full on the four-year anniversary of the date of grant and the remainder vest in equal monthly installments over a four-year period beginning on the 15th of the month following the date of grant.
(5) Subject to continued service through each such date, 11,128 of Dr. Cooper's restricted stock units and 6,069 of Mr. Shihabi's restricted stock units granted on April 15, 2019 are currently unvested and scheduled to vest in full on the four-year anniversary of the date of grant, 2,023 of Mr. Shihabi's restricted stock units granted on February 22, 2018 vested 25% on March 15, 2019 with the remaining portion vesting in equal monthly installments thereafter over the following three years and the remainder of the named executive officers' restricted stock units vest in equal monthly installments over a four-year period beginning on the 15th of the month following the date of grant, provided that converted to equal semi-annual installments following the completion of our initial public offering. The named executive officers are only eligible to receive the vested shares underlying the restricted stock units, however, upon the earlier of a change in control (as defined in the 2018 Plan and applicable restricted stock unit award agreement) and our initial public offering, provided that either such event must occur on or before December 31, 2038. Any restricted stock units that remained unvested upon the completion of our initial public offering have continued to vest on the semi-annual vesting schedule described above.

### Employment Agreements

We do not have employment agreements with any of our NEOs at this time, but, in connection with Dr. Cooper's and Mr. Shihabi's commencement of employment, we extended offer letters to each of them that provide for base salary, participation in benefit plans and eligibility to earn an annual bonus. In addition, the offer letters provided for the grant of 36,419 stock options to each NEO that vested 25% on the first anniversary of the date of grant and then in equal monthly installments thereafter for the next 36 months. Dr. Cooper's offer letter also provides for severance benefits upon a termination without cause as described in further detail below.

### Incentive Compensation

***Annual Incentive.*** During 2019, our NEOs, other than Dr. Stylli, were eligible to receive an annual incentive bonus determined as a percentage of base salary based upon the achievement of pre-established performance goals, which for 2019 included revenue, sales and managed care goals, weighted 50%, products and launch goals, weighted 20%, corporate process goals relating to compliance, marketing, and human resources, weighted 10% and precision medicine goals, weighted 20%. For 2019, the target award opportunities for Messrs. Cooper and Shihabi were 40% of base salary. Performance was measured at fiscal year-end. Following the end of the year, the compensation committee decided to award the bonuses as equity awards granted under the 2018 Plan in the form of fully-vested stock options and restricted stock units that will vest on the one-year anniversary of the grant date, provided that Dr. Cooper and Mr. Shihabi are only eligible to receive vested shares underlying the restricted stock units upon the earlier of a change in control and our initial public offering, provided that either such event must occur on or before December 31, 2038. On March 3, 2020, the compensation committee approved granting Dr. Cooper 3,916 restricted stock units with a fair value on such date of $38,231.26 and 6,614 stock options with a fair value on such date of $38,230.49 and Mr. Shihabi 6,385 restricted stock units with a fair value on such date of $62,335.70 and 10,783 stock options with a fair value on such date of $62,328.30. The grant date for all awards was March 4, 2020. In accordance with applicable SEC rules, the grant date fair value of each award will appear in next year's Summary Compensation Table as Stock Awards and Option Awards.

***Equity Incentive.*** We maintain our 2018 Plan pursuant to which we currently grant stock option and restricted stock unit awards to eligible participants. Dr. Cooper and Mr. Shihabi received grants of stock options and restricted stock units under this plan in 2019. See the table titled "Outstanding Equity Awards at 2019 Fiscal-Year End" for more information with respect to these grants. Following the fiscal year ended December 31, 2019, Dr. Cooper and Mr. Shihabi received the stock options and restricted stock units described above under "Incentive Compensation" in lieu of cash bonuses for their performance in 2019. In addition, each named executive officer received annual equity awards under the 2018 Plan in 2020. Dr. Stylli received 239,074 restricted stock units and 478,148 stock options, Dr. Cooper received 16,186 restricted stock units and 32,372 stock options and Mr. Shihabi received 9,711 restricted stock units and 19,423 stock options. Subject to continued service through each such date, Dr. Stylli's restricted stock units vest in equal monthly installments over a four-year period from the date of grant and Dr. Cooper's and Mr. Shihabi's restricted stock units vest over a four-year period with 25% vesting on the one-year anniversary of the date of grant and then in equal monthly installments thereafter, provided that, in each case, vesting converted to equal semi-annual installments following the completion of our initial public offering. The named executive officers are only eligible to receive the vested shares underlying the restricted stock units upon the earlier of a change in control (as defined in the 2018 Plan and applicable restricted stock unit award agreement) and our initial public offering, provided that either such event must occur on or before December 31, 2038. Any restricted stock units that remained unvested upon the completion of our initial public offering have continued to vest on the semi-annual vesting schedule described above. Subject to continued service through each such date, the stock options vest in equal monthly installments over a four-year period.

**Post-Employment Compensation and Change in Control Payments and Benefits**

In December 2019, our Board adopted the Progenity, Inc. Severance Plan, or the Severance Plan, pursuant to which certain senior employees, including our NEOs, may become eligible to receive compensation and benefits upon certain qualifying terminations of employment. In the event that an NEO is terminated by the company without cause or voluntarily terminates employment with good reason (with "cause" and "good reason" each as defined in the Severance Plan), in either case more than three months prior to or 13 months or more following a change in control (as defined in the Severance Plan), subject to execution of a general release of claims in favor of the company and compliance with various standard restrictive covenants (such as protection of confidential information and non-disparagement commitments), the NEO is entitled to receive: (i) continued payment of base salary (for a period of 12 months, in the case of our CEO, and for a period of nine months, in the case of the other NEOs); and (ii) payment of the before-tax cost of the NEO's premiums to continue coverage, or the Continued Coverage, for the NEO and the NEO's eligible dependents, if any, under the company's health, vision and/or dental benefit plans to the extent such NEO (and eligible dependents, if applicable) were enrolled prior to such termination (for a period of 12 months, in the case of our CEO and for a period of nine months, in the case of the other NEOs). In the event that an NEO is terminated by the company without cause or voluntarily terminates employment with good reason, in either case within the period that is three months prior to or 13 months following a change in control, subject to execution of a general release of claims in favor of the company, the NEO is entitled to receive: (i) a lump sum payment within 30 days of the change in control equal to 24 months of base salary for the CEO and 18 months of base salary for the other NEOs; (ii) a lump sum payment within 30 days of the change in control equal to the NEO's average cash incentive bonus earned for the two most recently completed fiscal years multiplied by 2, in the case of the CEO and by 1.5, in the case of the other NEOs; (iii) the Continued Coverage for a period of 24 months (or such shorter period as required by law), in the case of the CEO and 18 months, in the case of the other NEOs; and (iv) all unvested time-based equity awards will accelerate in full and all unvested performance-based equity awards that are outstanding as of the termination date will vest, if at all, based on actual performance for the portion of the performance period ending shortly prior to the occurrence of the change in control as if such partial performance period were the entire performance period.

In addition, pursuant to the offer letter agreement entered into with Dr. Cooper, upon a termination without cause (as defined in his offer letter), subject to his execution and non-revocation of a release of claims in favor of the company and compliance with various standard restrictive covenants (such as protection of confidential information), he is entitled to receive continued payment of base salary and COBRA premiums for a period of 12 months. Any payments or benefits provided to Dr. Cooper pursuant to the offer letter will reduce any payments or benefits that may become due pursuant to the Severance Plan.

**Employee Benefit Plans**

***Equity Plans***

We currently maintain our 2018 Plan, our 2011 Incentive Stock Plan, or the 2011 Plan, and our Second Amended and Restated 2012 Stock Plan, or the 2012 Plan, pursuant to which we have granted equity awards to our NEOs and certain of our other employees, and our 2015 Consultant Stock Plan, or the 2015 Plan, pursuant to which we have granted equity awards to certain eligible consultants. Awards can no longer be granted under our 2011 Plan, 2012 Plan or 2015 Plan, but there are awards that remain outstanding under each of those plans. We have also adopted our 2020 Employee Stock Purchase Plan as described in further detail below.

*2018 Plan*

***Purpose.*** The 2018 Plan, which is the successor to and continuation of the 2012 Plan and 2015 Plan, is intended to help the company secure and retain the services of eligible award recipients, provide incentives

for such persons to exert maximum efforts for the success of the company and its affiliates and provide a means by which the eligible recipients may benefit from increases in the value of our common stock.

***Eligibility.*** Awards may be granted to employees, including officers, non-employee directors, and consultants of the company and its affiliates. Only our employees and those of our affiliates are eligible to receive incentive stock options.

***Types of Awards***. The 2018 Plan provides for the grant of incentive stock options within the meaning of Section 422 of the Code, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards, and other stock awards.

***Authorized Shares.*** Subject to adjustment for certain dilutive or related events, the aggregate maximum number of shares of our common stock that may be issued pursuant to stock awards under the 2018 Plan, or the Share Reserve, is 7,615,733 shares of common stock as the date hereof. The Share Reserve will automatically increase annually beginning on January 1, 2021 and ending with a final increase on January 1, 2030 in an amount equal to 4% of the total number of shares of capital stock outstanding on December 31st of the preceding calendar year; provided, however, that the Board may provide that there will not be a January 1st increase in the Share Reserve in a given year or that the increase will be less than 4% of the shares of capital stock outstanding on the preceding December 31st.

The Share Reserve will not be reduced if an award or any portion thereof (i) expires, is canceled, is forfeited or otherwise terminates without all of the shares covered by such award having been issued or (ii) is settled in cash. If any shares of common stock issued under an award are forfeited back to or repurchased by the company, such shares will revert to and again be made available for issuance under the 2018 Plan. Any shares retained or reacquired by the company in satisfaction of tax withholding obligations, as consideration for the exercise or purchase price of an award, or with the proceeds paid by the participant under the terms of a stock award, will also again become available for issuance under the 2018 Plan. If the company repurchases shares of common stock with stock option exercise or stock purchase proceeds, such shares will be added to the Share Reserve. For any stock award with respect to which a net number of shares of common stock are issued, whether in satisfaction of tax withholding obligations, exercise or purchase prices or otherwise, only the net number of shares will reduce the Share Reserve.

The aggregate maximum number of shares of common stock that may be issued on the exercise of incentive stock options is 7,615,733.

The aggregate dollar value of stock awards (based on the grant date fair value of such awards) granted under the 2018 Plan during any calendar year to any one non-employee director may not exceed $750,000.

Shares issued under the 2018 Plan may consist of authorized but unissued or reacquired common stock of the company, including shares repurchased by the company on the open market or otherwise or shares classified as treasury shares.

***Plan Administration.*** Our Board has the authority to administer the 2018 Plan, including the powers to: (i) determine who will be granted awards and what type of award, when and how each award will be granted, the provisions of each award (which need not be identical), the number of shares or cash value subject to an award and the fair market value applicable to an award; (ii) construe and interpret the 2018 Plan and awards granted thereunder and establish, amend and revoke rules and regulations for administration of the 2018 Plan and awards, including the ability to correct any defect, omission or inconsistency in the 2018 Plan or any award document; (iii) settle all controversies regarding the 2018

Plan and awards granted thereunder; (iv) accelerate or extend, in whole or in part, the time during which an award may be exercised or vested or at which cash or shares may be issued; (v) suspend or terminate the 2018 Plan; (vi) amend the 2018 Plan; (vii) submit any amendment to the 2018 Plan for stockholder approval; (viii) approve forms of award documents for use under the 2018 Plan and to amend the terms of any one or more outstanding awards; (ix) generally exercise such powers and perform such acts as the Board may deem necessary or expedient to promote the best interests of the company and that are not in conflict with the provisions of the 2018 Plan or any award documents; and (x) adopt procedures and sub-plans as are necessary or appropriate.

Subject to the provisions of the 2018 Plan, our Board may delegate all or some of the administration of the 2018 Plan to a committee of one or more directors and may delegate to one or more officers the authority to designate employees who are not officers to be recipients of options and stock appreciation rights (and, to the extent permitted by applicable law, other stock awards) and, to the extent permitted by applicable law, to determine the terms of such awards and the number of shares of common stock to be subject to such stock awards granted to such employees. Unless otherwise provided by the Board, delegation of authority by the Board to a committee or an officer will not limit the authority of the Board. All determinations, interpretations and constructions made by the Board (or another authorized committee or officer exercising powers delegated by the Board) in good faith will be final, binding and conclusive on all persons. Pursuant to the provisions of the 2018 Plan, the Board has delegated administration of the 2018 Plan to the Compensation Committee.

***Stock Options.*** A stock option may be granted as an incentive stock option or a nonqualified stock option. The option exercise price may not be less than the fair market value of the stock subject to the option on the date the option is granted or, with respect to incentive stock options, less than 110% of the fair market value if the recipient owns stock possessing more than 10% of the total combined voting power of all classes of stock of the company or any affiliate, or a Ten Percent Stockholder (as defined in the 2018 Plan), unless the option was granted pursuant to an assumption or substitution for another option in a manner satisfying the provisions of Section 409A and, if applicable, Section 424(a) of the Code. Options will not be exercisable after the expiration of ten years from the date of grant (or five years, in the case of an incentive stock option issued to a Ten Percent Stockholder). Each award agreement will set forth the number of shares subject to each option. The purchase price of any shares acquired pursuant to an option may be payable in cash, check, bank draft, money order, net exercise or as otherwise determined by the Board and set forth in the award agreement, including through an irrevocable commitment by a broker to pay over such amount from a sale of the shares issuable under the option and the delivery of previously owned shares. The vesting schedule applicable to any option, including any performance conditions, will be as set forth in the award agreement.

***Stock Appreciation Rights***. A stock appreciation right, or SAR, is a right that entitles the participant to receive, in cash or shares of stock or a combination thereof, as determined by the Board, value equal to or otherwise based on the excess of (i) the fair market value of a specified number of shares at the time of exercise over (ii) the exercise price of the right, as established by the Board on the date of grant. Upon exercising a SAR, the participant is entitled to receive the amount by which the fair market value of the stock at the time of exercise exceeds the exercise price of the SAR. The exercise price of each SAR may not be less than the fair market value of the stock subject to the award on the date the SAR is granted, unless the SAR was granted pursuant to an assumption of or substitution for another option in a manner satisfying the provisions of Section 409A of the Code. SARs will not be exercisable after the expiration of ten years from the date of grant. Each award agreement will set forth the number of shares subject to the SAR. The vesting schedule applicable to any SAR, including any performance conditions, will be as set forth in the award agreement.

*Provisions Applicable to Both Options and SARs*

***Transferability***. The Board may, in its sole discretion, impose limitations on the transferability of options and SARs. Unless the Board provides otherwise, an option or SAR will not be transferable except by will or the laws of descent and distribution and will be exercisable during the lifetime of a participant only by such participant. The Board may permit transfer of an option or SAR in a manner not prohibited by applicable law. Subject to approval by the Board, an option or SAR may be transferred pursuant to the terms of a domestic relations order or similar instrument or pursuant to a beneficiary designation.

***Termination of Service***. Except as otherwise provided in an applicable award document or other agreement between a participant and the company or any affiliate, upon a termination for any reason other than for cause or due to death or disability, a participant may exercise his or her option or SAR (to the extent such award was exercisable as of the date of termination) for a period of three months following the termination date or, if earlier, until the expiration of the term of such award. Upon a termination due to a participant's disability, unless otherwise provided in an applicable award or other agreement, the participant may exercise his or her option or SAR (to the extent that such award was exercisable as of the date of termination) for a period of 12 months following the termination date or, if earlier, until the expiration of the term of such award. Upon a termination due to a participant's death, unless otherwise provided in an applicable award or other agreement, the participant's estate may exercise the option or SAR (to the extent such award was exercisable as of the termination date) for a period of 18 months following the termination date or, if earlier, until the expiration of the term of such award. Unless provided otherwise in an award or other agreement, an option or SAR will terminate on the date that a participant is terminated for cause and the participant will not be permitted to exercise such award.

*Awards Other Than Options and SARs*

***Restricted Stock and Restricted Stock Units.*** Restricted shares are awards of shares, the grant, issuance, retention, vesting and/or transferability of which is subject during specified periods of time to such conditions (including continued employment) and terms as the Board deems appropriate. Restricted stock units, or RSUs, are an award denominated in units under which the issuance of shares (or cash payment in lieu thereof) is subject to such conditions (including continued employment) and terms as the Board deems appropriate. Each award document evidencing a grant of restricted stock or RSUs will set forth the terms and conditions of each award, including vesting and forfeiture provisions, transferability and, if applicable, right to receive dividends or dividend equivalents.

***Performance Awards.*** A performance award is a stock or cash award that is payable contingent upon the attainment during a performance period of certain performance goals. A performance award may, but need not, require the completion of a specified period of service. The length of any performance period, the applicable performance goals, and the measurement of whether and to what degree such performance goals have been attained will be as determined by the Compensation Committee or the Board. The Compensation Committee or the Board retains the discretion to reduce or eliminate the compensation or economic benefit upon the attainment of any performance goals and to define the manner of calculating the performance criteria it selects to use for a performance period.

***Other Stock Awards.*** The 2018 Plan permits the grant of other forms of stock awards valued in whole or in part by reference to, or otherwise based on, the common stock of the company, including the appreciation in value thereof. Subject to the provisions of the 2018 Plan, the Board has the sole and complete authority to determine the persons to whom and the times at which such other stock awards may be granted and other provisions related thereto.

***Certain Adjustments.*** In the event of any change in the capitalization of the company, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to

the 2018 Plan; (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of incentive stock options; and (iii) the class(es) and number of securities or other property and value (including price per share of stock) subject to outstanding stock awards. The Board will make such adjustments, and its determination will be final, binding, and conclusive. Unless provided otherwise in an award or other agreement, in the event of a dissolution or liquidation of the company, all outstanding stock awards (other than stock awards consisting of vested and outstanding shares of company common stock not subject to a forfeiture condition or the company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of common stock subject to the company's repurchase rights or subject to forfeiture may be repurchased or reacquired by the company notwithstanding the fact that the holder of such stock award is providing continuous service; provided, however, that the Board may, in its sole discretion, provide that some or all stock awards will become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent not already expired or terminated) before the dissolution or liquidation is completed but contingent upon its completion.

***Corporate Transaction***. Unless provided otherwise in an award agreement or other agreement between a participant and the company or an affiliate, in the event of a Corporate Transaction (as defined in the 2018 Plan), the Board will take one or more of the following actions with respect to each outstanding award, contingent upon the closing or completion of the Corporate Transaction:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the award or to substitute a similar stock award for the award (including, but not limited to, an award to acquire the same consideration per share paid to the stockholders of the company pursuant to the Corporate Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the company in respect of common stock issued pursuant to the award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the award (and, if applicable, the time at which the award may be exercised) to a date prior to the effective time of such Corporate Transaction as determined by the Board, with such award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and with such accelerated vesting (and if applicable, such exercise) reversed if the Corporate Transaction does not become effective;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the company with respect to the award;

(v) cancel or arrange for the cancellation of the award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration, if any, as the Board, in its reasonable determination, may consider appropriate as an approximation of the value of the canceled award;

(vi) cancel or arrange for the cancellation of the award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for a payment equal to the excess, if any, of (A) the value in the Corporate Transaction of the property the participant would have received upon the exercise of the award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise; and

(vii) continuation of the award.

The Board need not take the same action or actions with respect to all awards or portions thereof or with respect to all participants and may take different actions with respect to the vested and unvested portions of an award.

In the absence of any affirmative determination by the Board at the time of a Corporate Transaction, each outstanding award will be assumed or an equivalent award will be substituted by such successor corporation or a parent or subsidiary of such successor corporation, referred to as a Successor Corporation, unless the Successor Corporation does not agree to assume the award or to substitute an equivalent award, in which case the vesting of such award will accelerate in its entirety (along with, if applicable, the time at which the award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board will determine (or, if the Board does not determine such a date, to the date that is five days prior to the effective date of the Corporate Transaction), with such award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and with such exercise reversed if the Corporate Transaction does not become effective.

***Change in Control***. An award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control (as defined in the 2018 Plan) as may be provided in the award agreement for such award or as may be provided in any other written agreement between the company or any affiliate and the participant, but in the absence of such provision, no such acceleration will occur.

***Termination and Amendment***. The Board may suspend or terminate the 2018 Plan at any time. No awards will be granted after the tenth anniversary of the date the Board adopted the 2018 Plan. No awards may be granted under the 2018 Plan while the 2018 Plan is suspended or after it is terminated.

*2015 Plan*

***Purpose.*** The 2015 Plan was adopted to advance the interests of the company and our stockholders by providing an incentive to attract, retain, and reward individual consultants performing services for us and by motivating such persons to contribute to our growth and profitability. The 2015 Plan ceased to be available for the grant of awards upon the effective date of the 2018 Plan.

***Eligibility.*** The 2015 Plan provided for awards to be granted to consultants who qualified as accredited investors at the time of grant.

***Authorized Shares.*** The 2015 Plan ceased to be available for the grant of awards upon the effective date of the 2018 Plan, so there are no future authorized shares. As of November 1, 2020, options to purchase 102,778 shares of our common stock remained outstanding under the 2015 Plan, a sufficient number of shares remain available under the 2015 Plan to satisfy these outstanding options, and the terms of the 2015 Plan will continue to govern the outstanding awards.

***Plan Administration.*** Our Board or a committee thereof appointed by the Board has the authority to administer the 2015 Plan, including the powers to: (i) determine the persons to whom, and the time or times at which, awards would be granted and the number of shares of common stock subject to such awards, (ii) determine the types of awards granted, (iii) determine the fair market value of our common stock, (iv) determine the terms, conditions and restrictions applicable to each award (which need not be identical) and any shares acquired pursuant thereto, including, without limitation, (a) the exercise or purchase price of shares pursuant to any award, (b) the method of payment for shares purchased pursuant to any award, (c) the method for satisfaction of any tax withholding obligation arising in connection with any award or shares acquired pursuant thereto, including by the withholding or delivery of shares of common stock, (d) the timing, terms and conditions of the exercisability or vesting of any award or shares acquired pursuant thereto, (e) the time of expiration of any award, (f) the effect of any participant's termination of service on any of the foregoing, and (g) all other terms, conditions and

restrictions applicable to any award or shares acquired pursuant thereto not inconsistent with the terms of the 2015 Plan, (v) approve forms of award agreements, (vi) amend, modify, extend, cancel or renew any award or waive any restrictions or conditions applicable to any award or any shares acquired pursuant thereto, (vii) accelerate, continue, extend or defer the exercisability or vesting of any award or any shares acquired pursuant thereto, including with respect to the period following a participant's termination of service, (viii) prescribe, amend or rescind rules, guidelines and policies relating to the 2015 Plan, or adopt sub-plans or supplements to, or alternate versions of, the 2015 Plan as deemed necessary or desirable to comply with laws, tax policies, accounting principles or customs of foreign jurisdictions, and (ix) correct any defect, supply any omission or reconcile any inconsistency in the 2015 Plan or any award agreement and to make all other determinations and take such other actions with respect to the plan and outstanding awards as deemed advisable to the extent not inconsistent with the terms of the 2015 Plan or applicable law.

***Stock Options.*** A stock option may be granted only as a nonqualified stock option. The option exercise price may not be less than the fair market value of the stock subject to the option on the date the option is granted, unless the option was granted pursuant to an assumption or substitution for another option in a manner qualifying under Section 409A of the Code. Options will not be exercisable after the expiration of ten years from the date of grant. Each award agreement sets forth the number of shares subject to each option. The purchase price of any shares acquired pursuant to an option may be payable in cash, check or cash equivalent, cashless exercise, net exercise or as otherwise determined by the Board and set forth in the award agreement, including through an irrevocable commitment by a broker to pay over such amount from a sale of the shares issuable under the option and the delivery of previously owned shares. The vesting schedule applicable to any option is as set forth in the award agreement.

***Transferability***. Unless otherwise provided in an award agreement, during the lifetime of the participant, an option will only be exercisable by the participant or his or her guardian or legal representative. An option may not be subject to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment, except by transfer by will or the laws of descent and distribution.

***Certain Adjustments.*** In the event of certain changes in the capitalization of the company, the Board will make appropriate and proportionate adjustments, including to outstanding awards and any applicable exercise price in order to prevent dilution or enlargement of participants' rights.

***Change in Control***. Subject to the requirements and limitations of Section 409A of the Code, if applicable, the Board may provide for any one or more of the following upon a Change in Control (as defined in the 2015 Plan): (i) accelerated vesting of outstanding awards, (ii) assumption, continuation or substitution of outstanding awards and/or (iii) cash-out of outstanding awards.

***Termination and Amendment***. The Board may amend, suspend, or terminate the 2015 Plan at any time, subject to stockholder approval, if applicable in the case of certain amendments. As of the effectiveness of the 2018 Plan, no awards have been or will be granted under the 2015 Plan but outstanding awards will continue to be governed by their terms.

*2012 Plan*

***Purpose.*** The 2012 Plan was adopted to advance the interests of the company and our stockholders by providing an incentive to attract, retain, and reward persons performing services for us and by motivating such persons to contribute to our growth and profitability. The 2012 Plan ceased to be available for the grant of awards upon the effective date of the 2018 Plan.

***Eligibility.*** The 2012 Plan allowed for awards to be granted to employees, consultants and non-employee directors.

***Authorized Shares.*** The 2012 Plan ceased to be available for the grant of awards upon the effective date of the 2018 Plan, so there are no future authorized shares. As of November 1, 2020, options to purchase 1,087,267 shares of our common stock remained outstanding under the 2012 Plan, a sufficient number of shares remain available under the 2012 Plan to satisfy these outstanding options, and the terms of the 2012 Plan will continue to govern the outstanding awards.

***Plan Administration.*** Our Board or a committee thereof appointed by the Board has the authority to administer the 2012 Plan, including the powers to: (i) determine the persons to whom, and the time or times at which, awards would be granted and the number of shares of common stock subject to such awards, (ii) determine the types of awards granted, (iii) determine the fair market value of our common stock, (iv) determine the terms, conditions and restrictions applicable to each award (which need not be identical) and any shares acquired pursuant thereto, including, without limitation, (a) the exercise or purchase price of shares pursuant to any award, (b) the method of payment for shares purchased pursuant to any award, (c) the method for satisfaction of any tax withholding obligation arising in connection with any award or shares acquired pursuant thereto, including by the withholding or delivery of shares of common stock, (d) the timing, terms and conditions of the exercisability or vesting of any award or shares acquired pursuant thereto, (e) the time of expiration of any award, (f) the effect of any participant's termination of service on any of the foregoing, and (g) all other terms, conditions and restrictions applicable to any award or shares acquired pursuant thereto not inconsistent with the terms of the 2012 Plan, (v) approve forms of award agreements, (vi) amend, modify, extend, cancel or renew any award or waive any restrictions or conditions applicable to any award or any shares acquired pursuant thereto, (vii) accelerate, continue, extend or defer the exercisability or vesting of any award or any shares acquired pursuant thereto, including with respect to the period following a participant's termination of service, (viii) prescribe, amend or rescind rules, guidelines and policies relating to the 2012 Plan, or adopt sub-plans or supplements to, or alternate versions of, the 2012 Plan as deemed necessary or desirable to comply with laws, tax policies, accounting principles or customs of foreign jurisdictions, and (ix) correct any defect, supply any omission or reconcile any inconsistency in the 2012 Plan or any award agreement and to make all other determinations and take such other actions with respect to the plan and outstanding awards as deemed advisable to the extent not inconsistent with the terms of the 2012 Plan or applicable law.

***Stock Options.*** A stock option may be granted as an incentive stock option or a nonqualified stock option. The option exercise price may not be less than the fair market value of the stock subject to the option on the date the option is granted or, with respect to incentive stock options, less than 110% of the fair market value if the recipient is a Ten Percent Stockholder (as defined in the 2012 Plan), unless the option was granted pursuant to an assumption or substitution for another option in a manner qualifying under Section 424(a) of the Code. Options will not be exercisable after the expiration of ten years from the date of grant (or five years, in the case of an incentive stock option issued to a Ten Percent Stockholder). Each award agreement sets forth the number of shares subject to each option. The purchase price of any shares acquired pursuant to an option may be payable in cash, check or cash equivalent, cashless exercise, net exercise or as otherwise determined by the Board and set forth in the award agreement, including through an irrevocable commitment by a broker to pay over such amount from a sale of the shares issuable under the option and the delivery of previously owned shares. The vesting schedule applicable to any option is as set forth in the award agreement.

***Transferability***. During the lifetime of the participant, an option will only be exercisable by the participant or his or her guardian or legal representative. An option may not be subject to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment, except by transfer by will or the laws of descent and distribution. Notwithstanding the foregoing, the administrator, in its discretion, may provide that nonstatutory stock options may be assigned or transferred subject to certain limitations.

***Certain Adjustments.*** In the event of certain changes in the capitalization of the company, the Board will make appropriate and proportionate adjustments, including to outstanding awards and any applicable exercise price in order to prevent dilution or enlargement of participants' rights.

***Change in Control***. Subject to the requirements and limitations of Section 409A of the Code, if applicable, the Board may provide for any one or more of the following upon a Change in Control (as defined in the 2012 Plan): (i) accelerated vesting of outstanding awards, (ii) assumption, continuation or substitution of outstanding awards and/or (iii) cash-out of outstanding awards.

***Termination and Amendment***. The Board may amend, suspend, or terminate the 2012 Plan at any time, subject to stockholder approval, if applicable in the case of certain amendments. As of the effectiveness of the 2018 Plan, no awards have been or will be granted under the 2012 Plan but outstanding awards will continue to be governed by their terms.

*2011 Plan*

We ceased granting awards under the 2011 Plan following the adoption of the 2012 Plan. As of November 1, 2020, options to purchase 11,805 shares of our common stock remained outstanding under the 2011 Plan, a sufficient number of shares remain available under the 2011 Plan to satisfy these outstanding options, and the terms of the 2011 Plan, which are the same in all material respects to the terms under the 2012 Plan, will continue to govern the outstanding awards.

*2020 Employee Stock Purchase Plan*

On June 15, 2020, our Board adopted the 2020 Employee Stock Purchase Plan, or 2020 ESPP, in order to enable eligible employees to purchase shares of our common stock at a discount. Purchases will be accomplished by employees through participation in discrete offering periods. There are not currently any outstanding awards under the 2020 ESPP because no offering period under the 2020 ESPP has yet commenced. The 2020 ESPP, excluding any sub-plans thereunder, is intended to qualify as an employee stock purchase plan under Section 423 of the Code. The initial number of shares of our common stock reserved for issuance under the 2020 ESPP is equal to 510,000 shares of our common stock as the date hereof. The number of shares of common stock reserved for issuance under the 2020 ESPP will increase automatically on January 1 of each year, for ten years, by the lesser of (i) 1% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year or (ii) 600,000 shares of our common stock, unless otherwise provided by the Board. The maximum number of shares that may be issued to any employee in a given offering period will be that number of shares of common stock that could be purchased on the first day of such offering period with $50,000, taking into consideration any discount from the offering period in accordance with the terms of the 2020 ESPP; provided, however, that the administrator of the 2020 ESPP may change this limitation at any time on a prospective basis to apply to future offering periods. In addition, no participant will have the right to purchase shares of our common stock in an amount, when aggregated with purchase rights under all of our employee stock purchase plans that are also in effect in the same calendar year, that has a fair market value of more than $25,000, determined as of the first day of the applicable offering period, for each calendar year in which that right is outstanding.

Our Compensation Committee will administer the 2020 ESPP. All of our employees who work 20 or more hours per week and for five or more months per year who are employed at the beginning of an enrollment period are generally eligible to participate in the 2020 ESPP. Employees who are 5% stockholders, or would become 5% stockholders as a result of their participation in the 2020 ESPP, cannot participate in the 2020 ESPP. Under the 2020 ESPP, eligible employees will be able to acquire shares of our common stock by accumulating funds through payroll deductions. Our eligible employees will be able to select a rate of payroll deduction between 1% and 15% of their eligible compensation. We will also have the right to amend or terminate the 2020 ESPP at any time. The 2020 ESPP will continue until terminated in accordance with the provisions therein.

The 2020 ESPP will consist of offering periods of no more than 27 months. Once established, the duration and timing of offering periods may be changed or modified by the Compensation Committee. Unless established otherwise by the Compensation Committee, the duration of an offering period will be 24 months, each offering period will consist of four (4) consecutive six (6) month purchase periods and a new offering period will commence every six (6) months following the first day of the prior offering period. For each offering period, new participants will be required to enroll in a timely manner. A participant may only participate in a single offering period at a time. Once an employee is enrolled in an offering period, participation in the next 24 month offering period that begins following the cessation of the current offering period in which the employee is participating will occur automatically unless the participant provides timely notice to the administrator in accordance with the administrator's established procedures. Unless the Compensation Committee provides otherwise, an employee must be employed on each purchase date in order for his or her option to be exercised on such purchase date. Upon an employee's termination of employment during an offering period, the employee's outstanding option to purchase shares of common stock will immediately terminate and all sums previously collected from the employee will be refunded.

The purchase price for shares of our common stock purchased under the 2020 ESPP will be not less than 85% of the lesser of the fair market value of our common stock on (i) the first trading day of the applicable offering period and (ii) the last trading day of each six month purchase period in the applicable offering period.

If we experience any change in our capitalization without receipt of consideration by the company, the type and number of securities covered by each outstanding purchase right, the then number of authorized shares under the 2020 ESPP and the maximum number of shares that may be added to the share reserve for the 2020 ESPP in the future will be appropriately and proportionately adjusted by our Board.

If we experience a proposed liquidation or dissolution, any offering period will terminate immediately prior to the consummation of such transaction and all outstanding purchase rights will automatically terminate and the amounts of all payroll deductions will be refunded without interest to the participants. In the event of a proposed sale of all or substantially all of our assets, or our merger or consolidation or similar combination of the company with or into another entity, then in the sole discretion of our Board, (i) each purchase right will be assumed or an equivalent right substituted by the successor corporation or parent or subsidiary of such successor entity, (ii) on a date established by our Board on or before the date of consummation of such merger, consolidation, combination or sale, such date will be treated as the final purchase date of each offering period, and all outstanding purchase rights will be exercised on such date, (iii) all outstanding purchase rights will terminate and the accumulated payroll deductions will be refunded without interest to the participants, or (iv) outstanding purchase rights will continue unchanged.

The Compensation Committee may adopt rules or procedures relating to the operation and administration of the 2020 ESPP to accommodate specific requirements of local laws and jurisdictions and, if necessary, can establish sub-plans for particular foreign jurisdictions.

Our Board or Compensation Committee may terminate or suspend the 2020 ESPP at any time and may revise or amend the plan in any respect, subject to required stockholder approval.

The foregoing description of the 2020 ESPP is qualified in its entirety by reference to the complete text of the 2020 ESPP, which will be provided as an exhibit to this registration statement.

***401(k) Plan***

We offer our eligible full-time employees, including our NEOs, the opportunity to participate in our tax-qualified 401(k) plan. Employees can contribute 1% to 85% of their eligible earnings up to the

Internal Revenue Service's annual limits on a before-tax basis, which is generally $19,500 for 2020. We provide a match of 60% of the first 10% contributed. The matches we provided to our NEOs in 2019 are reflected in the "All Other Compensation" column of the 2019 Summary Compensation Table above. The matching funds that we provide are 100% vested after the completion of one year of service.

Avero Diagnostics offers eligible full-time employees the opportunity to participate in its tax-qualified 401(k) plan. Employees can contribute 1% to 90% of their eligible earnings up to the Internal Revenue Service's annual limits on a before-tax basis, which is generally $19,500 for 2020. Avero Diagnostics provides a match of 60% of the first 10% contributed. Avero Diagnostics funds are 100% vested after the completion of one year of service.

***Other Retirement Benefits***

We do not maintain any defined benefit pension plans or any nonqualified deferred compensation plans.

## PRINCIPAL STOCKHOLDERS

The following table presents information regarding beneficial ownership of our equity interests as of November 1, 2020 by:

- each stockholder or group of stockholders known by us to be the beneficial owner of more than 5% of our outstanding equity interests, or our 5% and Greater Stockholders;
- each of our directors;
- our NEOs; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC, and thus represents voting or investment power with respect to our securities. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days after November 1, 2020 through the exercise of any stock option, warrants or other rights. Unless otherwise indicated below, to our knowledge and subject to applicable community property rules, the persons and entities named in the table have sole voting and sole investment power with respect to all equity interests beneficially owned, subject to community property laws where applicable. Unless otherwise indicated, the address of each individual listed in this table is 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122.

The percentage ownership information shown in the column titled “Shares Beneficially Owned Prior to the Offering” in the table below is based on 46,849,249 shares of our common stock outstanding as of November 1, 2020. The percentage ownership information shown in the column titled “Shares Beneficially Owned After the Offering” in the table below is based on shares of our common stock outstanding after this offering, assuming shares of common stock being sold in this offering and excluding any shares of common stock issuable upon conversion of the convertible notes offered in the concurrent offering. Shares of our common stock that a person has the right to acquire within 60 days after November 1, 2020 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group.

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering. The following table does not reflect the purchase of any shares in this offering by these existing stockholders.

| Name and Address of Beneficial Owner | Shares Beneficially Owned Prior to the Offering | | Shares Beneficially Owned After the Offering | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| **5% and Greater Stockholders** | | | | |
| Athyrium Capital Management, LP(1) | 23,303,346 | 49.3% | | % |
| **Named Executive Officer and Directors** | | | | |
| Harry Stylli, Ph.D.(2) | 14,379,288 | 30.7% | | % |
| Jeffrey D. Alter(3) | 9,320 | * | | % |
| John T. Bigalke(4) | 9,320 | * | | % |
| Jeffrey A. Ferrell(1) | 23,303,346 | 49.3% | | % |
| Brian L. Kotzin, M.D.(5) | 7,989 | * | | % |
| Samuel R. Nussbaum, M.D.(6) | 9,320 | * | | % |
| Lynne Powell(7) | 9,320 | * | | % |
| Matthew Cooper(8) | 113,955 | * | | % |
| Sami Shihabi(9) | 64,891 | * | | % |
| **All Executive Officers and Directors as a group (14 persons)**(10) | 38,100,194 | 80.6% | | % |

* Represents beneficial ownership of less than one percent.

(1) Based on a Schedule 13D filed on July 6, 2020. Consists of (a) 4,211,977 shares of common stock owned by Athyrium Opportunities Fund (A) LP, (b) 2,329,083 shares of common stock owned by Athyrium Opportunities Fund (B) LP, (c) 7,603,040 shares of common stock owned by Athyrium Opportunities III Acquisition 2 LP, (d) 4,175,753 shares of common stock owned by Athyrium Opportunities III Co-Invest 1 LP, (e) 4,583,333 shares of common stock owned by Athyrium Opportunities 2020 LP and (f) 400,160 shares of common stock issuable upon exercise of the Series B Preferred Stock Warrant owned by Athyrium Opportunities III Co-Invest 1 LP. Voting and investment power with respect to the shares of our common stock held by Athyrium Opportunities Fund (A) LP, Athyrium Opportunities Fund (B) LP, Athyrium Opportunities III Acquisition 2 LP, and Athyrium Opportunities III Co-Invest 1 LP and Athyrium Opportunities 2020 LP (collectively, the "Athyrium Entities") may be deemed to be shared by certain affiliated entities. Athyrium Opportunities Associates Co-Invest LLC is the general partner of Athyrium Opportunities III Co-Invest 1 LP, Athyrium Opportunities Associates III GP LLC is the general partner of Athyrium Opportunities Associates III LP, which is the general partner of each of Athyrium Opportunities 2020 LP and Athyrium Opportunities III Acquisition 2 LP, and Athyrium Opportunities Associates GP LLC is the general partner of Athyrium Opportunities Associates LP, which is the general partner of each of Athyrium Opportunities Fund (A) LP and Athyrium Opportunities Fund (B) LP. Jeffrey A. Ferrell, a member of our Board, is President of each of Athyrium Opportunities Associates Co-Invest LLC, Athyrium Opportunities Associates III GP LLC, and Athyrium Opportunities Associates GP LLC and in his capacity as such, may be deemed to exercise shared voting and investment power over the shares owned by the Athyrium Entities. Jeffrey A. Ferrell disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. The business address of each of the Athyrium Entities is c/o Athyrium Capital Management, LP is 505 Fifth Avenue, Floor 18, New York, New York 10017.

(2) Consists of (a) 14,224,895 shares of common stock, (b) 24,900 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (c) 129,493 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(3) Consists of (a) 3,994 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 5,326 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(4) Consists of (a) 3,994 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 5,326 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(5) Consists of (a) 2,663 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 5,326 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(6) Consists of (a) 3,994 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 5,326 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(7) Consists of (a) 3,994 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 5,326 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(8) Consists of (a) 9,250 shares of common stock, (b) 5,139 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date and (b) 99,566 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(9) Consists of 3,844 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date.

(10) Consists of (a) those shares described in footnotes (1) through (9) above, (b) 6,474 shares of common stock beneficially owned by our executive officers not named in the table above, (c) 11,803 shares of common stock underlying restricted stock units vested as of November 1, 2020 or that will vest within 60 days after such date held by our executive officers not named in the table above, and (d) 175,168 shares of common stock underlying options that are exercisable as of November 1, 2020 or will become exercisable within 60 days after such date held by our executive officers not named in the table above.

## CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a summary of each transaction or series of similar transactions since January 1, 2017, or any currently proposed transaction, to which we were or are a party in which:

- the amount involved exceeded or exceeds $120,000; and
- any of our directors or executive officers, any holder of 5% of any class of our voting capital stock or any member of his or her immediate family had or will have a direct or indirect material interest.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to such securities.

### Related Party Transactions

***Sales of Series B Preferred Stock***

In October 2017, we entered into the Credit Agreement with Athyrium Opportunities III Co-Invest 1 LP, as collateral agent and a lender, which is a fund managed by Athyrium. Athyrium beneficially owns more than 5% of a class of our voting securities and has designated a director on our Board.

The Credit Agreement provides for a term loan of $75.0 million, which accrues interest at a rate of 9.5% and is due October 27, 2022. The term loan contains customary covenants, including a requirement that we maintain a minimum unrestricted cash balance at all times of at least $5.0 million. The term loan is secured by all of our tangible and intangible property and assets, with the exception of our intellectual property. As of September 30, 2020, $75.0 million in principal was outstanding under the term loan. Through September 30, 2020, we have paid $22.9 million in interest on the term loan.

The Credit Agreement also provided for the issuance of a warrant to purchase 1,416,431 shares of our Series B Preferred Stock at an initial exercise price of $3.53 per share. For a more detailed description of the Series B Preferred Stock Purchase Warrant, see “Description of Capital Stock—Warrant.”

A portion of the proceeds of the term loan was used to repay in full the $20.0 million of principal plus accrued and unpaid interest on a credit and security agreement we entered into in June 2013 with other funds managed by Athyrium.

On March 31, 2020, we entered into the Credit Agreement Amendment with the collateral agent and lender party thereto, providing for the payment of interest due and payable as of March 31, 2020 in shares of our Series B Preferred Stock, and further providing for the payment of interest due and payable as of June 30, 2020 in shares of our Series B Preferred Stock in the event our initial public offering had not been consummated by such date. Pursuant to the Credit Agreement Amendment, we concurrently entered into a Series B Preferred Stock Subscription Agreement, or the Subscription Agreement, with the lender, which provided for the issuance of 967,130 shares of Series B Preferred Stock at a subscription price of $2.25 per share, as payment for interest due and payable as of March 31, 2020 and all applicable fees as set forth in the Credit Agreement Amendment. The Subscription Agreement further provided for a potential additional issuance of shares of Series B Preferred Stock as payment for the interest due and payable under the Credit Agreement as of June 30, 2020, in the event that our initial public offering had not been consummated by such date, with the amount of shares to be determined at such time.

On May 6, 2020, in connection with the issuance and sale of the Convertible Note described below, we entered into the Second Credit Agreement Amendment allowing for the creation or incurrence of certain indebtedness and the making of payments, in each case, in respect of the Convertible Note, among other matters.

In October 2017, we also completed an equity financing and issued and sold an aggregate of 14,164,306 shares of our newly created Series B Preferred Stock at a purchase price of $3.53 per share. We issued and sold the shares of Series B Preferred Stock pursuant to a stock purchase agreement entered into with Athyrium Opportunities III Co-Invest 1 LP, a fund managed by Athyrium, for an aggregate purchase price of approximately $50.0 million. Each share of our Series B Preferred Stock is convertible into one share of common stock. The purchase price was paid in the form of (i) cash in an amount equal to $37.5 million and (ii) the delivery of 3,489,885 shares of our Series A-2 Preferred Stock, which shares of Series A-2 Preferred Stock had been purchased from Dr. Stylli, our Chairman and Chief Executive Officer, for $12.5 million.

In August 2019, we completed an equity financing and issued and sold an aggregate of 9,090,910 shares of our Series B Preferred Stock at a purchase price of $2.75 per share. The shares were issued and sold pursuant to a stock purchase agreement entered into with Athyrium Opportunities III Acquisition LP, a fund managed by Athyrium, a beneficial owner of more than 5% of a class of our voting securities, for an aggregate purchase price of $25.0 million. Prior to our initial public offering, each share of our Series B Preferred Stock was convertible into one share of common stock. Concurrent with the issuance, we offered all holders of our Series A-1 Preferred Stock the opportunity to exchange their shares of Series A-1 Preferred Stock for Series B Preferred Stock. All holders of Series A-1 Preferred Stock exchanged all of their shares of Series A-1 Preferred Stock (an aggregate amount of 1,500,000 shares) for an aggregate of 35,664,240 shares of Series B Preferred Stock. In connection with the issuance, we amended and restated our Investors' Rights Agreement, Co-Sale Agreement, and Voting Agreement, as described in further detail below.

On November 12, 2019, we entered into a stock purchase agreement pursuant to which we issued and sold 11,111,111 shares of our Series B Preferred Stock to Athyrium Opportunities III Acquisition 2 LP, a fund managed by Athyrium, at a purchase price of $2.25 per share for an aggregate purchase price of $25.0 million. A 1.22222222-for-1 stock split for our Series B Preferred Stock shares and Series B Preferred Stock Purchase Warrant issued and outstanding was effected on November 12, 2019 pursuant to an amendment and restatement of our certificate of incorporation. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Warrant were automatically adjusted from $2.75 to $2.25 per share (or $13.90 per share as a result of the reverse stock split effected on June 10, 2020). As a result of the stock split effected on November 12, 2019, we issued an additional 13,985,993 shares of Series B Preferred Stock and adjusted the Series B Preferred Stock to be a warrant to purchase 2,222,222 shares of Series B Preferred Stock.

On November 22, 2019, we completed an additional equity financing pursuant to a stock purchase agreement executed on November 12, 2019 with Beaver Creek Intermediate Fund, Ltd., an existing investor and Dr. Stylli, our Chairman and Chief Executive Officer, for an aggregate purchase price of $6.1 million. We issued an aggregate of 2,722,222 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On December 19, 2019, we completed an additional equity financing pursuant to a stock purchase agreement executed on November 12, 2019 with Athyrium Opportunities III Acquisition 2 LP for an aggregate purchase price of $25.0 million. We issued on aggregate of 11,111,111 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On February 28, 2020, we completed an additional equity financing pursuant to a stock purchase agreement executed on November 12, 2019 with Athyrium Opportunities III Acquisition 2 LP and Dr. Stylli, our Chairman and Chief Executive Officer, for an aggregate purchase price of $11.4 million. We issued an aggregate of 5,066,666 shares of Series B Preferred Stock at a purchase price of $2.25 per share.

On April 3, 2020, we entered into a stock purchase agreement pursuant to which we issued and sold 4,444,444 shares of our Series B Preferred Stock to Athyrium Opportunities III Acquisition 2 LP, at a purchase price of $2.25 per share for an aggregate purchase price of $10.0 million.

On May 8, 2020, we entered into a note purchase agreement with Athyrium Opportunities 2020 LP, a fund managed by Athyrium, pursuant to which we issued and sold an unsecured convertible promissory note, or the Convertible Note, with an annual interest rate of 8.0% and in an aggregate principal amount of $15.0 million. The Convertible Note had a maturity date of May 8, 2022 and, in connection with our initial public offering, was converted at the option of the holder into 1,250,000 shares of our common stock. In connection with the issuance and sale of the Convertible Note, we entered into the Second Amendment to Series B Preferred Stock Warrant, dated May 8, 2020, providing for the removal of certain restrictive exercise provisions in the Series B Preferred Stock Purchase Warrant.

On June 23, 2020, we completed our initial public offering of our common stock. In our initial public offering, the Company issued and sold 6,666,667 shares of its common stock, at a price to the public of $15.00 per share, of which 3,366,666 shares were purchased by our affiliates, which included 3,333,333 shares purchased by Athyrium and 33,333 shares purchased by Dr. Stylli. In connection with the IPO, on June 23, 2020, all outstanding Series A and B preferred stock and the outstanding convertible promissory note converted into shares of common stock and the outstanding warrant to purchase shares of convertible preferred stock became exercisable for 400,160 shares of our common stock.

Certain entities affiliated with Athyrium, one of our affiliates, have agreed to acquire $ million in aggregate principal amount of convertible notes in the concurrent offering. These affiliates of Athyrium will acquire up to $25.0 million principal amount of the convertible notes for cash and up to $78.5 million principal amount of the convertible notes in exchange for amounts outstanding under the Credit Agreement. Upon consummation of the concurrent offering, the Credit Agreement will be terminated as a result of the exchange by these Athyrium affiliates of amounts outstanding under the Credit Agreement for the convertible notes.

***Fourth Amended and Restated Investors' Rights Agreement***

We are party to a fourth amended and restated investors' rights agreement, effective as of August 27, 2019, which provides certain holders of our capital stock, including Dr. Stylli and funds managed by Athyrium, with certain registration rights, including the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. For a more detailed description of these registration rights, see "Description of Capital Stock—Registration Rights."

***Guarantee by Dr. Stylli***

On May 21, 2020, in connection with our proposed government settlement described under "Business—Legal Proceedings—Federal Investigation," the government required a guarantee of a portion of our obligations to the government by one or more of our significant stockholders, and Dr. Stylli, our Chairman and Chief Executive Officer, agreed to provide such a guarantee, and reached an agreement in principle with the government to personally guarantee payment of our obligations to the government up to an amount of $5.0 million.

***Indications of Interest to Participate in this Offering***

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common

stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering.

**Related Party Transaction Policy**

Prior to our IPO, we did not have a formal policy regarding approval of transactions with related parties, and prior to such date, all transactions with related parties had been approved by the directors not interested in the transaction pursuant to Section 144(a)(1) of the Delaware General Corporation Law. In connection with our IPO, we adopted a related party transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants in which the amount involved exceeds $100,000. A related person is any executive officer, director, or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons. Transactions involving compensation for services provided to us as an employee or director, among other limited exceptions, are deemed to have standing pre-approval by the Audit Committee but may be specifically reviewed if appropriate in light of the facts and circumstances.

Under the policy, if a transaction has been identified as a related party transaction, including any transaction that was not a related party transaction when originally consummated or any transaction that was not initially identified as a related party transaction prior to consummation, our management must present information regarding the related party transaction to our Audit Committee for review, consideration and approval or ratification. The presentation must include a description of, among other matters, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer and, to the extent feasible, significant stockholder to enable us to identify any existing or potential related party transactions and to effectuate the terms of the policy. In addition, under our Code of Conduct and Ethics, our employees and directors have an affirmative responsibility to disclose any transaction or relationship that reasonably could be expected to give rise to a conflict of interest. In considering related party transactions, our Audit Committee will take into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director’s independence in the event that the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from employees generally

The policy requires that, in determining whether to approve, ratify, or reject a related party transaction, our Audit Committee consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our stockholders, as our Audit Committee determines in the good faith exercise of its discretion.

The related party transactions described above, other than the participation by certain of our affiliates in our IPO, were consummated prior to our adoption of the formal, written policy described above, and, accordingly, the foregoing policies and procedures were not followed with respect to these transactions. However, we believe that the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, in arms-length transactions at such time.

# DESCRIPTION OF CAPITAL STOCK

## General

The following is a summary of the material terms of our capital stock, as well as other material terms of our eighth amended and restated certificate of incorporation and amended and restated bylaws, and certain provisions of Delaware law. This summary does not purport to be complete and is qualified in its entirety by the provisions of our eighth amended and restated certificate of incorporation and amended and restated bylaws, copies of which are filed with the SEC as exhibits to the registration statement, of which this prospectus forms a part.

Our authorized capital stock consists of 350,000,000 shares of common stock, $0.001 par value per share, and 10,000,000 shares of "blank check" preferred stock, $0.001 par value per share.

As of September 30, 2020, 46,976,277 shares of our common stock were outstanding and were held by 72 stockholders of record.

## Common Stock

Our eighth amended and restated certificate of incorporation authorizes the issuance of up to 350,000,000 shares of our common stock. All outstanding shares of our common stock are validly issued, fully paid and nonassessable, and the shares of our common stock to be issued in connection with this offering will be validly issued, fully paid and nonassessable.

The holders of our common stock are entitled to one vote per share on all matters submitted to a vote of stockholders, and our eighth amended and restated certificate of incorporation does not provide for cumulative voting in the election of directors. The holders of our common stock will receive ratably any dividends declared by our Board out of funds legally available therefor. In the event of our liquidation, dissolution, or winding-up, the holders of our common stock are entitled to share ratably in all assets remaining after payment of or provision for any liabilities.

## Preferred Stock

Our Board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in our control and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. As of September 30, 2020, there were no shares of preferred stock issued and outstanding, and we have no current plans to issue any shares of preferred stock.

## Warrant

In connection with the Credit and Security Agreement we entered into with Athyrium Opportunities III Co-Invest 1 LP, an affiliate of Athyrium Capital Management, LP, and the other lenders party thereto, we issued to Athyrium Opportunities III Co-Invest 1 LP a warrant to purchase 1,416,431 shares of our Series B Preferred Stock at an initial exercise price of $3.53 per share. The Series B Preferred Stock Purchase Warrant provides for the adjustment of the exercise price and the number of shares issuable upon the exercise of the warrant in the event of certain stock dividends, stock splits, recapitalizations, reclassifications, consolidations and other fundamental transactions. The Series B Preferred Stock Purchase Warrant was originally exercisable for the number of shares of our common stock that would be issuable on conversion of the shares of our Series B Preferred Stock that could otherwise be purchased pursuant to the warrant.

On August 27, 2019, the company and Athyrium Opportunities III Co-Invest 1 LP amended the Series B Preferred Stock Purchase Warrant in connection with the share split of the Series B Preferred Stock, which share split became effective upon the filing of our fifth amended and restated certificate of incorporation. Pursuant to the first amendment, we adjusted the Series B Preferred Stock Purchase Warrant to be a warrant to purchase 1,818,182 shares of our Series B Preferred Stock at an initial exercise price of $2.75.

On November 12, 2019, the Series B Preferred Stock Purchase Warrant was adjusted pursuant to its terms in connection with the share split of the Series B Preferred Stock, which share split became effective upon the filing of the sixth amended and restated certificate of incorporation. Pursuant to the terms of the Series B Preferred Stock Purchase Warrant, we adjusted the Series B Preferred Stock Purchase Warrant to be a warrant to purchase 2,222,222 shares of our Series B Preferred Stock at an initial exercise price of $2.25 (or $13.90 per share as a result of the reverse stock split effected on June 10, 2020).

On May 8, 2020, the Series B Preferred Stock Purchase Warrant was further amended pursuant to the Second Amendment to Series B Preferred Stock Purchase Warrant, pursuant to which certain restrictive exercise provisions were removed from the Series B Preferred Stock Purchase Warrant in connection with the issuance and sale of the Convertible Note.

On June 4, 2020, the Series B Preferred Stock Purchase Warrant became exercisable for an aggregate of 2,222,222 shares of our Series B Preferred Stock at an exercise price of $2.25 per share (or $13.90 per share as a result of the reverse stock split effected on June 10, 2020).

On June 18, 2020, after the completion of our initial public offering, the Series B Preferred Stock Purchase Warrant became exercisable for 400,160 shares of our common stock.

**Registration Rights**

We are party to a fourth amended and restated investors' rights agreement which provides that certain holders of our common stock have certain registration rights described below. The registration of shares of our common stock pursuant to the exercise of registration rights described below would enable holders to sell these shares without restriction under the Securities Act when the registration statement is declared effective. We will pay all expenses related to any demand, piggyback, or Form S-3 registration described below, with the exception of underwriting discounts and commissions.

The registration rights described below will expire (i) five years after the completion of our initial public offering, (ii) with respect to any particular holder, at the time that such holder can sell all its registrable securities under Rule 144 or another similar exemption under the Securities Act without limitation during a three-month period without registration or (iii) upon termination of the fourth amended and restated investors' rights agreement.

***Demand Registration Rights***

At any time beginning on January 14, 2021, the holders of 50% or more of the registrable securities then outstanding may make a written request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover securities with an aggregate offering price, net of underwriting discounts and commissions, of at least $20,000,000. We will prepare and file a registration statement as requested, unless, in the good faith judgment of our Board, such registration would be seriously detrimental to the company and its stockholders and filing should be deferred. We may defer only once in any 12-month period, and such deferral shall not exceed 120 days after receipt of the request. In addition, we are not obligated to effect more than two of these registrations within any twelve 12-month period or if the holders' proposed registered securities may be immediately registered on Form S-3.

***Piggyback Registration Rights***

Subject to certain specified exceptions, if we propose to register any of our securities under the Securities Act either for our own account or for the account of other stockholders, the holders of shares having registration rights are entitled to written notice and certain "piggyback" registration rights allowing them to include their shares in our registration statement. These registration rights are subject to specified conditions and limitations, including the right of the underwriters, in their sole discretion, to limit the number of shares included in any such offering under certain circumstances, but not below 15% of the total amount of securities included in such offering, unless all other securities, other than our securities, are entirely excluded from the offering.

***Form S-3 Registration Rights***

At any time after we are qualified to file a registration statement on Form S-3, and subject to limitations and conditions, the holders of 50% or more of the registrable securities then outstanding are entitled to written notice of such registration and may make a written request that we prepare and file a registration statement on Form S-3 under the Securities Act covering their shares, so long as the aggregate price to the public, net of the underwriters' discounts and commissions, is at least $10,000,000. We will prepare and file the Form S-3 registration as requested, unless, in the good faith judgment of our board of directors, such registration would be seriously detrimental to the company and its stockholders and filing should be deferred. We may defer only once in any 12-month period, and such deferral shall not exceed 120 days after receipt of the request. In addition, we are not obligated to prepare or file any of these registration statements (i) within 180 days after the effective date of a registration statement pursuant to demand or piggyback registration rights or (ii) if two of these registrations have been completed within any 12-month period.

**Our Certificate of Incorporation and Our Bylaws**

***Special Meetings; Action by Written Consent***

Under our eighth amended and restated certificate of incorporation, only a majority of the members of our Board then in office may be able to call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Under our eighth amended and restated certificate of incorporation, stockholders will be permitted to take action by written consent with respect to any matter that can be acted upon at a meeting of our stockholders for so long as Dr. Stylli, entities affiliated with Athyrium Capital Management, LP and entities affiliated with Andrew Midler collectively own more than 50% of our issued and outstanding common stock. Such holders currently collectively own 83.2% shares of our issued and outstanding common stock and will collectively own % of our issued and outstanding common stock after giving effect to this offering. In all other circumstances, our eighth amended and restated certificate of incorporation provides that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our amended and restated bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

***Requirements for Advance Notification of Stockholder Nominations and Proposals***

Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors that specify certain requirements as to the timing, form, and content of a stockholder's notice. Business that may be conducted at an annual meeting of stockholders will be limited to those matters properly brought before the meeting. These provisions may make it more difficult for our stockholders to nominate directors at or bring other matters before our annual meeting.

***Election and Removal of Directors***

Directors will be elected by a plurality vote. Our Board has the exclusive right to increase or decrease the size of the Board and to fill vacancies on the Board. These provisions prevent stockholders from increasing the size of our Board and filling the resulting vacancies. Directors may be removed with or without cause with the approval of the holders of a majority of our outstanding common stock.

***Issuance of Undesignated Preferred Stock***

Under our eighth amended and restated certificate of incorporation, our Board has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our Board. Depending on the rights and terms of any new series of preferred stock created, rights of existing stockholders could be negatively affected. The existence of authorized but unissued shares of preferred stock enables our Board to make it more difficult to attempt to obtain control of us by means of a merger, tender offer, proxy contest, or otherwise.

***Delaware General Corporation Law Section 203***

As a Delaware corporation, we are also subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in a business combination specified in the statute with an interested stockholder (as defined in the statute) for a period of three years after the date of the transaction in which the person first becomes an interested stockholder, unless the business combination is approved in advance by a majority of the independent directors or by the holders of at least two-thirds of the outstanding disinterested shares. The application of Section 203 of the Delaware General Corporation Law could also have the effect of delaying or preventing a change of control of us.

***Exclusive Forum Selection Clause***

Our eighth amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum to the fullest extent permitted by law for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a breach of fiduciary duty owed by any director, officer or other employee to us or our stockholders; (3) any action asserting a claim against us or any director or officer or other employee arising pursuant to the Delaware General Corporation Law; (4) any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or bylaws; or (5) any other action asserting a claim that is governed by the internal affairs doctrine, shall be the Court of Chancery of the State of Delaware (or another state court or the federal court located within the State of Delaware if the Court of Chancery does not have or declines to accept jurisdiction), in all cases subject to the court's having jurisdiction over indispensable parties named as defendants. In addition, our eighth amended and restated certificate of incorporation will provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act but the forum selection provisions will not apply to claims brought to enforce a duty or liability created by the Exchange Act. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors or officers.

**Transfer Agent and Registrar**

American Stock Transfer and Trust Company, LLC serves as the transfer agent and registrar for our common stock. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, New York 11219.

**Listing**

Our common stock is listed on The Nasdaq Global Market under the symbol "PROG."

## SHARES ELIGIBLE FOR FUTURE SALE

Future sales of our common stock, including shares issued upon the vesting of restricted stock units or the exercise of options or warrants, in the public market after this offering, or the perception that those sales may occur, could cause the prevailing market price for our common stock to fall or impair our ability to raise equity capital in the future. Although our common stock is listed on the NASDAQ Global Select Market, we cannot assure you that there will continue to be an active public market for our common stock. As described below, a number of shares of our common stock will not be available for sale in the public market for a period of several months after the completion of this offering due to the contractual and legal restrictions on resale described below. Future sales of our common stock in the public market either before (to the extent permitted) or after restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price of our common stock at such time and our ability to raise equity capital at a time and price we deem appropriate.

### Sale of Restricted Shares

Immediately following the completion of this offering, we will have an aggregate of shares of common stock outstanding (or shares if the underwriters exercise in full their option to purchase additional shares). Of these outstanding shares of our common stock, we expect that shares, including all of the shares of common stock sold in this offering (plus any shares purchased by the underwriters pursuant to the exercise of their option to purchase additional shares) will be freely tradable without restriction or further registration under the Securities Act, except that any such shares held by our affiliates, as that term is defined in Rule 144 of the Securities Act, may generally be sold only in compliance with the limitations described below. The remaining 40,182,582 shares of our common stock held by existing stockholders immediately prior to the completion of this offering will be "restricted securities" as such term is defined in Rule 144. Of these shares, 37,143,805 shares are subject to the lock-up agreements described below. These restricted securities were issued and sold by us, or will be issued and sold by us, in private transactions and are eligible for public sale only if registered under the Securities Act or if they qualify for an exemption from registration under the Securities Act, including the exemptions provided by Rule 144 or Rule 701, which rules are summarized below.

### Lock-Up Agreements

We and all of our directors and officers have agreed with the underwriters that, for a period of 90 days following the date of this prospectus, subject to certain exceptions, we and they will not, directly or indirectly, offer, pledge, announce the intention to sell, contract to sell, sell any option or contract to purchase, sell any option or contract to purchase, grant any option, right or warrant to purchase, make any short sale or otherwise transfer or dispose of any of shares of our common stock, or any options or warrants to purchase any shares of our common stock, or any securities convertible into, or exchangeable for or that represent the right to receive shares of our common stock. Piper Sandler & Co. and Wells Fargo Securities, LLC may, in their sole discretion, release all or any portion of the shares from these restrictions. We and all of our directors and officers have further agreed with Piper Sandler & Co. to these restrictions for a period of 90 days following the date of the offering memorandum relating to the concurrent offering. Piper Sandler & Co. may, in its sole discretion, release all or any portion of the shares from these restrictions.

### Rule 144

In general, under Rule 144, as currently in effect, a person (or persons whose shares are required to be aggregated) who is not deemed to have been one of our "affiliates" for purposes of Rule 144 at any time during the three months preceding a sale, and who has beneficially owned restricted securities within the meaning of Rule 144 for at least six months, including the holding period of any prior owner other than one of our "affiliates," is entitled to sell those shares in the public market (subject to the lock-up agreement referred to above, if applicable) without complying with the manner of sale, volume

limitations or notice provisions of Rule 144, but subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than affiliates, then such person is entitled to sell such shares in the public market without complying with any of the requirements of Rule 144 (subject to the lock-up agreement referred to above, if applicable). In general, under Rule 144, as currently in effect, once we have been subject to the public company reporting requirements of the Exchange Act for at least 90 days, our affiliates, as defined in Rule 144, who have beneficially owned the shares proposed to be sold for at least six months are entitled to sell in the public market, upon expiration of any applicable lock-up agreements and within any three-month period, a number of those shares of our common stock that does not exceed the greater of:

- one percent of the number of shares of our common stock then outstanding, which will equal approximately shares of our common stock immediately after this offering (calculated on the basis of the assumptions described above and assuming no exercise of the underwriters' option to purchase additional shares of our common stock); or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Such sales under Rule 144 by our "affiliates" or persons selling shares on behalf of our "affiliates" are also subject to certain manner of sale provisions, notice requirements and to the availability of current public information about us. Notwithstanding the availability of Rule 144, the holders of substantially all of our restricted securities have entered into lock-up agreements as referenced above and their restricted securities will become eligible for sale (subject to the above limitations under Rule 144) upon the expiration of the restrictions set forth in those agreements.

**Rule 701**

In general, under Rule 701, as currently in effect, any of our employees, directors, officers, consultants, or advisors who acquired common stock from us in connection with a written compensatory stock or option plan or other written agreement in compliance with Rule 701 under the Securities Act (to the extent such common stock is not subject to a lock-up agreement) is entitled to rely on Rule 701 to resell such shares without compliance with the holding period requirements contained in Rule 144. Accordingly, subject to any applicable lock-up agreements, persons who are not our affiliates, as defined in Rule 144, may resell those shares without complying with the minimum holding period or public information requirements of Rule 144, and persons who are our affiliates may resell those shares without compliance with Rule 144's minimum holding period requirements (subject to the terms of the lock-up agreements referred to above, if applicable). In addition, we have registered on a Form S-8 registration statement all shares of our common stock that we may issue under our equity compensation plans. As a result, these shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates, and subject to any lock-up agreements.

Upon expiration of the 90-day lock-up period described above, all shares of our common stock will be eligible for sale under Rule 144 (including shares issued pursuant to Rule 701), subject to the limitations described above. We cannot estimate the timing or the number of shares that our existing stockholders and other equity holders may elect to sell under Rule 144 or pursuant to registration statements. For a description of certain registration rights granted, see "Description of Capital Stock—Registration Rights."

## MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership, and disposition of our common stock issued pursuant to this offering. The discussion does not purport to be a complete analysis of all potential tax consequences. The consequences of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws, are not discussed. This discussion is based on the Code, Treasury Regulations promulgated under the Code, judicial decisions and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership, and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including without limitation the impact of the alternative minimum tax or the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to our common stock being taken into account in an "applicable financial statement" as defined in Section 451(b) of the Code;
- persons holding our common stock as part of a hedge, straddle or other risk-reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies and other financial institutions;
- brokers, dealers or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies" and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements classified as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- tax-qualified retirement plans.

If an entity or arrangement classified as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

**This discussion is for informational purposes only and is not tax advice. Investors should consult their tax advisors with respect to the application of the U.S. federal income tax laws to their particular situations as well as any tax consequences of the purchase, ownership and disposition of our common stock arising under the U.S. federal estate or gift tax laws or under the laws of any state, local or non-U.S. taxing jurisdiction or under any applicable income tax treaty.**

### Definition of a Non-U.S. Holder

For purposes of this discussion, a "Non-U.S. Holder" is any beneficial owner of our common stock that is neither a "U.S. person" nor an entity or arrangement classified as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that: (i) is subject to the primary supervision of a U.S. court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code); or (ii) has a valid election in effect to be treated as a U.S. person for U.S. federal income tax purposes.

### Distributions

As described in the section entitled "Dividend Policy," we have no present intention to pay cash dividends on our common stock. However, if we make distributions of cash or other property on our common stock, those distributions will generally constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If the amount of such distributions exceed our current and accumulated earnings and profits, such excess will generally constitute a tax-free return of capital and will first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under "Sale or Other Taxable Disposition."

Subject to the discussions below on effectively connected income, backup withholding and FATCA (as defined below), dividends paid to a Non-U.S. Holder generally will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes the applicable withholding agent with documentation required to claim benefits under such tax treaty (generally, a valid IRS Form W-8BEN or W-8BEN-E or a suitable successor or substitute form)). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If a Non-U.S. Holder holds our common stock through a financial institution or other agent acting on the Non-U.S. Holder's behalf, the Non-U.S. Holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries. Non-U.S. Holders should consult their tax advisors regarding U.S. federal withholding tax on distributions, including their eligibility for benefits under any applicable income tax treaties and the availability of a refund on any excess U.S. federal tax withheld.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the

Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will generally be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI (or a suitable successor or substitute form) certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States; additionally, the Non-U.S. Holder will be required to update such forms and certifications from time to time as required by law.

However, any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

The foregoing discussion is subject to the discussion below under "Additional Withholding Tax on Payments Made to Foreign Accounts" and "Information Reporting and Backup Withholding."

**Sale or Other Taxable Disposition**

Subject to the discussions below regarding backup withholding and FATCA (as defined below), a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a United States real property interest, or "USRPI", by reason of our status as a United States real property holding corporation, or "USRPHC", for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A Non-U.S. Holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on gain realized upon the sale or other taxable disposition of our common stock, which may be offset by U.S. source capital losses of the Non-U.S. Holder, provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, a corporation is generally a USRPHC if the fair market value of its USRPIs equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business (all as determined for U.S. federal income tax purposes). We believe we currently are not, and we do not anticipate becoming, a USRPHC. However, because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, we cannot assure you that we will not become a USRPHC in the future. Even if we

are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded" on an "established securities market" (as such terms are defined by applicable Treasury Regulations), and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the 5-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period. If we are determined to be a USRPHC and the foregoing exception does not apply, a Non-U.S. Holder generally will be taxed on its net gain derived from the disposition at the U.S. federal income tax rates applicable to U.S. persons and, in addition, a purchaser of our common stock may be required to withhold tax with respect to that obligation. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above. Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

**Information Reporting and Backup Withholding**

Payments of dividends on our common stock generally will not be subject to backup withholding provided the applicable withholding agent does not have actual knowledge or reason to know the Non-U.S. Holder is a U.S. person and the Non-U.S. Holder certifies its non-U.S. status by furnishing a valid IRS Form W-8BEN, W-8BEN-E, W-8ECI, W-8EXP, or other applicable IRS form, or otherwise establishes an exemption. Information returns are required to be filed with the IRS in connection with any distributions on our common stock paid to the Non-U.S. Holder, regardless of whether such distributions constitute dividends or whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Information reporting and, depending on the circumstances, backup withholding generally will apply to the proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers, unless the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that the Non-U.S. Holder is a U.S. person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

**Additional Withholding Tax on Payments Made to Foreign Accounts**

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections, together with the rules and regulations promulgated thereunder, "FATCA") on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, and (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless: (i) the foreign financial institution undertakes certain diligence, reporting and withholding obligations; (ii) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial U.S. owner; or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence, reporting and withholding requirements in (i) above, it must enter into an agreement with the U.S. Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United

States persons" or "United States owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to noncompliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the U.S. governing FATCA may be subject to different rules.

The U.S. Treasury released proposed regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30% applicable to the gross proceeds of a sale or other disposition of our common stock. In its preamble to such proposed regulations, the U.S. Treasury stated that taxpayers may generally rely on the proposed regulations until final regulations are issued. There can be no assurance that final regulations would provide an exemption from the FATCA withholding tax for gross proceeds. The FATCA withholding tax generally applies to all withholdable payments without regard to whether the beneficial owner of the payment would otherwise be entitled to an exemption from imposition of withholding tax pursuant to an applicable tax treaty with the United States or U.S. domestic law.

**Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.**

## UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated December , 2020, among us and Piper Sandler & Co. and Wells Fargo Securities, LLC, as the representatives of the underwriters named below and the joint book-running managers of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of shares of common stock shown opposite its name below:

| Underwriter | Number of Shares |
|---|---|
| Piper Sandler & Co. | |
| Wells Fargo Securities, LLC. | |
| BTIG, LLC | |
| Total | |

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if any of them are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the completion of this offering, they currently intend to make a market in the common stock as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common stock, that you will be able to sell any of the common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel, or modify offers to the public and to reject orders in whole or in part. In addition, the underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

Certain of our existing stockholders, including those affiliated with members of our Board, have indicated an interest in purchasing an aggregate of up to approximately $5.0 million of shares of our common stock in this offering at the initial public offering price per share and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters could determine to sell more, fewer or no shares of common stock to any of these potential purchasers, and any of these potential purchasers could determine to purchase more, fewer or no shares of common stock in this offering. The underwriters will receive the same underwriting discount and commissions on these shares of common stock as they will on any other shares of common stock sold to the public in this offering.

### Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock to the public at the public offering price set forth on the cover of this prospectus and to certain dealers, which may

include the underwriters, at that price less a concession not in excess of $ per share of common stock. After the offering, the public offering price, concession, and reallowance to dealers may be reduced by the representatives. No such reduction will change the amount of proceeds to be received by us as set forth on the cover of this prospectus.

The following table shows the public offering price, the underwriting discounts, and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

| | Per Share | | Total | |
|---|---|---|---|---|
| | Without Option to Purchase Additional Shares | With Option to Purchase Additional Shares | Without Option to Purchase Additional Shares | With Option to Purchase Additional Shares |
| Public offering price | $ | $ | $ | $ |
| Underwriting discount | $ | $ | $ | $ |
| Proceeds, before expenses, to us | $ | $ | $ | $ |

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $450,000. We have agreed to reimburse the underwriters for certain of their expenses in an amount not to exceed $50,000 in the aggregate.

**Listing**

Our common stock is listed on The Nasdaq Global Market under the trading symbol "PROG."

**Stamp Taxes**

If you purchase shares of common stock offered in this prospectus, you may be required to pay stamp taxes and other charges under the laws and practices of the country of purchase, in addition to the offering price listed on the cover of this prospectus.

**Option to Purchase Additional Shares**

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase, from time to time, in whole or in part, up to an aggregate of shares from us at the public offering price set forth on the cover of this prospectus, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares proportionate to that underwriter's initial purchase commitment as indicated in the table above. This option may be exercised only if the underwriters sell more shares than the total number set forth on the cover of this prospectus.

**No Sales of Similar Securities**

We, our officers, directors and holders of all or substantially all our outstanding capital stock and other securities have agreed, subject to specified exceptions, not to directly or indirectly:

- offer, pledge, sell, or contract to sell any shares of our common stock;
- sell any option or contract to purchase any shares of our common stock;
- purchase any option or contract to sell any shares of our common stock;
- grant any option, right, or warrant to purchase any shares of our common stock;

- make any short sale or otherwise transfer or dispose of any shares of our common stock;
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequences of ownership of any shares of our common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash, or otherwise;
- make any demand for or exercise any right with respect to the registration of our common stock; or
- publicly announce the intention to do any of the foregoing for a period of 90 days after the date of this prospectus without the prior written consent of Piper Sandler & Co. and Wells Fargo Securities, LLC.

This restriction terminates after the close of trading of our common stock on and including the 90th day after the date of this prospectus.

Piper Sandler & Co. and Wells Fargo Securities, LLC may, in their sole discretion and at any time or from time to time before the termination of the 90-day period, release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our stockholders who will execute a lock-up agreement providing consent to the sale of shares prior to the expiration of the lock-up period.

**Stabilization**

The underwriters have advised us that, pursuant to Regulation M under the Exchange Act, certain persons participating in the offering may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common stock at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either “covered” short sales or “naked” short sales.

“Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares of our common stock in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares of our common stock or purchasing shares of our common stock in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.

“Naked” short sales are sales in excess of the option to purchase additional shares of our common stock. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriters for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriter’s purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering

if the shares of common stock originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

The underwriters may also engage in passive market making transactions in our common stock on The Nasdaq Global Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

**Electronic Distribution**

A prospectus in electronic format may be made available by e-mail or on the web sites or through online services maintained by one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' web sites and any information contained in any other web site maintained by any of the underwriters is not part of this prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

**Other Activities and Relationships**

The underwriters and certain of their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing, and brokerage activities. The underwriters and certain of their respective affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses. In addition, the underwriter in this offering also served as an underwriter in our initial public offering in June 2020.

In the ordinary course of their various business activities, the underwriters and certain of their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The underwriters and certain of their respective affiliates may also communicate independent investment recommendations, market color, or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

**Selling Restrictions**

***Notice to Prospective Investors in EEA and United Kingdom***

In relation to each member state of the European Economic Area and the United Kingdom which has implemented the Prospectus Regulation (each, a "Relevant State"), no offer of shares of our common stock which are the subject of the offering contemplated by this prospectus has been or will be made to the public in that Relevant State, except that with effect from and including the Relevant Implementation Date, an offer of such shares of our common stock may be made to the public in that Relevant State:

- to any legal entity which is a "qualified investor" as defined in the Prospectus Regulation;
- to fewer than 150, natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), as permitted under the Prospectus Regulation, subject to obtaining the prior consent of the representatives of the underwriters; or
- in any other circumstances falling within Article 3(2) of the Prospectus Regulation, provided that no such offer of shares of our common stock shall require the company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 16 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares of our common stock in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares of our common stock to be offered so as to enable an investor to decide to purchase or subscribe the shares of our common stock, as the same may be varied in that Relevant State by any measure implementing the Prospectus Regulation in that Relevant State, and the expression "Prospectus Regulation" means Prospectus Regulation (EU) 2017/1129 (and amendments thereto, to the extent implemented in the Relevant States) and includes any relevant implementing measure in the Relevant State.

***Notice to Prospective Investors in United Kingdom***

In the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, or the Order, and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

***Notice to Prospective Investors in Bermuda***

Securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

***Notice to Prospective Investors in Australia***

This prospectus is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, has not been lodged with the Australian Securities &

Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this prospectus in Australia, you confirm and warrant that you are either:

- a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;
- a "sophisticated investor" under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to the company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made;
- a person associated with the company under Section 708(12) of the Corporations Act; or
- a "professional investor" within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act any offer made to you under this prospectus is void and incapable of acceptance.

You warrant and agree that you will not offer any of the shares of our common stock issued to you pursuant to this prospectus for resale in Australia within 12 months of those shares of our common stock being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

***Notice to Prospective Investors in Hong Kong***

No shares of our common stock have been offered or sold, and no shares of our common stock may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32) or the Securities and Futures Ordinance (Cap. 571) of Hong Kong. No document, invitation or advertisement relating to the shares of our common stock has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to shares of our common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated, or distributed in Hong Kong, and the shares of our common stock may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the shares of our common stock will be required, and is deemed by the acquisition of the shares of our common stock, to confirm that he is aware of the restriction on offers of the shares of our common stock described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any shares of our common stock in circumstances that contravene any such restrictions.

***Notice to Prospective Investors in Japan***

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the underwriters will not offer or sell

any shares of our common stock, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means, unless otherwise provided herein, any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from S-30 the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

***Notice to Prospective Investors in Singapore***

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or the invitation for subscription or purchase, of the shares of our common stock may not be issued, circulated or distributed, nor may the shares of our common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares of our common stock are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of our common stock pursuant to an offer made under Section 275 of the SFA except:

- to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is or will be given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

***Notice to Prospective Investors in Switzerland***

The shares of our common stock may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the Swiss Financial Services Act, or the FinSA, and will not be admitted to trading venue (exchange or multilateral trading facility) in Switzerland. None of this prospectus or any other offering or marketing material relating to the shares of our common stock constitutes a prospectus as such term is understood pursuant to the FinSA and none of this prospectus or any other offering or marketing material relating to our shares of common stock may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this prospectus nor any other offering or marketing material relating to the offering, the company, or the shares of our common stock have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with and the offer of shares of our common stock will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA) and the offer of shares of our common stock has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares of our common stock.

***Notice to Prospective Investors in Canada***

*(A) Resale Restrictions*

The distribution of shares of our common stock in Canada is being made only in the provinces of Ontario, Quebec, Alberta, and British Columbia on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in each province where trades of these shares of our common stock are made. Any resale of the shares of our common stock in Canada must be made under applicable securities laws which may vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of the shares of our common stock.

*(B) Representations of Canadian Purchasers*

By purchasing shares of our common stock in Canada and accepting delivery of a purchase confirmation, a purchaser is representing to us and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase the shares of our common stock without the benefit of a prospectus qualified under those securities laws as it is an “accredited investor” as defined under National Instrument 45-106 — Prospectus Exemptions;
- the purchaser is a “permitted client” as defined in National Instrument 31-103 — Registration Requirements, Exemptions and Ongoing Registrant Obligations;
- where required by law, the purchaser is purchasing as principal and not as agent; and
- the purchaser has reviewed the text above under Resale Restrictions.

*(C) Conflicts of Interest*

Canadian purchasers are hereby notified that each of the underwriters are relying on the exemption set out in section 3A.3 or 3A.4, if applicable, of National Instrument 33-105 — Underwriting Conflicts from having to provide certain conflict of interest disclosure in this document.

*(D) Statutory Rights of Action*

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the prospectus (including any amendment thereto) such as this document contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser’s province or territory. The purchaser of these securities in Canada should refer to any applicable provisions of the securities legislation of the purchaser’s province or territory for particulars of these rights or consult with a legal advisor.

*(E) Enforcement of Legal Rights*

All of our directors and officers as well as the experts named herein may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within

Canada upon us or those persons. All or a substantial portion of our assets and the assets of those persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against us or those persons in Canada or to enforce a judgment obtained in Canadian courts against us or those persons outside of Canada.

*(F) Taxation and Eligibility for Investment*

Canadian purchasers of shares of our common stock should consult their own legal and tax advisors with respect to the tax consequences of an investment in the shares of our common stock in their particular circumstances and about the eligibility of the shares of our common stock for investment by the purchaser under relevant Canadian legislation.

## LEGAL MATTERS

The validity of the shares of our common stock offered by this prospectus will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California. Latham & Watkins LLP is acting as counsel for the underwriters.

## EXPERTS

The consolidated financial statements of Progenity, Inc. as of December 31, 2018 and December 31, 2019, and for the years then ended, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the December 31, 2018 and December 31, 2019 consolidated financial statements contains an explanatory paragraph that states that the Company has suffered recurring losses from operations and has an accumulated deficit that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty. The audit report also refers to a change in the method of accounting for revenue due to the adoption of Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (ASC 606), as amended.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement and its exhibits. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or other document has been filed as an exhibit to the registration statement, please see the copy of the contract or other document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be reviewed for the complete contents of these contracts and documents. A copy of the registration statement and its exhibits may be obtained from the SEC upon the payment of fees prescribed by it. The SEC maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding companies that file electronically with it.

We are subject to the information and reporting requirements of the Exchange Act, and, in accordance with this law, file periodic reports and other information with the SEC. The SEC’s website referenced above contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

**PROGENITY, INC. AND SUBSIDIARIES**
**INDEX TO FINANCIAL STATEMENTS**

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Progenity, Inc.:

### Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Progenity, Inc. and subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, stockholders' equity (deficit), and cash flows for each of the years in the two-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

### Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for revenue as of January 1, 2019 due to the adoption of Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (ASC 606)*, as amended.

### Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has an accumulated deficit that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

### Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2011.

San Diego, California
March 18, 2020 except for the stock split described in Note 15, which is as of June 10, 2020

**PROGENITY, INC. AND SUBSIDIARIES**
**CONSOLIDATED BALANCE SHEETS**
**(in thousands, except share data)**

| | As of December 31, 2018 | As of December 31, 2019 | Pro Forma as of December 31, 2019 (unaudited) |
|---|---|---|---|
| **ASSETS** | | | |
| Current assets: | | | |
| Cash and cash equivalents | $ 49,005 | $ 33,042 | |
| Accounts receivable, net | 1,952 | 22,189 | |
| Short-term investments | 20,200 | — | |
| Inventory | 7,616 | 10,937 | |
| Income tax receivable | 6,194 | 634 | |
| Prepaid expenses and other current assets | 3,979 | 7,846 | |
| Total current assets | 88,946 | 74,648 | |
| Property and equipment, net | 15,339 | 15,891 | |
| Other assets | 194 | 198 | |
| Goodwill | 6,219 | 6,219 | |
| Other intangible assets, net | 5,699 | 4,771 | |
| Total assets | $ 116,397 | $ 101,727 | |
| **LIABILITIES AND STOCKHOLDERS' DEFICIT** | | | |
| Current liabilities: | | | |
| Accounts payable | $ 11,035 | $ 15,754 | |
| Accrued expenses and other current liabilities | 65,793 | 83,615 | |
| Current portion of mortgages payable | 231 | 241 | |
| Current portion of capital lease obligations | 998 | 727 | |
| Total current liabilities | 78,057 | 100,337 | |
| Capital lease obligations, net of current portion | 893 | 358 | |
| Mortgages payable, net of current portion | 3,320 | 3,081 | |
| Note payable to related party, net of unamortized discount of $7,705 and $6,034 as of December 31, 2018 and December 31, 2019, respectively | 67,295 | 68,966 | |
| Other long-term liabilities | 3,800 | 12,859 | |
| Total liabilities | $ 153,365 | $ 185,601 | |
| **Commitments and Contingencies (Note 9)** | | | |
| Stockholders' deficit: | | | |
| Common stock – $0.001 par value. 250,000,000 and 300,000,000 authorized as of December 31, 2018 and 2019, respectively; 8,112,581 and 8,451,415 shares issued as of December 31, 2018 and 2019, respectively; 4,638,009 and 4,976,843 shares outstanding as of December 31, 2018 and 2019, respectively; 38,153,400 shares issued and 34,678,828 shares outstanding as of December 31, 2019, pro forma | 8 | 9 | 38 |
| Series A and A-1 Preferred Stock – $0.001 par value. 6,120,000 and 4,120,000 shares authorized as of December 31, 2018 and 2019, respectively; 5,620,000 and 4,120,000 shares issued and outstanding as of December 31, 2018 and 2019, respectively; no shares issued and outstanding as of December 31, 2019, pro forma | 6 | 4 | — |
| Series B Preferred Stock – $0.001 par value. 15,580,737 and 126,035,000 shares authorized as of December 31, 2018 and 2019, respectively; 14,164,306 and 101,867,405 shares issued and outstanding as of December 31, 2018 and 2019, respectively; no shares issued and outstanding as of December 31, 2019, pro forma | 14 | 102 | — |
| Additional paid-in capital | 124,244 | 283,260 | 283,337 |
| Accumulated deficit | (142,469) | (348,478) | (348,478) |
| Treasury stock – at cost; 3,474,572 shares of common stock as of December 31, 2018 and December 31, 2019; actual and pro forma | (18,771) | (18,771) | (18,771) |
| Total stockholders' deficit | (36,968) | (83,874) | $ (83,874) |
| Total liabilities and stockholders' deficit | $ 116,397 | $ 101,727 | |

See accompanying notes to consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONSOLIDATED STATEMENTS OF OPERATIONS**
**(in thousands, except share and per share data)**

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| Revenue | $ 127,974 | $ 143,985 |
| Cost of sales | 92,076 | 100,492 |
| Gross profit | 35,898 | 43,493 |
| Operating expenses: | | |
| Research and development | 48,712 | 63,400 |
| Selling and marketing | 50,187 | 58,888 |
| General and administrative | 51,238 | 61,324 |
| Total operating expenses | 150,137 | 183,612 |
| Loss from operations | (114,239) | (140,119) |
| Interest expense | (9,091) | (9,199) |
| Equity loss of equity method investee | (2,327) | — |
| Interest and other income, net | 1,801 | 575 |
| Loss before taxes | (123,856) | (148,743) |
| Income tax expense (benefit) | 5,250 | (706) |
| Net loss | $ (129,106) | $ (148,037) |
| Dividend paid to preferred stockholders | — | (3,652) |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | (27,637) |
| Stock dividend on Series B Preferred Stock | — | (49,501) |
| Net loss attributable to common stockholders | $ (129,106) | $ (228,827) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (27.72) | $ (46.87) |
| Weighted average number of shares outstanding, basic and diluted | 4,657,337 | 4,882,662 |
| Pro forma loss per share, basic and diluted (unaudited) | | $ (5.49) |
| Pro forma weighted average shares outstanding, basic and diluted (unaudited) | | 26,961,445 |

See accompanying notes to consolidated financial statements.

## PROGENITY, INC. AND SUBSIDIARIES
## CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
## (in thousands, except for share data)

| | Common Stock | | Series A and A-1 Preferred Stock | | Series B Preferred Stock | | Additional Paid-in Capital | Accumulated Deficit | Treasury Stock | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | | | Common Shares | Amount | |
| Balance—December 31, 2017 | 7,939,129 | $ 8 | 5,620,000 | $ 6 | 14,164,306 | $ 14 | $ 121,522 | $ (13,363) | (2,901,109) | $ (7,505) | $ 100,682 |
| Exercise of stock options | 173,452 | — | — | — | — | — | 459 | — | — | — | 459 |
| Stock-based compensation | — | — | — | — | — | — | 2,263 | — | — | — | 2,263 |
| Repurchase of common shares | — | — | — | — | — | — | — | — | (573,463) | (11,266) | (11,266) |
| Net loss | — | — | — | — | — | — | — | (129,106) | — | — | (129,106) |
| Balance—December 31, 2018 | 8,112,581 | $ 8 | 5,620,000 | $ 6 | 14,164,306 | $ 14 | $ 124,244 | $ (142,469) | (3,474,572) | $(18,771) | $ (36,968) |
| Adoption of accounting standard (see Note 2) | — | — | — | — | — | — | — | 23,666 | — | — | 23,666 |
| Exercise of common stock options | 338,834 | 1 | — | — | — | — | 550 | — | — | — | 551 |
| Exchange of Series A-1 Preferred Stock for Series B Preferred Stock | — | — | (1,500,000) | (2) | 35,664,240 | 36 | 27,603 | (27,637) | — | — | — |
| Issuance of Series B Preferred Stock, net of issuance cost | — | — | — | — | 34,035,354 | 34 | 79,005 | — | — | — | 79,039 |
| Stock dividend on Series B Preferred Stock | — | — | — | — | 18,003,505 | 18 | 49,483 | (49,501) | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | 2,375 | — | — | — | 2,375 |
| Dividends paid | — | — | — | — | — | — | — | (4,500) | — | — | (4,500) |
| Net loss | — | — | — | — | — | — | — | (148,037) | — | — | (148,037) |
| Balance—December 31, 2019 | 8,451,415 | $ 9 | 4,120,000 | $ 4 | 101,867,405 | $ 102 | $ 283,260 | $ (348,478) | (3,474,572) | $(18,771) | $ (83,874) |

See accompanying notes to consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONSOLIDATED STATEMENTS OF CASH FLOWS**
**(in thousands)**

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| Cash flows from operating activities: | | |
| Net loss | $ (129,106) | $ (148,037) |
| Adjustments to reconcile net loss to cash used in operating activities: | | |
| Depreciation and amortization | 6,073 | 6,349 |
| Inventory write-down | 880 | 535 |
| Loss on disposal of property and equipment | 31 | — |
| Equity loss of equity method investee | 2,327 | — |
| Stock-based compensation expense | 2,263 | 2,375 |
| Deferred taxes, net | 6,245 | — |
| Changes in operating assets and liabilities: | | |
| Accounts receivable, net | 584 | 3,429 |
| Inventory | (3,475) | (3,857) |
| Prepaid expenses and other current assets | (1,730) | (3,867) |
| Income tax receivable (payable) | (854) | 5,560 |
| Other assets | (32) | (54) |
| Accounts payable | 5,770 | 4,383 |
| Accrued expenses and other liabilities | 42,608 | 18,001 |
| Other long-term liabilities | 3,290 | 9,059 |
| Net cash used in operating activities | (65,126) | (106,124) |
| Cash flows from investing activities: | | |
| Purchases of property and equipment | (4,832) | (3,725) |
| Purchases of short-term investments | (167,011) | (11,214) |
| Proceeds from the sale of short-term investments | 227,674 | 31,414 |
| Proceeds from the sale of equity method investment | — | 50 |
| Net cash provided by investing activities | 55,831 | 16,525 |
| Cash flows from financing activities**:** | | |
| Proceeds from issuance of common stock | 459 | 551 |
| Proceeds from issuance of Series B Preferred Stock and warrant, net of issuance cost | — | 79,039 |
| Repurchase of common stock | (11,266) | — |
| Dividends paid | — | (4,500) |
| Principal payments on mortgages payable | (220) | (228) |
| Principal payments on capital lease obligations | (1,530) | (1,047) |
| Payments for contingent consideration | (250) | — |
| Payments for deferred offering costs | — | (179) |
| Net cash (used in) provided by financing activities | (12,807) | 73,636 |
| Net decrease in cash and cash equivalents | $ (22,102) | $ (15,963) |
| Cash and cash equivalents—beginning of period | $ 71,107 | $ 49,005 |
| Cash and cash equivalents—end of period | $ 49,005 | $ 33,042 |
| Supplemental disclosure of cash flow information: | | |
| Cash paid for interest | $ 7,618 | $ 7,529 |
| Cash paid for income taxes | 211 | 6 |
| Supplemental schedule of noncash investing and financing activities: | | |
| Purchases of property and equipment in accounts payable | 346 | 337 |
| Capital lease obligations | 706 | 241 |
| Deferred offering costs incurred but not paid | — | 871 |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | 27,637 |
| Stock dividend on Series B Preferred Stock | — | 49,501 |

See accompanying notes to consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

## 1. Organization and Description of Business

Progenity, Inc. and subsidiaries (the "Company" or "Progenity"), a Delaware corporation, commenced operations in 2010 with its corporate office located in San Diego, California. Progenity's primary operations include a licensed Clinical License Improvement Amendment ("CLIA") and College of American Pathologists ("CAP") certified laboratory located in Michigan specializing in the molecular testing markets serving women's health providers in the obstetric, gynecological, fertility, and maternal fetal medicine specialty areas in the United States.

The Company has expertise in the national reference laboratory, clinical genetics, laboratory molecular testing, and biotechnology markets. Distribution is managed by a dedicated women's health physician sales force and a field operations team who support all logistical functions in receiving clinical samples to the laboratory for analysis.

The Company's core business is focused on the prenatal carrier screening and noninvasive prenatal test market, targeting preconception planning, and routine pregnancy management for genetic disease risk assessment.

Through its affiliation with Mattison Pathology, LLP ("Mattison"), a Texas limited liability partnership doing business as Avero Diagnostics ("Avero"), located in Lubbock and Dallas, Texas, the Company's operations have expanded to provide anatomic and molecular pathology testing products in the United States.

### *Liquidity*

As of December 31, 2019, the Company had cash and cash equivalents of $33.0 million and an accumulated deficit of $348.5 million. For the year ended December 31, 2019, the Company also had a net loss of $148.0 million and cash used in operations of $106.1 million. The Company's primary sources of capital have been private placements of preferred stock and incurrence of debt. As of December 31, 2019, the Company had a $75.0 million term loan outstanding with a private equity firm (see Note 7), and mortgages outstanding of $3.3 million (see Note 8). Management does not believe that the current available cash and cash equivalents will be sufficient to fund the Company's planned expenditures and meet its obligations for at least 12 months following the financial statement issuance date without raising additional funding. As a result, there is substantial doubt about the Company's ability to continue as a going concern for the twelve months following the issuance date of the consolidated financial statements for the year ended December 31, 2019.

The Company's ability to continue as a going concern is dependent upon its ability to raise additional funding. Management intends to raise additional capital through equity offerings and/or debt financings. Adequate funding, if needed, may not be available to the Company on acceptable terms, or at all. If the Company is unable to raise capital when needed or on attractive terms, it would be forced to delay, reduce, or eliminate its research and development programs or other operations. If any of these events occur, the Company's ability to achieve its operational goals would be adversely affected.

## 2. Summary of Significant Accounting Policies

### *Basis of Presentation*

The Company's financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") and include the accounts of Progenity, Inc., its wholly owned subsidiaries, and an affiliated professional partnership with Avero with respect to

which the Company currently has a specific management arrangement. The Company has determined that Avero is a variable interest entity and that the Company is the primary beneficiary resulting in the consolidation of Avero as required by the accounting guidance for consolidation. All significant intercompany balances and transactions have been eliminated in consolidation (see Note 3).

There have been no material changes in the Company's significant accounting policies, other than the adoption of Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2014-09 *Revenue from Contracts with Customers* ("ASC 606"), described below.

***Use of Estimates***

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates include the estimate of variable consideration in connection with the recognition of revenue, the valuation of Series B preferred stock, the valuation of stock options, the valuation of goodwill and intangible assets, accrual for reimbursement claims and settlements, assessing future tax exposure and the realization of deferred tax assets, the useful lives, and the recoverability of property and equipment. The Company bases these estimates on historical and anticipated results, trends, and various other assumptions that the Company believes are reasonable under the circumstances, including assumptions as to future events. These estimates form the basis for making judgments about the carrying values of assets and liabilities and recorded revenues and expenses that are not readily apparent from other sources. Actual results could differ from those estimates and assumptions.

***Operating Segments***

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker or decision-making group in making decisions on how to allocate resources and assess performance. The Company views its operations and manages its business as one operating segment. All revenues are attributable to U.S.-based operations and all assets are held in the United States.

***Revenue Recognition***

Revenue is recognized in accordance with FASB Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). The Company adopted ASC 606 with an initial application date of January 1, 2019 using the modified retrospective method, as discussed under *Recent Accounting Pronouncements Adopted* below. In accordance with ASC 606, the Company follows a five-step process to recognize revenues: 1) identify the contract with the customer, 2) identify the performance obligations, 3) determine the transaction price, 4) allocate the transaction price to the performance obligations and 5) recognize revenues when the performance obligations are satisfied.

Revenue is primarily derived from providing molecular testing products, which are reimbursed through arrangements with third-party payors, laboratory distribution partners, and amounts from individual patients. Third-party payors include commercial payors, such as health insurance companies, health maintenance organizations and government health benefit programs such as Medicare and Medicaid. The Company's contracts generally contain a single performance obligation, which is the delivery of the test results, and the Company satisfies its performance obligation at a point in time upon the delivery of the results, which then triggers the billing for the product. The amount of revenue recognized reflects the

amount of consideration the Company expects to be entitled (the "transaction price") and considers the effects of variable consideration. Revenue is recognized when control of the promised product is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those products.

The Company has elected to apply the following practical expedients and exemptions:

- Incremental costs incurred to obtain a contract have been expensed as incurred because the related amortization period would have been one year or less. The costs are included in selling and marketing expenses.
- No adjustments to amounts of promised consideration were made for the effects of a significant financing component because the Company expects, at contract inception, that the period between the transfer of a promised good or service and customer payment for that good or service will be one year or less.

***Payor Concentration***

The Company relies upon reimbursements from third-party government payors and private-payor insurance companies to collect accounts receivable. The Company's significant third-party payors and their related revenues as a percentage of total revenues and accounts receivable balances are as follows:

| | Percentage of Revenue Year Ended December 31, | | Percentage of Accounts Receivable(1) As of December 31, |
|---|---|---|---|
| | 2018 | 2019 | 2019 |
| United Healthcare | 4.5% | 30.8% | 31.5% |
| Blue Shield of Texas | 19.2% | 21.3% | 0.1% |
| Government Health Benefits Programs | 23.0% | 0.1% | 16.7% |

(1) The percentage of accounts receivable at December 31, 2018 is not presented as the majority of the Company's revenue was recorded as cash was received prior to the adoption of ASC 606 on January 1, 2019 and is therefore not comparable to the amounts at December 31, 2019.

***Cost of Sales***

The components of the Company's cost of sales are materials and service costs, personnel costs, including stock-based compensation expense, equipment, and infrastructure expenses associated with processing blood and other samples, quality control analyses, shipping charges to transport samples and specimens from ordering physicians, clinics or individuals, third-party laboratory testing products, and allocated overhead including rent, information technology costs, equipment depreciation, and utilities. Costs associated with performing tests are recorded when the test is processed regardless of whether and when revenues are recognized with respect to such test.

***Cash and Cash Equivalents including Concentration of Credit Risk***

The Company considers all highly liquid investment instruments purchased with an initial maturity of three months or less to be cash equivalents. The Company limits its exposure to credit loss by placing its cash and cash equivalents in financial institutions with high credit ratings. The Company's cash and cash equivalents may consist of deposits held with banks, money market funds, or other highly liquid investments that may at times exceed federally insured limits. Cash equivalents are financial instruments

that potentially subject the Company to concentrations of risk, to the extent of amounts recorded in the balance sheets. The Company performs evaluations of its cash equivalents and the relative credit standing of these financial institutions and limits the amount of credit exposure with any one institution. Management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held.

***Accounts Receivable***

Accounts receivable is recorded at the transaction price and considers the effects of variable consideration. The total consideration the Company expects to collect is an estimate and may be fixed or variable. Variable consideration includes reimbursement from third-party payors, laboratory distribution partners, and amounts from individual patients, and is adjusted for disallowed cases, discounts, and refunds using the expected value approach. The Company monitors these estimates at each reporting period based on actual cash collections in order to assess whether a revision to the estimate is required.

***Investments***

All investments have been classified as “available-for-sale” and are carried at fair value as determined based upon quoted market prices or pricing models for similar securities at period end. Investments with contractual maturities less than 12 months at the balance sheet date are considered short-term investments. Those investments with contractual maturities 12 months or greater at the balance sheet date are considered long-term investments. A decline in the fair value of any security below cost that is deemed other than temporary results in a charge to earnings and the corresponding establishment of a new cost basis for the security. Dividend and interest income are recognized when earned. Realized gains and losses are included in earnings and are derived using the specific identification method for determining the cost of the securities sold.

***Inventory***

Inventory is stated at lower of cost (first-in, first-out method) or net realizable value. Inventory consists entirely of supplies, which are consumed when the Company is providing its test reports, and therefore the Company does not maintain any work in process or finished goods inventory. The Company reviews its inventory on a regular basis for excess and obsolete inventory based on an estimate for future consumption. Write-downs or losses of inventory are generally due to technological advances or new product introductions in the Company’s laboratory testing products. The Company believes that the estimate used in calculating the inventory provision are reasonable and properly reflect the risk of excess and obsolete inventory. If laboratory operation demand is significantly less than inventory levels, inventory write-downs may be required, which could have a material adverse effect on the Company’s consolidated financial statements. Inventory write-downs amounted to $0.9 million and $0.5 million in 2018 and 2019, respectively.

***Property and Equipment, Net***

Property and equipment are stated at cost. Assets acquired under capital leases are stated at the present value of future minimum lease payments. Depreciation is recognized on a straight-line basis over the estimated useful lives of the related assets as follows:

| Property and Equipment | Estimated Useful Life (in years) |
|---|---|
| Computers and software | 3 |
| Laboratory equipment | 5 |
| Furniture, fixtures, and office equipment | 8 |
| Building | 15 |

Assets acquired under capital leases and leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or the useful life of the asset. Land is not depreciated.

***Goodwill***

Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill is not amortized but instead is tested annually for impairment at the reporting unit level, or more frequently when events or changes in circumstances indicate that fair value of the reporting unit has been reduced to less than its carrying value. The Company may choose to perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test.

If, after assessing qualitative factors, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. If deemed necessary, a two-step test is used to identify the potential impairment and to measure the amount of goodwill impairment, if any. The first step is to compare the fair value of the reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, goodwill is considered not impaired; otherwise, there is an indication that goodwill may be impaired and the amount of the loss, if any, is measured by performing step two. Under step two, the impairment loss, if any, is measured by comparing the implied fair value of the reporting unit goodwill with the carrying amount of goodwill. No impairment was recorded for the years ended December 31, 2018 and 2019.

***Intangible Assets***

Intangible assets consist of identifiable intangible assets acquired through acquisitions. Identifiable intangible assets include payor relationships, trade names, and noncompete agreements. The Company amortizes payor relationships and trade names using the straight-line method over their useful lives. The Company amortizes noncompete covenants using the straight-line method over the terms of the related agreements. The Company reviews impairment for intangible assets with definite useful lives whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying amounts to the undiscounted future cash flows the assets are expected to generate. If such review indicates that the carrying amount of intangible assets is not recoverable, the carrying amount of such assets is reduced to fair value. No impairment was recorded for the years ended December 31, 2018 and 2019.

The amortization periods for the acquired intangible assets are:

| Intangible Assets | Useful Life (in years) |
|---|---|
| Trade names | 10 |
| Payor relationships | 10 |
| Noncompete agreements | 6 |

***Impairment of Long-Lived Assets***

The Company accounts for the impairment of long-lived assets, such as property and equipment, by reviewing these assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for possible impairment, the Company first compares undiscounted future cash flows expected to be generated by that asset or asset group to its carrying value. If the carrying value of the long-lived asset or asset group is not recoverable on an undiscounted-cash-flow basis, an impairment is recognized to the extent that the carrying value exceeds its fair value. No impairment was recorded as of December 31, 2018 and 2019.

***Repair and Maintenance***

The Company incurs maintenance costs on its major equipment. Repair and maintenance costs are expensed as incurred.

***Research and Development***

Research and development expenses consist primarily of costs associated with performing research and development activities to improve the Company's tests, to reduce costs, and to develop new products. Research and development expenses also consist of personnel expenses, including salaries, bonuses, stock-based compensation expense, and benefits, and allocated overhead costs. Research and development expenses are expensed as incurred.

***Selling and Marketing***

Selling and marketing expenses consist primarily of costs for communication, advertising, conferences, and other marketing events. Selling and marketing expenses also consist of personnel expenses, including salaries, bonuses, stock-based compensation expense, benefits, and allocated overhead costs. Selling and marketing expenses are expensed as incurred. Advertising expense for the years ended December 31, 2018 and 2019 amounted to $1.4 million and $2.2 million, respectively.

***General and Administrative***

General and administrative expenses consist primarily of personnel costs, including salaries, bonuses, stock-based compensation expense, and benefits, for the Company's finance and accounting, legal, human resources, and other administrative teams. Additionally, these expenses include professional fees, including audit, legal, and recruiting services. General and administrative expenses are expensed in the period incurred.

***Stock-Based Compensation***

The Company calculates the fair value of stock options using the Black-Scholes option valuation model, which incorporates various assumptions including volatility, expected term and risk-free interest rate. Compensation related to service-based awards are recognized starting on the grant date on a straight-line basis over the vesting period, which is generally four years.

The determination of the fair value of each stock award using this option-pricing model is affected by the Company's assumptions regarding a number of complex and subjective variables. These variables include, but are not limited to, the expected term of the awards, the expected stock price volatility over the term of the awards, risk-free interest rate, and dividend rate as follows:

Expected Term—The expected term represents the period that the stock-based awards are expected to be outstanding. The Company determines the expected term using the simplified method. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the options. For stock options granted to non-employees, the expected term equals the remaining contractual term of the option from the vesting date.

Expected Volatility—Given the absence of a public trading market, the expected volatility was estimated by taking the average historic price volatility for industry peers, consisting of several public companies in the Company's industry that are either similar in size, stage, or financial leverage, over a period equivalent to the expected term of the awards.

Risk-Free Interest Rate—The risk-free interest rate is calculated using the average of the published interest rates of U.S. Treasury zero-coupon issues with maturities that are commensurate with the expected term.

Dividend Rate—The dividend yield assumption is zero, as the Company has no plans to make dividend payments.

Effective January 1, 2018, the Company adopted the guidance from ASU No. 2016-09, *Compensation—Stock Compensation (Topic 718).* As a result, the Company now recognizes the effect of forfeitures as they occur. Additionally, the excess tax benefits and deficiencies on share-based payment awards are recorded as deferred tax assets offset by a valuation allowance.

***Net Loss Per Share***

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers all series of preferred stock to be participating securities as the holders of such stock are entitled to receive non-cumulative dividends on an as-converted basis in the event that a dividend is paid on common stock. Under the two-class method, the net loss attributable to common stockholders is not allocated to the preferred stock as the holders of preferred stock do not have a contractual obligation to share in the Company's losses. Under the two-class method, net income is attributed to common stockholders and participating securities based on their participation rights.

Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during the period. Net loss attributable to common stockholders is calculated by adjusting net loss with dividends to preferred stockholders, if any. As the Company has reported net losses for all periods presented, all potentially dilutive securities are antidilutive and, accordingly, basic net loss per share equals diluted net loss per share.

***Equity Method Investment***

Investments over which the Company is deemed to exert significant influence but not control are accounted for using the equity method of accounting. For investments accounted for under the equity method of accounting, the Company's share of income (losses) is included in equity in income of investees in the consolidated statements of operations. As of December 31, 2018, the Company owned a

20% interest in NeoSeq Ltd., a Cayman Islands exempted company ("NeoSeq"), which operated a laboratory in China focused on fetal diagnostic operations for the Asia Pacific market and certain Middle Eastern countries. The Company evaluates the equity method investment for impairment whenever an event or change in circumstances occurs that may have a significant adverse impact on the carrying value of the investment. During the year ended December 31, 2018, NeoSeq completed a financing transaction that diluted the Company's ownership in NeoSeq. Due to this transaction and continued losses, the Company recorded an other-than-temporary impairment of $1.4 million during the year ended December 31, 2018 within the equity loss of the equity method investee in the accompanying consolidated statements of operations.

On June 27, 2019, the Company sold the Neoseq investment to a third-party for an aggregate price of $0.05 million.

***Income Taxes***

The Company accounts for income taxes under the asset-and-liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are recognized in the period in which the change in judgment occurs. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized.

***Comprehensive Loss***

The Company did not have any other comprehensive income or loss for any of the periods presented, and therefore comprehensive loss was the same as the Company's net loss.

***Unaudited Pro Forma Information***

All outstanding shares of preferred stock will automatically convert into shares of the Company's common stock upon the closing of a qualified IPO, as defined in the Company's certificate of incorporation and as described in Note 10. The unaudited pro forma balance sheet information as December 31, 2019 has been prepared assuming the automatic conversion of the preferred stock and vested restricted stock units into shares of common stock assuming the completion of an IPO on December 31, 2019.

The unaudited pro forma net loss per share attributable to common stockholders for the year ended December 31, 2019 has been computed to give effect to the automatic conversion upon the closing of a qualified IPO of preferred stock and vested restricted stock units into common stock using the if-converted method as though such IPO had occurred as of the beginning of the period or the date of issuance, if later.

***Recent Accounting Pronouncements Adopted***

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (*ASC 606*), which supersedes the revenue recognition requirements in ASC Topic 605, *Revenue Recognition* ("ASC

PROGENITY, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

605"), and requires entities to recognize revenue when they transfer control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. The Company adopted ASC 606 as of January 1, 2019, using the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2019. Results for reporting periods beginning after January 1, 2019 are presented under ASC 606, while prior period amounts have not been adjusted and continue to be reported in accordance with the Company's historical accounting policy under ASC 605.

Upon adoption, the Company recognized the cumulative effect of adopting this guidance as an adjustment to its opening accumulated deficit balance. The Company recorded a one-time increase to opening accounts receivable, net, and a reduction to opening accumulated deficit of $23.7 million as of January 1, 2019. The adjustment was primarily related to the recognition of variable consideration the Company expects to receive that was previously recognized as cash was received under ASC 605. The disclosure of revenue without the adoption of ASC 606 for the year ended December 31, 2019 includes an adjustment for the portion of the Company's revenue that was previously recognized as cash was received under ASC 605.

In accordance with the new revenue standard requirements, the disclosure of the impact of adoption on the Company's consolidated balance sheets as of January 1, 2019 and December 31, 2019 and statement of operations for the year ended December 31, 2019 was as follows (in thousands, except per share data):

| | January 1, 2019 | | |
|---|---|---|---|
| | Under ASC 606 | Adoption of ASC 606 | Without Adoption of ASC 606 |
| Accounts receivable, net of allowance | $ 25,618 | $(23,666) | $ 1,952 |
| Accumulated deficit | (118,803) | (23,666) | (142,469) |

| | As of December 31, 2019 | | |
|---|---|---|---|
| | Under ASC 606 | Adoption of ASC 606 | Without Adoption of ASC 606 |
| Accounts receivable, net of allowance | $ 22,189 | $(19,168) | $ 3,021 |
| Accumulated deficit | (348,478) | (19,168) | (367,646) |

| | Year Ended December 31, 2019 | | |
|---|---|---|---|
| | Revenue under ASC 606 | Adoption of ASC 606 | Revenue without Adoption of ASC 606(1) |
| Product revenues | $ 143,985 | $ 5,068 | $ 149,053 |
| Total revenues | 143,985 | 5,068 | 149,053 |
| Loss from operations | (140,119) | 5,068 | (135,051) |
| Net loss | (148,037) | 5,068 | (142,969) |
| Net loss attributable to common stockholders | (228,827) | 5,068 | (223,759) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (46.87) | $ 1.04 | $ (45.83) |

(1) Under ASC 605, revenue was not recognized until cash was received for the majority of the Company's molecular products. For the portion of the revenue that was not recognized until cash was received under ASC 605, the cash receipts during the year ended December 31, 2019 were greater than the estimated transaction price recognized as revenue as tests were performed during the same period under ASC 606.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.* This standard is intended to address eight classification issues related to the statement of cash flows to reduce diversity in practice in how certain transactions are classified. The Company adopted the new accounting standard in fiscal year 2019 using the retrospective transition method for each period presented, which did not have a material impact on the consolidated financial statements.

***Recent Accounting Pronouncements Not Yet Adopted***

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which supersedes FASB ASC Topic 840, Leases (Topic 840), and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method for finance leases or on a straight-line basis over the term of the lease for operating leases. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases. The Company is still assessing the impact that the new leasing standard will have on operations and financial position.

In November 2019, the FASB issued ASU No. 2019-10, *Leases (Topic 842): Effective Dates*. The new standard is effective for the Company for annual reporting periods beginning after December 15, 2020.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses*, which requires the measurement of expected credit losses for financial instruments carried at amortized cost, such as accounts receivable, held at the reporting date based on historical experience, current conditions and reasonable forecasts. The main objective of this standard is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. In November 2018, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financing Instruments–Credit Losses*, which included an amendment of the effective date. The Company does not believe the adoption of this standard will have a significant impact on the financial statements. The standard is effective for the Company for annual reporting periods beginning after December 15, 2022.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.* The new standard will simplify the measurement of goodwill by eliminating step two of the two-step impairment test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The standard is effective for the Company for annual reporting

periods beginning after December 15, 2021. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

In June 2018, the FASB issued ASU No. 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting.* The standard simplifies the accounting for share-based payments granted to nonemployees for goods and services and aligns most of the guidance on such payments to the nonemployees with the requirements for share-based payments granted to employees. ASU 2018-07 is effective for the Company for annual reporting periods beginning after December 15, 2019, and interim periods therein. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which eliminates certain disclosure requirements for fair value measurements for all entities, requires public entities to disclose certain new information and modifies some disclosure requirements. The Company does not expect the adoption of this ASU to have a material impact on its consolidated financial statements. The standard is effective for the Company for annual reporting periods beginning after December 15, 2019.

### 3. Variable Interest Entity

On June 8, 2015, the Company entered into a series of agreements with Avero. The Company entered into a purchase agreement to acquire certain assets from Mattison used in the operation of Avero. The purchase agreement was accounted for under the acquisition method in accordance with the provisions of ASC Topic 805, *Business Combinations*. The Company entered into a nominee agreement which provides it with the right, but not the obligation, to purchase, or to designate a person(s) to purchase, the stock of Avero at any time for a nominal amount.

The Company also entered into a management services arrangement that authorizes the Company to perform the management services in the manner that it deems reasonably appropriate to meet the day-to-day business needs of Avero. The Company's involvement includes funding ongoing operational needs, directing activities related to contract negotiation, billing, human resources, legal and administrative matters and processes, among others. In exchange for the management services provided, the Company is entitled to receive an annual management fee equal to the net operating income of Avero. The term of the agreement with Avero is 10 years, subject to automatic renewals. The agreement can be terminated by either party with a 90-day notice before the end of the term.

Through the management services arrangement with Avero, the Company has (1) the power to direct the activities of Avero that most significantly impact its economic performance, and (2) the obligation to absorb losses that could potentially be significant or the right to receive benefits from Avero that could potentially be significant. Based on these determinations, the Company has determined that Avero is a variable interest entity and that the Company is the primary beneficiary. The Company does not own any equity interest in Avero; however, as these agreements provide the Company the controlling financial interest in Avero, the Company consolidates Avero's balances and activities within its consolidated financial statements.

In December 2018, Avero entered into a settlement agreement with Cigna (the "Cigna settlement obligation") whereby Avero agreed to pay an aggregate amount of $12.0 million with an upfront payment of $6.0 million and the remaining $6.0 million to be paid over 24 months, beginning in February 2019. The Company guaranteed the $12.0 million Cigna settlement obligation and recorded a

charge of $12.0 million associated with this claim in its consolidated statement of operations as a reduction to revenue for the year ended December 31, 2018. During the years ended December 31, 2018 and 2019, the Company provided $6.0 million and $3.0 million, respectively, in financial support to Avero related to the Cigna settlement obligation (see Note 9).

The Company did not provide any additional financial support to Avero during the years ended December 31, 2018 and 2019 other than the Cigna settlement obligation and agreed upon management services.

The following table presents the assets and liabilities of Avero which are included in the Company's consolidated balance sheets as of December 31, 2018 and 2019, in thousands. The creditors of Avero have no recourse to the general credit of the Company, with the exception of $2.1 million and $1.9 million in mortgage payable guaranteed by the Company as of December 31, 2018 and 2019, respectively (see Note 8), and $6.0 million and $3.0 million in remaining Cigna settlement obligation guaranteed by the Company as of December 31, 2018 and 2019, respectively. The assets and liabilities exclude intercompany balances that eliminate in consolidation:

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Assets of Avero that can only be used to settle obligations of Avero | | |
| Cash and cash equivalents | $ 1,210 | $ 1,837 |
| Accounts receivable, net | 1,952 | 4,269 |
| Inventory | 935 | 2,572 |
| Income tax receivable | 1,690 | — |
| Prepaid expenses and other current assets | 1,020 | 1,181 |
| Property and equipment, net | 5,840 | 5,586 |
| Other assets | 30 | 30 |
| Goodwill | 6,219 | 6,219 |
| Other intangible assets, net | 5,699 | 4,771 |
| Total assets of Avero that can only be used to settle obligations of Avero | $ 24,595 | $ 26,465 |
| Liabilities of Avero | | |
| Accounts payable | $ 1,018 | $ 2,450 |
| Accrued expenses and other current liabilities | 4,620 | 5,630 |
| Current portion of capital lease obligations | 111 | 59 |
| Current portion of mortgage payable | 166 | 173 |
| Capital lease obligations, net of current portion | 109 | 50 |
| Mortgage payable, net of current portion | 1,903 | 1,733 |
| Other long-term liabilities | 3,686 | 467 |
| Total liabilities of Avero | $ 11,613 | $ 10,562 |

**4. Revenue**

Product revenue is derived from contracts with healthcare insurers, government payors, laboratory partners and patients in connection with sales of prenatal genetic, anatomic or molecular pathology tests. The Company enters into contracts with health care insurers related to tests provided to patients who have health insurance coverage. Insurance carriers are considered third-party payors on behalf of the patients, and the patients who receive genetic, anatomic or molecular pathology test products are considered the customers. Tests may be billed to insurance carriers, patients, or a combination of insurance carriers and patients. The Company also sells tests to laboratory partners and has also identified those parties as customers.

In accordance with ASC 606, a performance obligation represents a promise in a contract to transfer a distinct good or service to a customer and the consideration should be allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company has evaluated its contracts with health care insurers, government payors, laboratory partners and patients and identified a single performance obligation in those contracts, the delivery of a test result. The Company satisfies its performance obligation at a point in time upon the delivery of the test result, at which point the Company can bill for its products. The amount of revenue recognized reflects the transaction price and considers the effects of variable consideration, which is discussed below.

The transaction price is an estimate and may be fixed or variable. Variable consideration includes reimbursement from healthcare insurers, government payors, and patients and is adjusted for estimates of disallowed cases, discounts, and refunds using the expected value approach. Tests billed to healthcare insurers and directly to patients can take up to six months to collect and the Company may be paid less than the full amount billed or not paid at all. For insurance carriers and government payors, management utilizes the expected value method using a portfolio of relevant historical data for payors with similar reimbursement experience. The portfolio estimate is developed using historical reimbursement data from payors and patients, as well as known current reimbursement trends not reflected in the historical data. Such variable consideration is included in the transaction price only to the extent it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainties with respect to the amount are resolved. Management monitors these estimates at each reporting period based on actual cash collections and status of settlement agreements with third-party payors, in order to assess whether a revision to the estimate is required. Both the initial estimate and any subsequent revision to the estimate contain uncertainty and require the use of judgment in the estimation of the transaction price and application of the constraint for variable consideration. If actual results in the future vary from the Company’s estimates, the Company will adjust these estimates, which would affect revenue and earnings in the period such variances become known. The consideration expected from laboratory partners is generally a fixed amount.

During the year ended December 31, 2019, the Company updated its estimate of the variable consideration recognized for previously delivered performance obligations which resulted in a reduction of $16.0 million of revenue for the year ended December 31, 2019. This amount includes (i) adjustments for actual collections versus estimated variable consideration as of the beginning of the reporting period and (ii) cash collections and the related recognition of revenue in the current period for tests delivered in prior periods due to the release of the constraint on variable consideration, offset by (iii) reductions in revenue for the accrual for reimbursement claims and settlements described in Note 9, *Commitments and Contingencies*.

Once the Company satisfies its performance obligations upon delivery of a test result and bills for the product, the timing of the collection of payments may vary based on the payment practices of the third-

party payor. The Company bills patients directly for co-pays and deductibles that they are responsible for and also bills patients directly in cases where the customer does not have insurance.

The Company has established an accrual for refunds of payments previously made by healthcare insurers based on historical experience and executed settlement agreements with healthcare insurers. The refunds are accounted for as reductions in revenues in the statement of operations as an element of variable consideration.

During the years ended December 31, 2018 and 2019, all revenues were with payors located in the United States.

***Disaggregation of Revenues***

The following table shows a further disaggregation of revenues by payor type (in thousands):

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| Commercial Third-Party Payors | $ 94,799 | $ 139,051 |
| Government Health Benefit Programs | 29,416 | 195 |
| Patient/Laboratory Distribution Partners | 3,759 | 4,739 |
| **Total revenues** | $ 127,974 | $ 143,985 |

**5. Balance Sheet Components**

***Prepaid expenses and other current assets***

Prepaid expenses and other current assets consist of the following (in thousands):

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Prepaid expenses | $ 3,375 | $ 6,476 |
| Other current assets | 604 | 1,370 |
| Total | $ 3,979 | $ 7,846 |

***Property and equipment, net***

Property and equipment, net consists of the following (in thousands):

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Computers and software | $ 12,659 | $ 13,913 |
| Building and leasehold improvements | 9,198 | 9,491 |
| Laboratory equipment | 4,324 | 5,580 |
| Furniture, fixtures, and office equipment | 1,422 | 1,633 |
| Construction in progress | 761 | 1,493 |
| Land | 1,091 | 1,091 |
| Total property and equipment | 29,455 | 33,201 |
| Less accumulated depreciation and amortization | (14,116) | (17,310) |
| Property and equipment, net | $ 15,339 | $ 15,891 |

Capital leases included in property and equipment, net consist of the following (in thousands):

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Capital leases | $ 5,114 | $ 3,692 |
| Less accumulated depreciation and amortization | (2,589) | (2,239) |
| Property and equipment, net | $ 2,525 | $ 1,453 |

Depreciation expense was $3.7 million for each of the years ended December 31, 2018 and 2019.

***Intangible assets, net***

Intangible assets, net consist of the following (in thousands):

| | December 31, 2018 | | |
|---|---|---|---|
| | Cost | Accumulated amortization | Net |
| Payor relationships | $7,230 | $ (2,590) | $4,640 |
| Trade names | 1,410 | (505) | 905 |
| Noncompete agreements | 384 | (230) | 154 |
| Intangible assets, net | $9,024 | $ (3,325) | $5,699 |

| | December 31, 2019 | | |
|---|---|---|---|
| | Cost | Accumulated amortization | Net |
| Payor relationships | $7,230 | $ (3,314) | $3,916 |
| Trade names | 1,410 | (646) | 764 |
| Noncompete agreements | 384 | (293) | 91 |
| Intangible assets, net | $9,024 | $ (4,253) | $4,771 |

Amortization expense of intangible assets for each of the years ended December 31, 2018 and 2019 was $0.9 million.

The future amortization of intangible assets at December 31, 2019 is (in thousands):

| Year Ending December 31, | |
|---|---|
| 2020 | $ 928 |
| 2021 | 891 |
| 2022 | 864 |
| 2023 | 864 |
| Thereafter | 1,224 |
| Total future minimum amortization | $4,771 |

***Accrued expenses and other current liabilities***

Accrued expenses and other current liabilities consist of the following (in thousands):

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Accrual for reimbursement claims and settlements | $ 46,405 | $ 60,386 |
| Commissions and bonus | 6,628 | 6,357 |
| Vacation and payroll benefits | 4,840 | 5,506 |
| Accrued professional services | 3,146 | 5,322 |
| Other | 4,774 | 6,044 |
| Total | $ 65,793 | $ 83,615 |

***Other long-term liabilities***

Other long-term liabilities consist of the following (in thousands):

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Accrual for reimbursement claims and settlements—long term | $ 3,000 | $ 12,205 |
| Other | 800 | 654 |
| Total | $ 3,800 | $ 12,859 |

**6. Fair Value Measurements**

The following table presents information about the Company's assets and liabilities that are measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in thousands):

| | Quoted Market Prices for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---|---|---|---|
| **At December 31, 2018** | | | |
| Money market funds[1] | $ 10,217 | $ — | $ — |
| Certificate of deposits[1][2] | — | 51,415 | — |
| **At December 31, 2019** | | | |
| Money market funds[1] | $ 24,432 | $ — | $ — |

(1) Included in cash and cash equivalents in the accompanying consolidated balance sheets.
(2) Included in short-term investments in the accompanying consolidated balance sheets.

Short-term investment, which consists of a certificate of deposit with a maturity of 12 months or less, is classified as a Level 2 financial asset because it is valued using quoted market price and other observable inputs in active markets for identical securities.

There were no significant transfers between Level 1 and Level 2 during the years ended December 31, 2018 and 2019. The Company's policy is to recognize transfers between levels at the end of the reporting period.

The Company recorded a non-recurring Level 3 fair value impairment loss of $1.4 million on its investment in NeoSeq for the year ended December 31, 2018, discussed in Note 2 "Equity Method Investment." No impairment loss was recorded for the year ended December 31, 2019.

***Fair Value of Financial Instruments***

The carrying value of the Company's accounts receivable, income tax receivable, accounts payable, and accrued expenses and other current liabilities are considered to be representative of their respective fair values because of their short-term nature.

The carrying value of the Company's mortgages payable approximates their estimated fair value because the instruments bear interest at rates and have terms that are comparable to those available to the Company for similar loan instruments at December 31, 2018 and 2019.

The carrying value of the Company's note payable to a related party does not approximate its fair value because the instrument bears interest at a rate that is not comparable to those available to the Company for a similar loan instrument at December 31, 2018 and 2019. The carrying value and the fair value of the Company's term loan (the "2017 Term Loan") is $75.0 million and $76.7 million, respectively, at December 31, 2018 and $75.0 million and $79.8 million, respectively, at December 31, 2019. The carrying value of the 2017 Term Loan is presented on the accompanying consolidated balance sheets net of discount on the note and debt issuance cost.

**7. Note Payable to Related Party**

On October 27, 2017, the Company entered into a Credit and Security Agreement and a Series B Convertible Preferred Stock Purchase Agreement with a private equity firm (the "2017 Transaction"). The 2017 Transaction provided for the 2017 Term Loan, the issuance of Series B Preferred Stock (the "Series B Preferred Stock"), and the issuance of a warrant to purchase Series B Preferred Stock (the "Series B Preferred Stock Purchase Warrant"). The 2017 Term Loan accrues interest at a rate per annum equal to 9.5% and is due October 27, 2022.

The 2017 Term Loan contains customary covenants, including a requirement to maintain a minimum unrestricted cash balance at all times at least equal to $5.0 million. The Company is in compliance with the 2017 Term Loan covenants. The 2017 Term Loan is secured by all tangible and intangible property and assets of the Company, with the exception of intellectual property.

The total proceeds of $124.2 million from the 2017 Transaction were allocated to the 2017 Term Loan, Series B Preferred Stock, and the Series B Preferred Stock Purchase Warrant based on the relative fair value of the term loan, equity, and warrant issued. As a result, the Company allocated proceeds of

$65.7 million to the 2017 Term Loan. As the proceeds allocated to the 2017 Term Loan are lower than the stated loan amount of $75.0 million, the resulting $9.3 million discount will be amortized as interest expense using the effective interest method over the term of the loan.

As of both December 31, 2018 and 2019, the outstanding unpaid principal under the 2017 Term Loan is $75.0 million, due in October 2022. The unamortized discount on the 2017 Term Loan was $7.7 million and $6.0 million as of December 31, 2018 and 2019, respectively.

During the years ended December 31, 2018 and 2019, the Company recognized interest expense on the 2017 Term Loan of $8.7 million and $8.9 million, inclusive of $1.5 million and $1.7 million of amortized interest expense on the discount for the years ended December 31, 2018 and 2019, respectively.

**8. Mortgages Payable**

On January 24, 2014, the Company executed a mortgage with Comerica Bank for $1.8 million for the purpose of acquiring property located in Ann Arbor, Michigan, which was previously leased by the Company and used for laboratory testing and research purposes. The outstanding balance as of December 31, 2018 and 2019 was $1.5 million and $1.4 million, respectively. The mortgage matures in 2024 and requires monthly principal and interest payments at a fixed interest rate of 2.94% plus a floating rate at London Interbank Offered Rate (“LIBOR”).

The Company also has a mortgage with American Bank of Commerce (originally executed on February 19, 2008) outstanding on Avero’s property located in Lubbock, Texas, which is used primarily for laboratory testing. The outstanding balance as of December 31, 2018 and 2019 was $2.1 million and $1.9 million, respectively. The mortgage matures in 2029 and requires monthly principal and interest payments at an interest rate of 4.25%.

As of December 31, 2019, the minimum principal payments under the mortgages payable are as follows (in thousands):

| Year Ending December 31, | Minimum Mortgages Payable Payments |
|---|---|
| 2020 | 241 |
| 2021 | 253 |
| 2022 | 265 |
| 2023 | 277 |
| 2024 and thereafter | 2,286 |
| Total future minimum payments | $ 3,322 |
| Less current portion of mortgages payable | (241) |
| Mortgages payable, net of current portion | $ 3,081 |

**9. Commitments and Contingencies**

***Operating Leases***

The Company has entered into various noncancelable operating lease agreements, primarily for office space, laboratory space, and vehicles, which expire over the next 2 to 4 years. Minimum rent payments

under operating leases are recognized on a straight-line basis over the term of the lease. Rent expense for operating leases for the years ended December 31, 2018 and 2019, was $7.1 million and $8.9 million, respectively.

As of December 31, 2019, the Company's net minimum payments under the non-cancelable operating leases are as follows (in thousands):

| Year Ending December 31, | Minimum Operating Lease Payments |
|---|---|
| 2020 | $ 8,167 |
| 2021 | 4,838 |
| 2022 | 2,652 |
| 2023 and thereafter | 906 |
| Total future minimum payments | $ 16,563 |

***Capital Leases***

The Company has entered into various capital lease agreements, primarily for equipment. The outstanding leases have a weighted average imputed interest rate of 5.62% per annum.

As of December 31, 2019, the future minimum payments under the capital leases are as follows (in thousands):

| Year Ending December 31, | Minimum Capital Lease Payments |
|---|---|
| 2020 | $ 773 |
| 2021 | 324 |
| 2022 and thereafter | 47 |
| Total future minimum payments | $ 1,144 |
| Less amount representing interest | (59) |
| Present value of minimum capital lease payments | 1,085 |
| Less current portion of capital lease obligations | (727) |
| Capital lease obligations, net of current portion | $ 358 |

***Contingencies***

The Company, in the ordinary course of its business, can be involved in lawsuits, threats of litigation, and audit and investigative demands from third parties. While management is unable to predict the exact outcome of such matters, it is management's current belief, that any potential liabilities resulting from these contingencies, individually or in the aggregate, could have a material impact on the Company's financial position and results of operations.

The regulations governing government reimbursement programs (e.g., Medicaid, Tricare, and Medicare) and commercial payor reimbursement programs are complex and subject to interpretation. As a provider

of services to patients covered under government and commercial payor programs, post payment review audits, and other forms of reviews and investigations are routine. The Company believes it complies in all material respects with the statutes, regulations, and other requirements applicable to its laboratory operations.

In April 2018, the Company received a civil investigative demand from an Assistant U.S. Attorney ("AUSA") for the Southern District of New York and a Health Insurance Portability and Accountability Act ("HIPAA") subpoena issued by an AUSA for the Southern District of California. In May 2018, the Company received a subpoena from the State of New York Medicaid Fraud Control Unit. While the Company has not been served with a civil or criminal complaint, it is currently under federal civil and criminal investigations, and state civil investigations, regarding discontinued legacy billing practices for its non-invasive prenatal testing and microdeletion tests and for the provision of potential kickbacks or inducements to physicians and patients. The civil investigations also include inquiries about the Company's laboratory licenses, its enrollment in state Medicaid programs, and the laboratories that performed testing for the Company. The Company has met several times with representatives from the government entities conducting the related investigations, together as a group, to discuss the potential for a global resolution of all issues with all entities, which may include governmental entities and others that are not currently participating in such discussions. In response to proposed settlement offers from the Company, representatives from the government entities made a demand of $66.7 million to settle all issues. The Company has recorded an accrual of $35.8 million associated with a potential settlement in accrued expenses and other current liabilities as of December 31, 2019 which represents the amount offered by the Company to settle the matters and the minimum amount of the potential range of loss.

However, the Company has not yet completed negotiations, and there can be no assurance as to whether or when the parties will finalize any such negotiated resolution or what the final terms of such a resolution will be. The Company cannot provide any assurance as to the ultimate outcome or that an adverse resolution would not have a material adverse effect on the Company's business, financial condition and results of operations.

The Company cannot provide any assurance as to the ultimate outcome or that an adverse resolution would not have a material adverse effect on the Company's business, financial condition and results of operations.

On June 21, 2018, the Company received a letter from Cigna alleging damages related to contract terms. On December 5, 2018, Cigna and the Company entered into a settlement agreement whereby Avero agreed to pay an aggregate amount of $12.0 million with an upfront payment of $6.0 million and the remaining $6.0 million to be paid over 24 months. For the year ended December 31, 2018, the Company recorded a charge of $12.0 million associated with this claim in its consolidated statements of operations as a reduction to revenue. As of December 31, 2019, the remaining settlement accrual related to Cigna is $3.0 million in accrued expenses and other current liabilities.

On June 25, 2018, the Company received a letter from Aetna's external legal counsel that included various allegations relating to the Company's past practices. In November 2019, the Company and Aetna entered into a written settlement agreement for $15.0 million, to be paid in installment payments through December 2020. During the year ended December 31, 2018, the Company recorded a charge of $15.0 million associated with this claim in its consolidated statements of operations as a reduction to revenue. As of December 31, 2019, the Company's accrual consists of $10.0 million in accrued expenses and other current liabilities.

On October 18, 2018, the Company received a letter from UnitedHealth Group that included various allegations relating to the Company's past practices. On September 30, 2019, the Company entered into a settlement agreement with United HealthCare Services, Inc. and UnitedHealthcare Insurance Company ("United") in which the Company agreed to pay an aggregate amount of $30.0 million. The settlement is to be paid with an upfront payment of $2.0 million, and the remaining balance to be paid every six months starting December 31, 2019, with the first two installment payments of $5.0 million each, and $6.0 million each thereafter. During the years ended December 31, 2018 and 2019, the Company recorded a charge of $27.0 million and $3.0 million, respectively, associated with this claim in its consolidated statements of operations as a reduction to revenue to adjust the accrual to $30.0 million. As of December 31, 2019, the remaining settlement accrual related to United is $23.0 million consisting of $11.0 million in accrued expenses and other current liabilities and $12.0 million in other long-term liabilities.

**10. Stockholders' Equity**

***Common Stock***

Pursuant to the November 2019 sixth amended and restated certificate of incorporation, the Company is authorized to issue 300 million shares of common stock. Each holder of common stock is entitled to one vote per share of common stock held.

***Treasury Stock***

In June 2014, the Company authorized an Equity Repurchase Program for Key Employees (the "Repurchase Program"). The Repurchase Program allows the Company to repurchase for cash a portion of common stock equity interest of certain employees, provided that (i) no more than 25% of the equity interest of any employee shall be repurchased under the Repurchase Program, (ii) the purchase price to be paid for each share of common stock shall equal the most recent appraisal valuation of the Company's common stock, and (iii) the aggregate repurchases shall not exceed the lesser of (a) equity interest representing, in the aggregate, 0.8 million shares of common stock, (b) a purchase price, in the aggregate, of more than $6.0 million, and (c) the maximum repurchases permitted under the General Corporation Law of the State of Delaware. In addition, it is the Company's practice to require individuals exercising stock options to hold the shares upon exercising for a reasonable period of time in order for the holder to be exposed to the economic risks and rewards of share ownership prior to participating in the Repurchase Program. A reasonable period of time is defined as a period of at least six months and that covers at least two common stock appraisal valuations.

On December 19, 2017, the Company extended the offer to certain key employees to repurchase up to 0.6 million shares in aggregate at a price of $21.81 per share of Company's common stock. In February 2018, the Company completed the offer and paid an aggregate of $12.5 million to repurchase 0.6 million shares of Company's common stock. At the time of repurchase, the Company's common stock was appraised at $19.65 per share which resulted in a recording of $11.3 million as treasury stock. The difference of $1.2 million was recorded as stock-based compensation expense.

***Convertible Preferred Stock***

As of December 31, 2018, the Company had outstanding Series A Preferred Stock, Series A-1 Preferred Stock and Series B Preferred Stock. As of December 31, 2019, the Company had outstanding Series A Preferred Stock and Series B Preferred Stock. The Company recorded the preferred stock at fair value on the dates of issuance net of issuance costs.

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

On August 27, 2019, the Company issued 9.1 million shares of Series B Preferred Stock at an issuance price of $2.75 per share for an aggregate consideration of $25.0 million (the "August 2019 Financing") pursuant to a Series B Preferred Stock Purchase Agreement with a private equity firm. In addition, the Company amended the Series B Preferred Stock Purchase Warrant dated October 27, 2017 to increase the Series B Preferred Stock underlying the Series B Preferred Stock Purchase Warrant from 1.4 million to 1.8 million shares and adjust the exercise price to $2.75 per share. The $25.0 million of proceeds from the August 2019 Financing are allocated among the newly issued Series B Preferred Stock shares and additional shares of Series B Preferred Stock Purchase Warrant at their relative fair values.

In connection with the August 2019 Financing, the board of directors and stockholders approved a 1.28-for-1 stock split for the Company's Series B Preferred Stock and Series B Preferred Stock Purchase Warrant issued and outstanding prior to the August 2019 Financing, which was effected on August 27, 2019 pursuant to an amendment to the amended and restated certificate of incorporation. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Purchase Warrant was lowered from $3.53 to $2.75 per share. As a result, the Company issued 4.0 million additional shares of Series B Preferred Stock as a stock dividend to the preferred stockholders, which was recorded as a $13.1 million increase to accumulated deficit on the accompanying consolidated statements of stockholders' deficit during the year ended December 31, 2019.

On August 27, 2019, the Company entered into an Exchange Agreement with holders of Series A-1 Preferred Stock (the "Exchange Agreement") pursuant to which the outstanding 1,500,000 shares of Series A-1 Preferred Stock were exchanged for 35,664,240 shares of Series B Preferred Stock. The exchange ratio is 1.2 to 1 on as-if converted to 4,810,651 shares of common stock that the Series A-1

Preferred Stock can be converted to, based on the conversion rate of 3.2 to 1. The Company determined that such exchange was a modification to the Series A-1 Preferred Stock. Accordingly, the increase comparing the fair value of the Series B Preferred Stock with the fair value of the Series A-1 Preferred Stock represents a dividend to the preferred stockholders, which was approximately $27.6 million and recorded as an increase to accumulated deficit on the accompanying consolidated statements of stockholders' deficit during the year ended December 31, 2019.

On November 12, 2019, the Company entered into a Series B Preferred Stock Purchase Agreement (the "November Series B Preferred Stock Purchase Agreement") with a private equity firm and received $25.0 million (the "November 2019 Financing") in exchange for the issuance of 11.1 million shares of Series B Preferred Stock at $2.25 per share. In connection with the November 2019 Financing, the board of directors and stockholders approved a 1.22-for-1 stock split for the Company's Series B Preferred Stock and Series B Preferred Stock Purchase Warrant issued and outstanding prior to the November 2019 Financing. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Purchase Warrant was lowered from $2.75 to $2.25 per share. As a result, the Company issued 14.0 million additional shares of Series B Preferred Stock and adjusted the Series B Preferred Stock Purchase Warrant to purchase up to 2.2 million shares of Series B Preferred Stock. The issuance of additional shares represented a stock dividend to the preferred stockholders, which was recorded as a $36.4 million increase to accumulated deficit on the accompanying consolidated statements of stockholders' deficit during the year ended December 31, 2019.

On November 22, 2019 the Company completed an additional equity financing pursuant to the November Series B Preferred Stock Purchase Agreement with certain existing, accredited investors for an aggregate of $6.1 million in exchange for the issuance of an aggregate of 2.7 million shares of Series B Preferred Stock at $2.25 per share.

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

On December 19, 2019, the Company completed an additional equity financing pursuant to the November Series B Preferred Stock Purchase Agreement with the same private equity firm as the November 2019 Financing for $25.0 million in exchange for the issuance of 11.1 million shares of Series B Preferred Stock at $2.25 per share.

The fair value of the preferred stock was estimated using a hybrid between a probability-weighted expected return method ("PWERM") and option pricing model ("OPM"), estimating the probability weighted value across multiple scenarios, while using an OPM to estimate the allocation of value within one or more of these scenarios. Under a PWERM, the value of the Company's various classes of stock was estimated based upon an analysis of future values for the Company assuming various future outcomes, including two IPO scenarios and one scenario contemplating the continued operation of the Company as a privately held enterprise. Guideline public company multiples were used to value the Company under its various scenarios. Share value for each class of stock was based upon the probability-weighted present value of expected future share values, considering each of these possible future outcomes, as well as the rights of each share class.

The significant unobservable inputs into the valuation model used to estimate the fair value of the preferred stock include the timing of potential events (primarily the IPO) and their probability of occurring, the selection of guideline public company multiples, a discount for the lack of marketability of the common stock, and the discount rate used to calculate the present value of the estimated equity value allocated to each share class.

Preferred stock outstanding as of December 31, 2018 and 2019 consisted of the following (in thousands, except share and per share data):

| | December 31, 2018 | | | |
|---|---|---|---|---|
| | Shares Authorized | Shares Issued and Outstanding | Per Share Price at Issuance | Aggregate Liquidation Preference |
| Series A | 4,120,000 | 4,120,000 | $ 0.48543 | $ 2,000 |
| Series A-1 | 2,000,000 | 1,500,000 | 9.00000 | 13,500 |
| Series B | 15,580,737 | 14,164,306 | 3.53000 | 50,000 |
| Total preferred stock | 21,700,737 | 19,784,306 | | $ 65,500 |

| | December 31, 2019 | | | |
|---|---|---|---|---|
| | Shares Authorized | Shares Issued and Outstanding | Per Share Price at Issuance | Aggregate Liquidation Preference |
| Series A | 4,120,000 | 4,120,000 | $ 0.48543 | $ 2,000 |
| Series A-1 | — | — | 9.00000 | — |
| Series B | 126,035,000 | 101,867,405 | 2.25000 | 229,202 |
| Total preferred stock | 130,155,000 | 105,987,405 | | $ 231,202 |

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

On November 12, 2019, in connection with the November 2019 Financing, the Company amended the certificate of incorporation. Following the amendment, there are no authorized or outstanding shares of Series A-1 Preferred Stock. Pursuant to the sixth amended and restated certificate of incorporation, the stockholders of preferred stock have the following rights, preferences, and privileges:

*Dividend Rights*

The Company cannot declare, pay or set aside any dividends on shares of common stock (other than dividends on shares of common stock payable in shares of common stock) unless the holders of the outstanding preferred stock also receive a dividend in an amount equal to the product of dividend payable on each share of common stock and the number of shares of common stock then issuable upon conversion of such share of preferred stock.

No other dividends can be declared, paid or set aside besides the aforementioned dividends to the convertible preferred stock.

*Liquidation Preference*

Upon a liquidation event, as defined in the amended and restated certificate of incorporation, the holders of Series A and Series B Preferred Stock are entitled to receive, prior to and in preference to any distribution of the proceeds of such liquidation to common stockholders, an amount per share equal to $0.48543 and $2.25, respectively, plus any declared but unpaid dividends on such shares. If the proceeds distributed among the holders of the preferred stock are insufficient to permit the Series A and Series B Preferred Stock holders to receive the full payment noted above, then the entire proceeds legally available for distribution shall be distributed ratably among the holders of the convertible preferred stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive with the holders of Series B Preferred Stock having priority and preference to Series A Preferred Stock.

*Voting Rights*

The holders of each share of preferred stock have the right to one vote for each share of common stock into which such preferred stock could then be converted.

Holders of Series A Preferred Stock, or holders of Series B Preferred Stock voting together as a separate class, can vote for the number of directors that is proportionate to shares of common stock that each share of preferred stock can be converted into relative to all voting shares, provided at least 2.5 million and 40.0 million shares of Series A and Series B Preferred Stock, respectively, are outstanding, and Series B Preferred Stock constitutes at least 10% of the voting shares.

*Conversion Rights*

Each share of preferred stock is convertible, at the option of the holder, into fully paid and non-assessable shares of common stock determined by dividing the applicable original issue price by the applicable conversion price in effect at the time of conversion. The original issue prices of Series A and Series B Preferred Stock are $0.48543 and $2.25 per share, respectively. The initial conversion prices of Series A and Series B Preferred Stock are $0.15 and $13.90 per share, respectively.

Shares of Series A and Series B Preferred Stock will be automatically converted into fully paid shares of common stock immediately upon the earlier of: (a) the closing of the sale of shares of common stock to the public at a minimum price of $13.90 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination, or other similar recapitalization with respect to common stock, in a firm-commitment underwritten IPO pursuant to an effective registration statement under the

Securities Act of 1933, as amended, resulting in at least $50.0 million of gross cash proceeds to the Company (such IPO, a "Qualified IPO") or (b) at the date specified by written consent, or affirmative vote, or agreement of the holders of at least 75% of Series A Preferred Stock and Series B Preferred Stock, voting as separate classes.

In the event of the consummation of a Qualified IPO, the conversion price per share of Series B Preferred Stock shall be adjusted to equal the lesser of (1) the then current conversion price per share of Series B Preferred Stock and (2) the "Price to Public" per share of common stock specified in the final prospectus with respect to the Qualified IPO (the "Public Price").

Or in the event of the consummation of an IPO where the Public Price is less than $15.986 per share of common stock, the conversion rate per share of Series B Preferred Stock shall be adjusted, as of immediately prior to the consummation of the Qualified IPO, such that each share of Series B Preferred Stock shall be convertible into a number of shares of common stock equal to the quotient of (1) the Series B Preferred Stock original issue price divided by (2) the Public Price multiplied by 0.865.

*Redemption Rights*

The Company's shares of preferred stock are not mandatorily redeemable.

A liquidation event will be deemed to occur upon certain sales and merger of the Company. Such deemed liquidation event will require consent of the majority of the outstanding Series B Preferred Stock, unless the consideration from such event will result into a minimum of $16.68 per share to Series B Preferred Stock or common stock converted into.

***Common Stock***

The Company reserved shares of common stock, on an as-if-converted basis, for future issuance as follows:

| | December 31, 2018 | December 31, 2019 |
|---|---|---|
| Series A Preferred Stock | 13,213,254 | 13,213,254 |
| Series A-1 Preferred Stock | 4,810,649 | — |
| Series B Preferred Stock | 2,292,700 | 16,488,731 |
| Series B Preferred Stock Purchase Warrant | 229,270 | 359,699 |
| Restricted stock units | 85,801 | 322,608 |
| Outstanding options to purchase common stock | 2,537,299 | 2,561,866 |
| Options available for future issuance | 432,388 | 1,717,817 |
| Total | 23,601,361 | 34,663,975 |

**11. Stock-based Compensation**

On February 22, 2018, the Company adopted the 2018 Equity Incentive Plan (the "2018 Plan"), with 0.7 million shares available for future grant. Upon adoption of the 2018 Plan, no new stock options are issuable under the Second Amended and Restated 2012 Stock Plan (the "2012 Plan") or the 2015 Consultant Stock Plan (the "2015 Plan"). The 2018 Plan is the successor to and continuation of the 2012 Plan, as amended, and the 2015 Plan, and is administered with either stock options or restricted stock units. The 2018 Plan also provides for other types of equity to issue awards, which at this time the

Company does not plan to utilize. The 2018 Plan was amended in March 2019 (the "2018 Amended Plan") with 1.1 million shares available for future grant.

On December 5, 2019, the Company adopted the Second Amended and Restated 2018 Equity Incentive Plan (the "2018 Second Amended Plan"), which increased the shares available for future grant to 2.7 million. The Board of Directors administers the plans.

Activity under the 2012 Plan, the 2015 Plan, and the 2018 Second Amended Plan for the year ended December 31, 2019 is set forth below (in thousands, except share and per share data):

| | Stock Options Outstanding | Exercise Price | Weighted Average Remaining Contractual Term (Years) | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Balance at December 31, 2018 | 2,537,299 | $ 7.21 | | |
| Awards authorized | — | | | |
| Options granted | 518,631 | 14.08 | | |
| Options exercised | (338,834) | 1.62 | | |
| Options forfeited | (131,765) | 15.46 | | |
| Options expired | (23,465) | 12.35 | | |
| Balance at December 31, 2019 | 2,561,866 | $ 9.01 | 5.78 | $ 8,705 |
| Vested and exercisable at December 31, 2019 | 1,894,193 | $ 6.89 | 4.69 | $ 8,705 |
| Vested and expected to vest at December 31, 2019 | 2,475,261 | $ 8.81 | 5.66 | $ 8,705 |

Options available for grant totaled 1,717,817 at December 31, 2019.

***Determining Fair Value of Stock Options—Summary of Assumptions***

The Company uses the Black-Scholes option pricing model to estimate the fair value of each option grant on the date of grant or any other measurement date. The following table sets forth the assumptions used to determine the fair value of stock options:

| | Year Ended December 31, 2019 |
|---|---|
| Risk-free interest rate | 1.4% - 2.4% |
| Expected volatility | 57.0% - 71.0% |
| Expected dividend yield | — |
| Expected term (in years) | 6.25 years |

PROGENITY, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

For the years ended December 31, 2018 and 2019, the following table presents total stock-based compensation expense in each functional line item on the consolidated statements of operations (in thousands):

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| Cost of sales | $ 731 | $ 207 |
| Research and development | 682 | 851 |
| Selling and marketing | 940 | 501 |
| General and administrative | 1,150 | 816 |
| Total stock-based compensation expense | $3,503 | $2,375 |

The weighted-average grant date fair value of options granted during the years ended December 31, 2018 and 2019 was $9.82 per option and $7.35 per option, respectively. At December 31, 2018 and 2019, there was $3.6 million and $4.1 million, respectively, unrecognized compensation cost related to unvested stock options, which are expected to be recognized over a remaining weighted average vesting period of 2.57 years and 2.69 years, respectively.

**12. Income Taxes**

The provision for income taxes consists of the following (in thousands):

| | Year Ended December 31, 2018 | Year Ended December 31, 2019 |
|---|---|---|
| Current provision: | | |
| Federal | $ (1,319) | $ (638) |
| State | 324 | (104) |
| | (995) | (742) |
| Deferred expense: | | |
| Federal | 5,163 | 36 |
| State | 1,082 | — |
| | 6,245 | 36 |
| Income tax expense (benefit) from continuing operations | 5,250 | (706) |
| Net income tax provision | $ 5,250 | $ (706) |

PROGENITY, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The components of income tax expense relate to the following (in thousands):

| | Year Ended December 31, 2018 | Year Ended December 31, 2019 |
|---|---|---|
| Income tax benefit at U.S. federal statutory rate | $ (26,010) | $ (31,236) |
| State income tax benefit, net of federal benefit | (3,223) | (4,538) |
| Meals and entertainment | 306 | 367 |
| Stock-based compensation | 248 | (87) |
| Federal research and development credit | (1,485) | (3,232) |
| Change in valuation allowance | 36,473 | 38,514 |
| Other | (1,059) | (494) |
| Total income tax expense | $ 5,250 | $ (706) |

Deferred income taxes reflect the net tax effects of (a) temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, and (b) operating losses and tax credit carryforwards. The tax effects of temporary differences that give rise to portions of the deferred tax assets and deferred tax liabilities as of December 31, 2018 and 2019 are presented below (in thousands):

| | Year Ended December 31, 2018 | Year Ended December 31, 2019 |
|---|---|---|
| Deferred tax assets: | | |
| Net operating losses and carryforwards | $ 18,907 | $ 51,768 |
| Reserves | 9,857 | 17,287 |
| Intangible assets | 4,147 | 3,982 |
| Accrued expenses | 4,329 | 3,025 |
| Other | 979 | 194 |
| Total deferred tax assets | 38,219 | 76,256 |
| Deferred tax liabilities: | | |
| Fixed assets | (1,426) | (1,705) |
| Prepaid expenses | (150) | (138) |
| Goodwill | (170) | (205) |
| Adoption of ASC 606 | — | (4,227) |
| Total deferred tax liabilities | (1,746) | (6,275) |
| Net deferred tax assets | 36,473 | 69,981 |
| Less: valuation allowance | (36,473) | (70,017) |
| Net deferred tax assets/liabilities | $ — | $ (36) |

Due to the losses generated in 2018 and 2019 and projected future taxable losses anticipated in the future, in 2018 management decided that it is not more likely than not that the Company will realize the benefits of its deferred tax assets. As such, the Company recorded a valuation allowance of $36.5 million and $70.0 million, respectively, on its net deferred tax assets as of December 31, 2018 and 2019.

At December 31, 2019, the Company had federal and state income tax net operating loss carryforwards of approximately $173.6 million and $94.7 million, respectively. The U.S. federal net operating losses

will be carried forward indefinitely and state net operating losses will begin to expire in 2038 unless previously utilized. Net operating loss carryforwards generated post the TCJA may be carried forward indefinitely, subject to the 80% taxable income limitation on the utilization of the carryforwards. In addition, the Company had federal and state research and expenditure credit carryforwards approximately of $4.7 million and $1.6 million, respectively, as of December 31, 2019. The federal research and expenditure credit will expire in 2038 if unused and the state research and expenditure credit may be carried forward indefinitely.

Pursuant to Section 382 of the Internal Revenue Code, annual use of the Company's net operating loss carryforwards and tax credit carryforwards may be limited as a result of cumulative changes of ownership resulting in a change of control of the Company. The Company has not performed a section 382 study of its prior ownership changes, and therefore the recoverability of these carryforwards is an estimate that is subject to change upon completion of a study, or upon future changes in ownership as defined by Section 382 of the Internal Revenue Code.

In accordance with ASC 740-10, *Income Taxes—Overall*, the impact of an uncertain income tax position on the income tax return must be recognized at the largest amount that is more likely than not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. The Company has no uncertain tax positions at December 31, 2019.

The Company's policy is to recognize interest and penalties related to income tax matters in the provision for income taxes. At December 31, 2019, there were no interest and penalties related to uncertain tax positions.

The Company is subject to taxation in the United States and various state jurisdictions. The tax years 2014 through 2017 remain open to examination by the major taxing jurisdictions to which the Company is subject.

**13. Net Loss Per Share**

Net loss per share is computed by dividing net loss attributable to common stockholders for the period by the weighted average number of common shares outstanding during the period. Diluted loss per share reflects the additional dilution from potential issuances of common stock, such as stock issuable pursuant to the exercise of stock options, as well as from the possible conversion of the Company's preferred stock and exercise of the outstanding warrant. The treasury stock and if-converted methods are used to calculate the potential dilutive effect of these common stock equivalents. However, potentially dilutive shares are excluded from the computation of diluted loss per share when their effect is antidilutive. Due to the Company reporting a net loss attributable to common stockholders for all periods presented, all potentially dilutive securities were antidilutive and have been excluded from the computation of diluted loss per share.

PROGENITY, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The table below provides potentially dilutive securities in equivalent common shares not included in the Company's calculation of diluted loss per share because to do so would be antidilutive:

| | Year Ended December 31, | |
|---|---|---|
| | 2018 | 2019 |
| Series A Preferred Stock | 13,213,254 | 13,213,254 |
| Series A-1 Preferred Stock | 4,810,649 | — |
| Series B Preferred Stock | 2,292,700 | 16,488,731 |
| Series B Preferred Stock Purchase Warrant | 229,270 | 359,699 |
| Options to purchase common stock | 2,537,299 | 2,561,866 |
| Restricted stock units | 85,801 | 322,608 |
| Total | 23,168,973 | 32,946,158 |

The Company has presented basic and diluted net loss per share, which has been computed to give effect to the conversion of all shares of preferred stock and restricted stock units into shares of common stock as if such conversion had occurred as of the beginning of the period presented. The following table sets forth the computation of the Company's basic and diluted net loss per common share (unaudited) (in thousands, except share and per share data):

| | Year Ended December 31, 2019 (unaudited) |
|---|---|
| Numerator: | |
| Net loss used in computing net loss per share, basic and diluted | $ (228,827) |
| Pro forma adjustments to remove dividend paid to preferred stockholders | 3,652 |
| Pro forma adjustments to remove stock dividend on exchange of Series A-1 for Series B Preferred Stock | 27,637 |
| Pro forma adjustments to remove stock dividend on Series B Preferred Stock | 49,501 |
| Net loss used in computing pro forma net loss per share, basic and diluted | $ (148,037) |
| Denominator: | |
| Shares used in computing net loss per share, basic and diluted | 4,882,662 |
| Pro forma adjustments to reflect assumed conversion of preferred stock | 22,032,758 |
| Pro forma adjustments to reflect assumed conversion of vested restricted stock units | 46,025 |
| Shares used in computing pro forma net loss per share, basic and diluted | 26,961,445 |
| Pro forma basic and diluted net loss per share | $ (5.49) |

Diluted loss per share does not include outstanding stock options, restricted stock units, and the outstanding Series B Preferred Stock Purchase Warrant since the effect would be antidilutive due to the net loss attributable to common stockholders for the period.

**14. Employee Benefit Plan**

The Company has a qualified 401(k) employee savings plan for the benefit of its employees (the "plan"). Substantially all employees are eligible to participate in the plan. Under the plan, employees can contribute and defer taxes on compensation contributed. The Company has the option to make

discretionary profit-sharing contributions to the plan. The Company made employer contributions to the plan of $1.9 million and $2.5 million for the years ended December 31, 2018 and 2019, respectively.

**15. Subsequent Events**

The Company has evaluated subsequent events from the balance sheet date through March 18, 2020, the date the consolidated financial statements were available to be issued, except for the reverse stock split discussed below. In February 2020, we issued and sold an aggregate of 5,066,666 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $11.4 million in cash.

On June 10, 2020 the Company amended its certificate of incorporation to reflect a 6.178-for-1 reverse stock split of the Company's common stock. The par values and the number of authorized shares of common stock were not adjusted as a result of the reverse stock split. All issued and outstanding shares of common stock and related per share amounts contained in the accompanying consolidated financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented. The reverse stock split resulted in an adjustment to the respective Series A and B preferred stock conversion prices to reflect a proportional decrease in the number of shares of common stock to be issued upon conversion.

**16. Events (Unaudited) Subsequent to the Date of Report of the Independent Registered Public Accounting Firm**

On March 31, 2020, in connection with an amendment to our existing credit agreement, which provided for the payment of interest due and payable as of March 31, 2020 and June 30, 2020 in shares of our Series B Preferred Stock, we issued an aggregate of 967,130 shares of our Series B Preferred Stock at a subscription price of $2.25 per share to existing investors as payment for interest due and payable as of March 31, 2020 and all applicable fees.

On April 3, 2020, we issued and sold an aggregate of 4,444,444 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $10.0 million in cash.

In April 2018, we received a civil investigative demand from an Assistant U.S. Attorney for the Southern District of New York and a HIPAA subpoena issued by an Assistant U.S. Attorney for the Southern District of California. In May 2018, we received a subpoena from the State of New York Medicaid Fraud Control Unit. Since that time, we have cooperated with federal civil and criminal investigations, and state civil investigations, regarding discontinued legacy billing practices for our NIPT and microdeletion tests and the provision of alleged kickbacks or inducements to physicians and patients. The civil investigations also include inquiries about our laboratory licenses, our enrollment in state Medicaid programs, and the laboratories that performed testing for us.

On March 31, 2020, we reached an agreement on the monetary terms with the Department of Justice (the "DOJ") and the State of New York (with the State of New York Attorney General representing or facilitating the interests of all States participating in the settlement (collectively, the "State AGs")) with respect to relevant government health benefit programs to resolve all of the government's outstanding civil and criminal investigations, including the investigations by the U.S. Attorney's Office for the Southern District of California and the U.S. Attorney's Office for the Southern District of New York, as well as the investigation by the State AGs. The terms of this agreement in principle contemplate that we will enter into a civil settlement agreement providing that we will pay $8.0 million upon entering into the settlement, $4.0 million in December 2020, $5.0 million in December 2021, $7.0 million in December

2022, $8.0 million in December 2023, $9.0 million in December 2024, and $8.0 million in December 2025 (all of which, other than the initial $8.0 million payment, will also be subject to interest at a rate of 1.25% per annum) for a release of the civil claims and that we will enter into a non-prosecution agreement to resolve all criminal allegations. Those criminal allegations pertain to discontinued legacy billing practices for our NIPT tests. The companion civil settlement agreement is expected to resolve all civil claims involving discontinued legacy billing practices for our NIPT and microdeletion tests as well as other allegations pertaining to the provision of potential kickbacks or inducements to physicians and patients. Other non-financial terms and conditions remain subject to negotiation. The final civil settlement materials are subject to final approval of the Assistant Attorney General at DOJ, a U.S. District Court judge in New York, and any other relevant parties, including any potential whistleblower and the State AGs. We also expect to enter into a corporate integrity agreement with the Department of Health and Human Services Office of Inspector General, which would be expected to impose additional compliance, reporting and disclosure obligations, and related costs in the future. The agreement in principle does not cover other potential claims by a potential whistleblower(s), if any, of a nature not covered by the government settlement.

As of December 31, 2019, we had accrued an aggregate of $35.8 million associated with a potential settlement with the DOJ and the participating State AGs within accrued expenses and other current liabilities and as a reduction of revenue as reflected on the consolidated balance sheet of the Company as of December 31, 2019 and consolidated statement of operations for the year ended December 31, 2019. In addition, in the quarter ended March 31, 2020, we expect to accrue an additional $13.2 million with respect to the total amount to be paid under the agreement in principle to the DOJ and the participating State AGs, and additional amounts for any related costs as of and for the quarterly period ended March 31, 2020. Until the final documents are approved and signed, there can be no assurance that the amount we have accrued will be sufficient to cover our obligations relating to this matter. Our obligations could also increase depending on a number of factors, potentially materially, including whether or not the agreement in principle is finalized, the terms of the final approved agreements, the parties to the settlement, the cost of complying with the terms of the settlement, including monitoring fees related to any potential corporate integrity agreement, the costs related to the settlement, and other factors.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONDENSED CONSOLIDATED BALANCE SHEETS**
**(UNAUDITED)**
**(in thousands, except share data)**

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 60,013 | $ 33,042 |
| Accounts receivable, net | 13,425 | 22,189 |
| Inventory | 10,383 | 10,937 |
| Income tax receivable | — | 634 |
| Prepaid expenses and other current assets | 9,216 | 7,846 |
| Total current assets | 93,037 | 74,648 |
| Property and equipment, net | 16,088 | 15,891 |
| Other assets | 198 | 198 |
| Goodwill | 6,219 | 6,219 |
| Other intangible assets, net | 4,075 | 4,771 |
| Total assets | $ 119,617 | $ 101,727 |
| **Liabilities and Stockholders' Deficit** | | |
| Current liabilities: | | |
| Accounts payable | $ 15,666 | $ 15,754 |
| Accrued expenses and other current liabilities | 71,013 | 83,615 |
| Current portion of mortgages payable | 268 | 241 |
| Current portion of capital lease obligations | 399 | 727 |
| Total current liabilities | 87,346 | 100,337 |
| Capital lease obligations, net of current portion | 97 | 358 |
| Mortgages payable, net of current portion | 2,864 | 3,081 |
| Note payable to related party, net of unamortized discount of $5,358 and $6,034 as of September 30, 2020 and December 31, 2019, respectively | 69,642 | 68,966 |
| Other long-term liabilities | 20,088 | 12,859 |
| Total liabilities | $ 180,037 | $ 185,601 |
| Commitments and contingencies | | |
| Stockholders' deficit: | | |
| Common stock—$0.001 par value. 350,000,000 and 300,000,000 shares authorized as of September 30, 2020 and December 31, 2019, respectively; 50,450,849 and 8,451,415 shares issued as of September 30, 2020 and December 31, 2019, respectively; 46,976,277 and 4,976,843 shares outstanding as of September 30, 2020 and December 31, 2019, respectively | 50 | 9 |
| Series A Preferred Stock—$0.001 par value. 4,120,000 shares authorized, issued and outstanding as of December 31, 2019; no shares authorized, issued and outstanding as of September 30, 2020 | — | 4 |
| Series B Preferred Stock—$0.001 par value. 126,035,000 shares authorized as of December 31, 2019; 101,867,405 shares issued and outstanding as of December 31, 2019, respectively. No shares authorized, issued and outstanding as of September 30, 2020 | — | 102 |
| Additional paid-in capital | 424,047 | 283,260 |
| Accumulated deficit | (465,746) | (348,478) |
| Treasury stock—at cost; 3,474,572 shares of common stock as of September 30, 2020 and December 31, 2019 | (18,771) | (18,771) |
| Total stockholders' deficit | (60,420) | (83,874) |
| Total liabilities and stockholders' deficit | $ 119,617 | $ 101,727 |

See accompanying notes to unaudited condensed consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**
**(UNAUDITED)**
**(in thousands, except share and per share data)**

| | Three Months Ended September 30, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2020 | 2019 | 2020 | 2019 |
| Revenues | $ 25,943 | $ 18,772 | $ 60,037 | $ 123,509 |
| Cost of sales | 23,601 | 24,997 | 72,006 | 75,531 |
| Gross profit (loss) | 2,342 | (6,225) | (11,969) | 47,978 |
| Operating expenses: | | | | |
| Research and development | 13,043 | 17,080 | 36,517 | 48,791 |
| Selling and marketing | 13,244 | 15,263 | 40,416 | 45,510 |
| General and administrative | 20,626 | 16,273 | 54,915 | 44,823 |
| Total operating expenses | 46,913 | 48,616 | 131,848 | 139,124 |
| Loss from operations | (44,571) | (54,841) | (143,817) | (91,146) |
| Interest expense | (2,476) | (2,321) | (7,285) | (6,872) |
| Interest and other income (expense), net | (18) | 29 | (3,594) | 457 |
| Loss before income taxes | (47,065) | (57,133) | (154,696) | (97,561) |
| Income tax benefit | — | — | (37,696) | — |
| Net loss | (47,065) | (57,133) | (117,000) | (97,561) |
| Dividend paid to preferred stockholders | — | — | (268) | (3,652) |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | (27,637) | — | (27,637) |
| Stock dividend on Series B Preferred Stock | — | (13,137) | — | (13,137) |
| Net loss attributable to common stockholders | $ (47,065) | $ (97,907) | $ (117,268) | $ (141,987) |
| Net loss per share attributable to common stockholders, basic and diluted | $ (1.01) | $ (19.85) | $ (5.80) | $ (29.27) |
| Weighted average number of shares outstanding used in calculating net loss per share attributable to common stockholders, basic and diluted | 46,632,043 | 4,931,204 | 20,201,325 | 4,851,603 |

See accompanying notes to unaudited condensed consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT**
**(UNAUDITED)**
**(in thousands, except for share data)**

| | Common Stock | | Series A and A-1 Preferred Stock | | Series B Preferred Stock | | Additional Paid-In Capital | Accumulated Deficit | Treasury Stock | | Total Stockholders' Deficit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | | | Shares | Amount | |
| **Balance at December 31, 2019** | **8,451,415** | **$ 9** | **4,120,000** | **$ 4** | **101,867,405** | **$ 102** | **$ 283,260** | **$ (348,478)** | **(3,474,572)** | **$(18,771)** | **$ (83,874)** |
| Issuance of common stock upon exercise of options | 56,729 | — | — | — | — | — | 103 | — | — | — | 103 |
| Issuance of Series B Preferred Stock, net of issuance cost | — | — | — | — | 6,033,796 | 6 | 14,066 | — | — | — | 14,072 |
| Stock-based compensation expense | — | — | — | — | — | — | 2,057 | — | — | — | 2,057 |
| Net loss | — | — | — | — | — | — | — | (17,152) | — | — | (17,152) |
| **Balance at March 31, 2020** | **8,508,144** | **$ 9** | **4,120,000** | **$ 4** | **107,901,201** | **$ 108** | **$ 299,486** | **$ (365,630)** | **(3,474,572)** | **$(18,771)** | **$ (84,794)** |
| Issuance of common stock upon exercise of options | 20,880 | — | — | — | — | — | 45 | — | — | — | 45 |
| Issuance of common stock upon initial public offering, net | 6,666,667 | 7 | — | — | — | — | 88,658 | — | — | — | 88,665 |
| Issuance of Series B Preferred Stock, net | — | — | — | — | 4,444,444 | 4 | 9,929 | — | — | — | 9,933 |
| Automatic conversion of preferred stock | 33,443,562 | 33 | (4,120,000) | (4) | (112,345,645) | (112) | 83 | — | — | — | — |
| Issuance of common stock upon conversion of debt | 1,250,000 | 1 | — | — | — | — | 18,749 | — | — | — | 18,750 |
| Issuance of Stock Purchase Warrant | — | — | — | — | — | — | 268 | (268) | — | — | — |
| Issuance of common stock upon vesting of restricted stock unit awards | 133,353 | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation expense | — | — | — | — | — | — | 3,024 | — | — | — | 3,024 |
| Net loss | — | — | — | — | — | — | — | (52,783) | — | — | (52,783) |
| **Balance at June 30, 2020** | **50,022,606** | **$ 50** | **—** | **$ —** | **—** | **$ —** | **$ 420,242** | **$ (418,681)** | **(3,474,572)** | **$(18,771)** | **$ (17,160)** |
| Issuance of common stock upon exercise of options | 428,243 | — | — | — | — | — | 431 | — | — | — | 431 |
| Stock-based compensation expense | — | — | — | — | — | — | 3,374 | — | — | — | 3,374 |
| Net loss | — | — | — | — | — | — | — | (47,065) | — | — | (47,065) |
| **Balance at September 30, 2020** | **50,450,849** | **$ 50** | **—** | **$ —** | **—** | **$ —** | **$ 424,047** | **$ (465,746)** | **(3,474,572)** | **$(18,771)** | **$ (60,420)** |

**PROGENITY, INC.**
**CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT**
**(In thousands, except share data)**
**(Unaudited)**

| | Common Stock | | Series A and A-1 Preferred Stock | | Series B Preferred Stock | | Additional Paid-In Capital | Accumulated Deficit | Treasury Stock | | Total Stockholders' Deficit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | | | Shares | Amount | |
| **Balance at December 31, 2018** | **8,112,581** | **$ 8** | **5,620,000** | **$ 6** | **14,164,306** | **$ 14** | **$ 124,244** | **$ (142,469)** | **(3,474,572)** | **$(18,771)** | **$ (36,968)** |
| Adoption of accounting standard | — | — | — | — | — | — | — | 23,666 | — | — | 23,666 |
| Issuance of common stock upon exercise of options | 268,549 | — | — | — | — | — | 322 | — | — | — | 322 |
| Stock-based compensation expense | — | — | — | — | — | — | 555 | — | — | — | 555 |
| Dividends paid | — | — | — | — | — | — | — | (4,500) | — | — | (4,500) |
| Net loss | — | — | — | — | — | — | — | (24,019) | — | — | (24,019) |
| **Balance at March 31, 2019** | **8,381,130** | **$ 8** | **5,620,000** | **$ 6** | **14,164,306** | **$ 14** | **$ 125,121** | **$ (147,322)** | **(3,474,572)** | **$(18,771)** | **$ (40,944)** |
| Issuance of common stock upon exercise of options | 15,936 | — | — | — | — | — | 120 | — | — | — | 120 |
| Stock-based compensation expense | — | — | — | — | — | — | 597 | — | — | — | 597 |
| Net loss | — | — | — | — | — | — | — | (16,409) | — | — | (16,409) |
| **Balance at June 30, 2019** | **8,397,066** | **$ 8** | **5,620,000** | **$ 6** | **14,164,306** | **$ 14** | **$ 125,838** | **$ (163,731)** | **(3,474,572)** | **$(18,771)** | **$ (56,636)** |
| Issuance of common stock upon exercise of options | 50,860 | — | — | — | — | — | 88 | — | — | — | 88 |
| Exchange of Series A-1 Preferred Stock to Series B Preferred Stock of restricted stock unit awards | — | — | (1,500,000) | (2) | 35,664,241 | 36 | 27,603 | (27,637) | — | — | — |
| Issuance of Series B Preferred Stock, net of issuance cost | — | — | — | — | 9,090,910 | 9 | 23,974 | — | — | — | 23,983 |
| Stock dividend on Series B Preferred Stock | — | — | — | — | 4,017,512 | 4 | 13,133 | (13,137) | — | — | — |
| Stock-based compensation expense | — | — | — | — | — | — | 631 | — | — | — | 631 |
| Net loss | — | — | — | — | — | — | — | (57,133) | — | — | (57,133) |
| **Balance at September 30, 2019** | **8,447,926** | **$ 8** | **4,120,000** | **$ 4** | **62,936,969** | **$ 63** | **$ 191,267** | **$ (261,638)** | **(3,474,572)** | **$(18,771)** | **$ (89,067)** |

See accompanying notes to unaudited condensed consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**
**(UNAUDITED)**
**(in thousands)**

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2020 | 2019 |
| **Operating Activities:** | | |
| Net loss | $ (117,000) | $ (97,561) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Non-cash revenue reserve | 22,848 | 19,935 |
| Depreciation and amortization | 3,762 | 3,480 |
| Stock-based compensation expense | 8,455 | 1,783 |
| Loss on extinguishment of convertible note | 3,401 | — |
| Amortization of debt discount | 1,902 | 1,229 |
| Inventory write-down | 80 | 120 |
| Loss on disposal of property and equipment | 67 | — |
| Change in fair value of derivative liability | 126 | — |
| Changes in operating assets and liabilities: | | |
| Accounts receivable, net | 8,765 | 695 |
| Inventory | 475 | (3,675) |
| Income tax receivable | 635 | 6,173 |
| Prepaid expenses and other current assets | (2,420) | (2,588) |
| Other assets | — | (62) |
| Accounts payables | 1,441 | 10,729 |
| Accrued expenses and other liabilities | (29,807) | (537) |
| Other long-term liabilities | 1,583 | — |
| Net cash used in operating activities | (95,687) | (60,279) |
| **Investing Activities:** | | |
| Purchases of property and equipment | (3,109) | (2,917) |
| Purchases of short-term investments | — | (11,214) |
| Proceeds from sale of short-term investments | — | 31,414 |
| Proceeds from sale of equity method investment | — | 50 |
| Net cash (used in) provided by investing activities | (3,109) | 17,333 |
| **Financing Activities:** | | |
| Proceeds from issuance of common stock, net | 90,344 | 530 |
| Proceeds from issuance of Series B Preferred Stock, net | 21,307 | 24,967 |
| Proceeds from issuance of convertible note, net | 14,895 | — |
| Dividends paid | — | (4,500) |
| Principal payments on mortgages payable | (190) | (172) |
| Principal payments on capital lease obligations | (589) | (834) |
| Net cash provided by financing activities | 125,767 | 19,991 |
| Net increase (decrease) in cash and cash equivalents | 26,971 | (22,955) |
| Cash and cash equivalents at beginning of period | 33,042 | 49,005 |
| Cash and cash equivalents at end of period | $ 60,013 | $ 26,050 |

See accompanying notes to unaudited condensed consolidated financial statements.

**PROGENITY, INC.**
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**
**(UNAUDITED)**
**(in thousands)**

| | Nine Months Ended September 30, | |
|---|---|---|
| | 2020 | 2019 |
| **Supplemental disclosure of cash flow information:** | | |
| Cash paid for interest | $ 3,765 | $ 5,642 |
| Cash paid for income taxes | 58 | 6 |
| **Supplemental schedule of non-cash investing and financing activities:** | | |
| Conversion of convertible note | $18,750 | $ — |
| Issuance of preferred stock in settlement of interest payable | 2,698 | — |
| Equity offering costs incurred but not paid | 1,101 | 984 |
| Issuance of stock options in settlement of accrued bonuses | 754 | — |
| Purchases of property and equipment in accounts payable | 220 | 240 |
| Capital lease obligations | — | 229 |
| Stock dividend on exchange of Series A-1 for Series B Preferred Stock | — | 27,367 |
| Stock dividend on Series B Preferred Stock | — | 13,137 |

See accompanying notes to unaudited condensed consolidated financial statements.

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

## 1. Organization and Description of Business

Progenity, Inc. (the "Company" or "Progenity"), a Delaware corporation, commenced operations in 2010 with its corporate office located in San Diego, California. Progenity's primary operations include a licensed Clinical License Improvement Amendment and College of American Pathologists certified laboratory located in Michigan specializing in the molecular testing markets serving women's health providers in the obstetric, gynecological, fertility, and maternal fetal medicine specialty areas in the United States.

The Company has expertise in the national reference laboratory, clinical genetics, laboratory molecular testing, and biotechnology markets. Distribution is managed by a dedicated women's health physician sales force and a field operations team who support all logistical functions in receiving clinical samples to the laboratory for analysis. The Company's core business is focused on the prenatal carrier screening and noninvasive prenatal test market, targeting preconception planning, and routine pregnancy management for genetic disease risk assessment. Through its affiliation with Mattison Pathology, LLP ("Mattison"), a Texas limited liability partnership doing business as Avero Diagnostics ("Avero"), located in Lubbock and Dallas, Texas, the Company's operations have expanded to provide anatomic and molecular pathology testing products in the United States.

On June 10, 2020, the Company amended its certificate of incorporation to reflect a one-for-6.178 reverse stock split of the Company's common stock. The par value and the number of authorized shares of common stock were not adjusted as a result of the reverse stock split. All issued and outstanding shares of common stock and related per share amounts contained in the accompanying condensed consolidated financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented. The reverse stock split resulted in an adjustment to the respective Series A and B preferred stock conversion prices to reflect a proportional decrease in the number of shares of common stock to be issued upon conversion.

On June 23, 2020, the Company completed the initial public offering of its common stock (the "IPO"). In the IPO, the Company issued and sold 6,666,667 shares of its common stock, at a price to the public of $15.00 per share. The Company received approximately $88.7 million in net proceeds, after deducting underwriting discounts and commissions and other offering expenses payable by the Company. In connection with the IPO, on June 23, 2020, all outstanding Series A and B preferred stock and the outstanding convertible promissory note converted into shares of common stock and the outstanding warrant to purchase shares of convertible preferred stock became exercisable for shares of common stock.

### Liquidity

As of September 30, 2020, the Company had cash and cash equivalents of $60.0 million and an accumulated deficit of $465.7 million. For the nine months ended September 30, 2020, the Company reported a net loss of $117.0 million and cash used in operating activities of $95.7 million. The Company's primary sources of capital have historically been the sale of common stock, private placements of preferred stock and incurrence of debt. As of September 30, 2020, the Company had a $75.0 million term loan outstanding with a private equity firm (see Note 7), and mortgages outstanding of $3.1 million (see Note 8). Management does not believe that the current available cash and cash equivalents will be sufficient to fund the Company's planned expenditures and meet its obligations for at least 12 months following the financial statement issuance date without raising additional funding. As a result, there is substantial doubt about the Company's ability to continue as a going concern for 12

months following the issuance date of the condensed consolidated financial statements for the three and nine months ended September 30, 2020. The Company's ability to continue as a going concern is dependent upon its ability to raise additional funding. Management believes that the Company's liquidity position provides sufficient runway to achieve critical research and development pipeline milestones and show continued progress in the molecular testing activities into mid-2021. Management intends to raise additional capital through equity offerings and/or debt financings, or from other potential sources of liquidity, which may include new collaborations, licensing or other commercial agreements for one or more of the Company's research programs or patent portfolios. Adequate funding, if needed, may not be available to the Company on acceptable terms, or at all. The Company's ability to raise additional funds may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, the credit and financial markets in the United States and worldwide resulting from the ongoing COVID-19 pandemic. If the Company is unable to raise capital when needed or on attractive terms, it would be forced to delay, reduce, or eliminate its research and development programs or other operations. If any of these events occur, the Company's ability to achieve its operational goals would be adversely affected.

**Uncertainties Related to the COVID-19 Pandemic**

The ongoing COVID-19 pandemic has negatively impacted the global economy, disrupted global supply chains and created significant volatility and disruption of financial markets. The Company has been materially and negatively affected by the COVID-19 pandemic; however, the extent of the impact of the COVID-19 pandemic on the Company's operational and financial performance, including its ability to execute its business strategies and initiatives in the expected time frame, will depend on future developments, including the duration and spread of the pandemic and related restrictions on travel and transports, all of which are uncertain and cannot be predicted. The Company could be further negatively affected by the widespread outbreak of an illness or any other communicable disease, or any other public health crisis that results in economic and trade disruptions, including the disruption of global supply chains. An extended period of global supply chain and economic disruption could materially affect the Company's business, results of operations, access to sources of liquidity and financial condition.

The estimates used for, but not limited to, determining the amount to be collected for accounts receivable, fair value of long-lived assets, and fair value of goodwill could be impacted by the pandemic. While the full impact of COVID-19 is unknown at this time, the Company has made appropriate estimates based on the facts and circumstances available as of the reporting date. These estimates may change as new events occur and additional information is obtained.

**2. Summary of Significant Accounting Policies**

**Basis of Presentation**

The Company's condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. These financial statements should be read in conjunction with the Company's audited financial statements included in the Company's final prospectus filed with the Securities and Exchange Commission on June 22, 2020. The condensed consolidated financial statements include the accounts of Progenity, Inc., its wholly owned subsidiaries, and an affiliated professional partnership with Avero with respect to which the Company currently has a specific management arrangement. The Company has determined that Avero is a variable interest entity and that the Company is the primary beneficiary resulting in the consolidation

of Avero as required by the accounting guidance for consolidation (see Note 3). All significant intercompany balances and transactions have been eliminated in consolidation.

**Unaudited Interim Financial Information**

The accompanying condensed consolidated balance sheet as of September 30, 2020, the statements of operations and the statements of stockholders' deficit for the three and nine months ended September 30, 2020 and 2019 and the statements of cash flows for the nine months ended September 30, 2020 and 2019 are unaudited. The unaudited interim financial statements have been prepared on the same basis as the audited annual financial statements and, in the opinion of management, reflect all adjustments, consisting of normal recurring adjustments, that are necessary for the fair statement of the Company's financial position as of September 30, 2020, and the results of its operations and its cash flows for the three and nine months ended September 30, 2020 and 2019. The financial data and other information disclosed in these notes related to the three and nine months ended September 30, 2020 and 2019 are also unaudited. The results for the three and nine months ended September 30, 2020 are not necessarily indicative of results to be expected for the year ending December 31, 2020, any other interim periods, or any future year or period, particularly in light of the COVID-19 pandemic and its impact on domestic and global economies. The balance sheet as of December 31, 2019 included herein was derived from the audited financial statements as of that date. Certain disclosures have been condensed or omitted from the interim financial statements.

**Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates include the estimate of variable consideration in connection with the recognition of revenue, the valuation of Series B preferred stock, the valuation of stock options, the valuation of goodwill and intangible assets, accrual for reimbursement claims and settlements, assessing future tax exposure and the realization of deferred tax assets, the useful lives and the recoverability of property and equipment. The Company bases these estimates on historical and anticipated results, trends, and various other assumptions that the Company believes are reasonable under the circumstances, including assumptions as to future events. These estimates form the basis for making judgments about the carrying values of assets and liabilities and recorded revenues and expenses that are not readily apparent from other sources. Actual results could differ from those estimates and assumptions.

**Operating Segments**

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker or decision-making group in making decisions on how to allocate resources and assess performance. The Company views its operations and manages its business as one operating segment. All revenues are attributable to U.S.-based operations and all assets are held in the United States.

**Revenue Recognition**

Revenue is recognized in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC

606"). In accordance with ASC 606, the Company follows a five-step process to recognize revenues: 1) identify the contract with the customer, 2) identify the performance obligations, 3) determine the transaction price, 4) allocate the transaction price to the performance obligations and 5) recognize revenues when the performance obligations are satisfied.

Revenue is primarily derived from providing molecular testing products, which are reimbursed through arrangements with third-party payors, laboratory distribution partners, and amounts from individual patients. Third-party payors include commercial payors, such as health insurance companies, health maintenance organizations and government health benefit programs, such as Medicare and Medicaid. The Company's contracts generally contain a single performance obligation, which is the delivery of the test results, and the Company satisfies its performance obligation at a point in time upon the delivery of the results, which then triggers the billing for the product. The amount of revenue recognized reflects the amount of consideration the Company expects to be entitled to (the "transaction price") and considers the effects of variable consideration. Revenue is recognized when control of the promised product is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those products.

The Company applies the following practical expedients and exemptions:

- Incremental costs incurred to obtain a contract are expensed as incurred because the related amortization period would have been one year or less. The costs are included in selling and marketing expenses.
- No adjustments to amounts of promised consideration are made for the effects of a significant financing component because the Company expects, at contract inception, that the period between the transfer of a promised good or service and customer payment for that good or service will be one year or less.

**Payor Concentration**

The Company relies upon reimbursements from third-party government payors and private-payor insurance companies to collect accounts receivable. The Company's significant third-party payors and their related accounts receivable balances and revenues as a percentage of total accounts receivable balances and revenues are as follows:

| | Percentage of Accounts Receivable | |
|---|---|---|
| | September 30, 2020 | December 31, 2019 |
| Blue Shield of Texas | 21.4% | 0.1% |
| Government Health Benefits Programs | 20.5% | 16.7% |
| Aetna | 6.4% | 6.0% |
| United Healthcare | 5.7% | 31.5% |

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

| | Percentage of Revenue | | | |
|---|---|---|---|---|
| | Three Months Ended September 30, | | Nine Months Ended September 30, | |
| | 2020 | 2019 | 2020 | 2019 |
| Blue Shield of Texas | 26.5% | 47.2% | 35.4% | 19.4% |
| Government Health Benefits Programs(1) | 21.9% | (29.4)% | (5.6)% | 9.3% |
| Aetna | 7.9% | 10.7% | 10.7% | 8.1% |
| United Healthcare | 5.5% | 28.8% | 4.9% | 30.9% |

(1) The negative amounts presented in the percentage of revenues include accruals for reimbursement claims and settlements included in the estimates of variable consideration recorded during the three and nine months ended September 30, 2020 and 2019. Revenue recognized consider the effects of variable consideration, and include adjustments for estimates of disallowed cases, discounts, and refunds. The variable consideration includes reductions in revenues for the accrual for reimbursement claims and settlements, as described in Notes 4 and 9.

**Accounts Receivable**

Accounts receivable is recorded at the transaction price and considers the effects of variable consideration. The total consideration the Company expects to collect is an estimate and may be fixed or variable. Variable consideration includes reimbursement from third-party payors, laboratory distribution partners, and amounts from individual patients, and is adjusted for disallowed cases, discounts, and refunds using the expected value approach. The Company monitors these estimates at each reporting period based on actual cash collections in order to assess whether a revision to the estimate is required.

**Net Loss Per Share**

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers all series of preferred stock to be participating securities as the holders of such stock are entitled to receive non-cumulative dividends on an as-converted basis in the event that a dividend is paid on common stock. Under the two-class method, the net loss attributable to common stockholders is not allocated to the preferred stock as the holders of preferred stock do not have a contractual obligation to share in the Company's losses. Under the two-class method, net income is attributed to common stockholders and participating securities based on their participation rights. Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during the period. Net loss attributable to common stockholders is calculated by adjusting net loss with dividends to preferred stockholders, if any. As the Company has reported net losses for all periods presented, all potentially dilutive securities are antidilutive and, accordingly, basic net loss per share equals diluted net loss per share.

**Comprehensive Loss**

The Company did not have any other comprehensive income or loss for any of the periods presented, and therefore comprehensive loss was the same as the Company's net loss.

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

**Recent Accounting Pronouncements Adopted**

In June 2018, the FASB issued Accounting Standards Update ("ASU") No. 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting*. The standard simplifies the accounting for share-based payments granted to nonemployees for goods and services and aligns most of the guidance on such payments to the nonemployees with the requirements for share-based payments granted to employees. The Company adopted the new accounting standard in fiscal year 2020 using the retrospective transition method for each period presented, which did not have a material impact on the condensed consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* which removes certain exceptions to the general principles of Topic 740, *Accounting for Income Taxes* ("ASC 740") and is intended to improve consistency and simplify GAAP in several other areas of ASC 740 by clarifying and amending existing guidance. The Company early adopted ASU No. 2019-12 for the quarter ended March 31, 2020, which did not have a material impact on the condensed consolidated financial statements.

**Recent Accounting Pronouncements Not Yet Adopted**

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which supersedes FASB ASC Topic 840, *Leases (Topic 840)*, and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method for finance leases or on a straight-line basis over the term of the lease for operating leases. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases. In November 2019, the FASB issued ASU No. 2019-10, *Leases (Topic 842): Effective Dates*. The new standard is effective for the Company for annual reporting periods beginning after December 15, 2020. The Company plans to adopt the new lease standard effective January 1, 2021, using the effective date method with the cumulative effect of the change reflected in retained earnings as of January 1, 2021, if any. The Company plans to elect the package of practical expedients available in the new lease standard, allowing it not to reassess:
(a) whether expired or existing contracts contain leases under the new definition of a lease; (b) lease classification for expired or existing leases; and
(c) whether previously capitalized initial direct costs would qualify for capitalization under the new lease standard.

The Company continues to monitor FASB activity to assess certain interpretative issues and the associated implementation of the new standard and is in the process of reviewing its lease arrangements, including property, equipment and vehicle leases. The Company is not yet able to estimate the anticipated impact to its consolidated financial statements from the implementation of the new standard as it continues to interpret the principles of the new standard.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses*, which requires the measurement of expected credit losses for financial instruments carried at amortized cost, such as accounts receivable, held at the reporting date based on historical experience, current conditions and reasonable forecasts. The main objective of this standard is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. In November 2018, the

**PROGENITY, INC. AND SUBSIDIARIES**
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financing Instruments–Credit Losses*, which included an amendment of the effective date. The standard is effective for the Company for annual reporting periods beginning after December 15, 2022. The Company does not expect the adoption of this standard to have a significant impact on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The new standard will simplify the measurement of goodwill by eliminating step two of the two-step impairment test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The standard is effective for the Company for annual reporting periods beginning after December 15, 2021. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

### 3. Variable Interest Entity

In June 2015, the Company entered into a series of agreements with Avero. The Company entered into a purchase agreement to acquire certain assets from Mattison used in the operations of Avero. The purchase agreement was accounted for under the acquisition method in accordance with the provisions of ASC Topic 805, *Business Combinations*. The Company entered into a nominee agreement which provides it with the right, but not the obligation, to purchase, or to designate a person(s) to purchase, the stock of Avero at any time for a nominal amount.

The Company also entered into a management services arrangement that authorizes the Company to perform the management services in the manner that it deems reasonably appropriate to meet the day-to-day business needs of Avero. The Company's management services include funding ongoing operational needs, directing activities related to contract negotiation, billing, human resources, and legal and administrative matters and processes, among others. In exchange for the management services provided, the Company is entitled to receive an annual management fee equal to the amount of the net operating income of Avero. The term of the agreement with Avero is 10 years, subject to automatic renewals. The agreement can be terminated by either party with a 90-day notice before the end of the term.

Through the management services arrangement with Avero, the Company has (1) the power to direct the activities of Avero that most significantly impact its economic performance, and (2) the obligation to absorb losses of Avero or the right to receive benefits from Avero that could potentially be significant to Avero. Based on these determinations, the Company has determined that Avero is a variable interest entity and that the Company is the primary beneficiary. The Company does not own any equity interest in Avero; however, as these agreements provide the Company the controlling financial interest in Avero, the Company consolidates Avero's balances and activities within its consolidated financial statements.

In December 2018, Avero entered into a settlement agreement with Cigna (the "Cigna settlement obligation") whereby Avero agreed to pay an aggregate amount of $12.0 million with an upfront payment of $6.0 million and the remaining $6.0 million to be paid over 24 months, beginning in February 2019. The Company guaranteed the $12.0 million Cigna settlement obligation. The Company provided financial support to Avero in the amount of $0.8 million and $2.3 million during the three and

nine months ended September 30, 2020, respectively, and $0.8 million and $2.3 million during the three and nine months ended September 30, 2019, respectively, related to the Cigna settlement obligation (see Note 9). The Company did not provide any additional financial support to Avero during the three and nine months ended September 30, 2020 and 2019, other than the Cigna settlement obligation and agreed upon management services.

The following table presents the assets and liabilities of Avero that are included in the Company's condensed consolidated balance sheets as of September 30, 2020 and December 31, 2019, in thousands. The creditors of Avero have no recourse to the general credit of the Company, with the exception of $1.8 million and $1.9 million in mortgage payable guaranteed by the Company as of September 30, 2020 and December 31, 2019, respectively (see Note 8), and $0.8 million and $3.0 million in remaining Cigna settlement obligation guaranteed by the Company as of September 30, 2020 and December 31, 2019, respectively. The assets and liabilities exclude intercompany balances that eliminate in consolidation:

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Assets of Avero that can only be used to settle obligations of Avero | | |
| Cash and cash equivalents | $ 1,038 | $ 1,837 |
| Accounts receivable, net | 4,733 | 4,269 |
| Inventory | 2,143 | 2,572 |
| Prepaid expenses and other current assets | 1,093 | 1,181 |
| Property and equipment, net | 5,486 | 5,586 |
| Other assets | 30 | 30 |
| Goodwill | 6,219 | 6,219 |
| Other intangible assets, net | 4,075 | 4,771 |
| Total assets of Avero that can only be used to settle obligations of Avero | $ 24,817 | $ 26,465 |
| Liabilities of Avero | | |
| Accounts payable | $ 3,166 | $ 2,450 |
| Accrued expenses and other accrued liabilities | 3,609 | 5,630 |
| Current portion of capital lease obligations | 49 | 59 |
| Current portion of mortgage payable | 197 | 173 |
| Capital lease obligations, net of current portion | 16 | 50 |
| Mortgage payable, net of current portion | 1,570 | 1,733 |
| Other long-term liabilities | 571 | 467 |
| Total liabilities of Avero | $ 9,178 | $ 10,562 |

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**4. Revenues**

Revenue is derived from contracts with healthcare insurers, government payors, laboratory partners and patients in connection with sales of prenatal genetic, anatomic or molecular pathology tests. The Company enters into contracts with healthcare insurers related to tests provided to patients who have health insurance coverage. Insurance carriers are considered third-party payors on behalf of the patients, and the patients who receive genetic, anatomic or molecular pathology test products are considered the customers. Tests may be billed to insurance carriers, patients, or a combination of insurance carriers and patients. The Company also sells tests to laboratory partners, which are also considered to be customers. The Company's test volumes began to decrease in the second half of March 2020 as a result of the COVID-19 pandemic spreading in the United States and resulting limitations and reordering of priorities across the U.S. healthcare system. The Company expects test volumes to continue to be adversely affected by COVID-19 and cannot predict when volumes will return to normal.

In accordance with ASC 606, a performance obligation represents a promise in a contract to transfer a distinct good or service to a customer and the consideration should be allocated to each distinct performance obligation and recognized as revenue when or as the performance obligation is satisfied. The Company has evaluated its contracts with healthcare insurers, government payors, laboratory partners and patients and identified a single performance obligation in those contracts, the delivery of a test result. The Company satisfies its performance obligation at a point in time upon the delivery of the test result, at which point the Company can bill for its products. The amount of revenue recognized reflects the transaction price and considers the effects of variable consideration, which is discussed below.

Once the Company satisfies its performance obligations upon delivery of a test result and bills for the product, the timing of the collection of payments may vary based on the payment practices of the third-party payor. The Company bills patients directly for co-pays and deductibles that they are responsible for and also bills patients directly in cases where the customer does not have insurance.

The Company has established an accrual for refunds of payments previously made by healthcare insurers based on historical experience and executed settlement agreements with healthcare insurers. The refunds are accounted for as reductions in revenues in the statement of operations as an element of variable consideration. For example, during the three months ended June 30, 2020, the Company accrued $10.3 million for refunds to government payors related to reimbursement for the Company's Preparent expanded carrier screening tests during 2019 and early 2020. In the United States, the American Medical Association ("AMA") generally assigns specific billing codes for laboratory tests under a coding system known as Current Procedure Terminology ("CPT"), which the Company and its ordering healthcare providers must use to bill and receive reimbursement for molecular tests. Effective January 1, 2019, the AMA issued a CPT code for genetic testing for severe inherited conditions that includes sequencing of at least 15 genes, which affects potential reimbursement for the Company's Preparent expanded carrier screening tests. As part of the Company's work to improve its compliance program, including its internal auditing and monitoring function, the Company commissioned a third-party review of its billing processes. In connection with that audit, the Company identified that it had not effectively transitioned to the implementation of the new CPT code in 2019, and as a result the Company received an overpayment of approximately $10.3 million from government payors during 2019 and early 2020. The Company settled the obligations to the relevant government programs in early October 2020.

The transaction price is an estimate and may be fixed or variable. Variable consideration includes reimbursement from healthcare insurers, government payors, and patients and is adjusted for estimates of disallowed cases, discounts, and refunds using the expected value approach. Tests billed to healthcare

insurers and directly to patients can take up to nine months to collect and the Company may be paid less than the full amount billed or not paid at all. For insurance carriers and government payors, management utilizes the expected value method using a portfolio of relevant historical data for payors with similar reimbursement characteristics. The portfolio estimate is developed using historical reimbursement data from payors and patients, as well as known current reimbursement trends not reflected in the historical data. Such variable consideration is included in the transaction price only to the extent it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainties with respect to the amount are resolved. The Company monitors these estimates at each reporting period based on actual cash collections and the status of settlement agreements with third-party payors, in order to assess whether a revision to the estimate is required. Both the initial estimate and any subsequent revision to the estimate contain uncertainty and require the use of judgment in the estimation of the transaction price and application of the constraint for variable consideration. If actual results in the future vary from the Company's estimates, the Company will adjust these estimates, which would affect revenue and earnings in the period such variances become known. The consideration expected from laboratory partners is generally a fixed amount.

The Company periodically updates its estimate of the variable consideration recognized for previously delivered performance obligations. These updates resulted in an additional $3.3 million and a reduction of $19.4 million of revenue reported for the three and nine months ended September 30, 2020, respectively, and a reduction of $17.8 million and an additional $1.0 million of revenue reported for the three and nine months ended September 30, 2019, respectively. These amounts included (i) adjustments for actual collections versus estimated variable consideration as of the beginning of the reporting period and (ii) cash collections and the related recognition of revenue in the current period for tests delivered in prior periods due to the release of the constraint on variable consideration, offset by (iii) reductions in revenue for the accrual for reimbursement claims and settlements described in Note 9.

**Disaggregation of Revenues**

The following table shows a further disaggregation of revenues by payor type (in thousands):

| | Three Months Ended September 30, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2020 | 2019 | 2020 | 2019 |
| Commercial third-party payors | $18,555 | $23,058 | $58,148 | $108,851 |
| Government health benefit programs(1) | 5,692 | (5,513) | (3,374) | 11,432 |
| Patient/laboratory distribution partners | 1,696 | 1,227 | 5,263 | 3,226 |
| Total revenues | $25,943 | $18,772 | $60,037 | $123,509 |

(1) The revenue amounts include accruals for reimbursement claims and settlements included in the estimates of variable consideration recorded during the three and nine months ended September 30, 2020 and 2019. Revenue recognized reflect the effects of variable consideration, and include adjustments for estimates of disallowed cases, discounts, and refunds. The variable consideration includes reductions in revenues for the accrual for reimbursement claims and settlements.

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## 5. Balance Sheet Components

### Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following (in thousands):

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Prepaid expenses | $ 8,188 | $ 6,476 |
| Other current assets | 1,028 | 1,370 |
| Total | $ 9,216 | $ 7,846 |

### Property and Equipment, Net

Property and equipment, net consisted of the following (in thousands):

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Computers and software | $ 13,790 | $ 13,913 |
| Building and leasehold improvements | 9,458 | 9,491 |
| Laboratory equipment | 7,254 | 5,580 |
| Furniture, fixtures, and office equipment | 1,686 | 1,633 |
| Construction in progress | 1,891 | 1,493 |
| Land | 1,091 | 1,091 |
| Total property and equipment | 35,170 | 33,201 |
| Less accumulated depreciation and amortization | (19,082) | (17,310) |
| Property and equipment, net | $ 16,088 | $ 15,891 |

Capital leases included in property and equipment, net consisted of the following (in thousands):

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Capital leases | $ 2,467 | $ 3,692 |
| Less accumulated depreciation and amortization | (1,835) | (2,239) |
| Capital leases included in property and equipment, net | $ 632 | $ 1,453 |

Depreciation expense was $1.0 million and $3.1 million for the three and nine months ended September 30, 2020, respectively, and $0.9 million and $2.8 million for the three and nine months ended September 30, 2019, respectively.

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**Intangible Assets, Net**

Intangible assets, net consisted of the following (in thousands):

| September 30, 2020 | Cost | Accumulated amortization | Net |
|---|---|---|---|
| Payor relationships | $7,230 | $ (3,856) | $3,374 |
| Trade names | 1,410 | (752) | 658 |
| Noncompete agreements | 384 | (341) | 43 |
| Intangible assets, net | $9,024 | $ (4,949) | $4,075 |

| December 31, 2019 | Cost | Accumulated amortization | Net |
|---|---|---|---|
| Payor relationships | $7,230 | $ (3,314) | $3,916 |
| Trade names | 1,410 | (646) | 764 |
| Noncompete agreements | 384 | (293) | 91 |
| Intangible assets, net | $9,024 | $ (4,253) | $4,771 |

Amortization expense of intangible assets was $0.2 million and $0.7 million for the three and nine months ended September 30, 2020, respectively, and $0.2 million and $0.7 million for the three and nine months ended September 30, 2019, respectively.

The future amortization of intangible assets at September 30, 2020 was (in thousands):

| Year ending December 31, | |
|---|---|
| Remainder of 2020 | $ 232 |
| 2021 | 891 |
| 2022 | 864 |
| 2023 | 864 |
| 2024 | 864 |
| Thereafter | 360 |
| Total future minimum lease payments | $ 4,075 |

**Accrued Expenses and Other Current Liabilities**

Accrued expenses and other current liabilities consisted of the following (in thousands):

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Accrual for reimbursement claims and settlements, current | $ 47,937 | $ 60,386 |
| Commission and bonus | 8,283 | 6,357 |
| Vacation and payroll benefits | 7,339 | 5,506 |
| Accrued professional services | 3,092 | 5,322 |
| Contract liabilities | 544 | — |
| Other | 3,818 | 6,044 |
| Total | $ 71,013 | $ 83,615 |

**Other Long-term Liabilities**

Other long-term liabilities consisted of the following (in thousands):

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Accrual for reimbursement claims and settlements, net of current portion | $ 18,066 | $ 12,205 |
| Other | 2,022 | 654 |
| Total | $ 20,088 | $ 12,859 |

**6. Fair Value Measurements**

The Company's financial assets and liabilities carried at fair value are comprised of investment assets that include money market funds. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date.

The authoritative guidance establishes a three-level valuation hierarchy that prioritizes the inputs to valuation techniques used to measure fair value based upon whether such inputs are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions made by the reporting entity. The three-level hierarchy for the inputs to valuation techniques is summarized as follows:

Level 1—Quoted prices in active markets for identical assets and liabilities that the Company has the ability to access.

Level 2—Observable market-based inputs or unobservable inputs that are corroborated by market data, such as quoted prices, interest rates, and yield curves.

Level 3—Inputs that are unobservable data points that are not corroborated by market data.

This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value. The following table presents information about the Company's assets and liabilities that are measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in thousands):

| | Quoted Prices for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---|---|---|---|
| **September 30, 2020** | | | |
| Money market funds(1) | $ 39,737 | $ — | $ — |
| **December 31, 2019** | | | |
| Money market funds(1) | $ 24,432 | $ — | $ — |

(1) Included in cash and cash equivalents in the accompanying condensed consolidated balance sheets.

The Company's policy is to recognize transfers between levels at the end of the reporting period. There were no significant transfers between Level 1 and Level 2 during the three and nine months ended September 30, 2020 and 2019.

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**Fair Value of Financial Instruments**

The carrying value of the Company's accounts receivable, income tax receivable, accounts payable, and accrued expenses and other current liabilities are considered to be representative of their respective fair values because of their short-term nature.

The carrying value of the Company's mortgages payable approximates their estimated fair value because the instruments bear interest at rates and have terms that are comparable to those available to the Company for similar loan instruments at September 30, 2020 and December 31, 2019.

The carrying value of the Company's note payable to a related party does not approximate its fair value because the instrument bears interest at a rate that is not comparable to those available to the Company for a similar loan instrument at September 30, 2020 and December 31, 2019. The carrying value and the fair value of the Company's term loan (the "2017 Term Loan") was $75.0 million and $80.0 million, respectively, at September 30, 2020, and $75.0 million and $79.8 million, respectively, at December 31, 2019. The carrying value of the 2017 Term Loan is presented on the accompanying condensed consolidated balance sheets net of discount on the note and debt issuance cost.

**7. Related Party Transactions**

On October 27, 2017, the Company entered into a Credit and Security Agreement and a Series B Convertible Preferred Stock Purchase Agreement with a private equity firm (the "2017 Transaction"). The 2017 Transaction provided for the 2017 Term Loan, the issuance of Series B Preferred Stock (the "Series B Preferred Stock"), and the issuance of a warrant to purchase Series B Preferred Stock (the "Series B Preferred Stock Purchase Warrant"). The 2017 Term Loan accrues interest at a rate per annum equal to 9.5% and is due October 27, 2022.

The 2017 Term Loan contains customary covenants, including a requirement to maintain a minimum unrestricted cash balance at all times of at least $5.0 million. The Company is in compliance with the 2017 Term Loan covenants. The 2017 Term Loan is secured by all tangible and intangible property and assets of the Company, with the exception of its intellectual property.

The total proceeds of $124.2 million from the 2017 Transaction were allocated to the 2017 Term Loan, Series B Preferred Stock, and the Series B Preferred Stock Purchase Warrant based on the relative fair value of the term loan, equity, and warrant issued. As a result, the Company allocated proceeds of $65.7 million to the 2017 Term Loan. As the proceeds allocated to the 2017 Term Loan are lower than the stated loan amount of $75.0 million, the resulting $9.3 million discount is amortized as interest expense using the effective interest method over the term of the loan.

As of both September 30, 2020 and December 31, 2019, the outstanding unpaid principal under the 2017 Term Loan was $75.0 million. The unamortized discount on the 2017 Term Loan was $5.4 million and $6.0 million as of September 30, 2020 and December 31, 2019, respectively. During the three months ended September 30, 2020 and 2019, the Company recognized interest expense on the 2017 Term Loan of $2.4 million and $2.2 million, inclusive of $0.6 million and $0.4 million of discount amortization for the three months ended September 30, 2020 and 2019, respectively. During the nine months ended September 30, 2020 and 2019, the Company recognized interest expense on the 2017 Term Loan of $7.1 million and $6.6 million, inclusive of $1.7 million and $1.2 million of discount amortization for the nine months ended September 30, 2020 and 2019, respectively.

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In connection with the IPO, on June 18, 2020, the Series B Preferred Stock Purchase Warrant became exercisable for 400,160 shares of common stock.

On March 31, 2020, the Company entered into the First Amendment to the Credit Agreement (the "Credit Agreement Amendment"), with the collateral agent and lender party thereto, providing for the payment of interest due and payable as of March 31, 2020 in shares of Series B Preferred Stock, and further providing for the payment of interest due and payable as of September 30, 2020 in shares of the Series B Preferred Stock in the event the IPO has not been consummated by such date. Pursuant to the Credit Agreement Amendment, the Company concurrently entered into a Series B Preferred Stock Subscription Agreement (the "Subscription Agreement"), with the lender, which provided for the issuance of 967,130 shares of Series B Preferred Stock at a subscription price of $2.25 per share, as payment for interest due and payable as of March 31, 2020 and all applicable fees as set forth in the Credit Agreement Amendment.

On May 8, 2020, the Company entered into an unsecured convertible promissory note (the "Note") with an existing investor pursuant to a note purchase agreement, in an aggregate principal amount of $15.0 million, with an annual interest rate of 8.0% and a maturity date of May 8, 2022. The Note was convertible into (i) common stock upon an initial public offering at the lesser of the conversion price then in effect and a conversion price equal to 80% of the public offering price (or, if not a "qualified IPO" as defined in the Company's certificate of incorporation, at the election of a majority of the holders), (ii) on the maturity date or at the election of a majority of the holders, Series B preferred stock at an initial conversion price of $13.90 per share subject to certain adjustments, or (iii) at the election of a majority of the holders, shares of another class of equity securities issued by the Company in a future financing at 80% of the price per share of such class of equity securities issued in such offering. Interest under the Note was not generally payable except that if the Note is not converted pursuant to its terms on or prior to the maturity date and there are not sufficient authorized and unissued shares of Series B preferred stock for issuance upon the conversion of the Note on the maturity date, then the Company is required to pay all outstanding principal and any accrued and unpaid interest under the Note in cash. If the holders of the Note have not elected to convert the Note prior to, or in connection with, any sale transaction or a liquidation, dissolution or winding up of the Company, either voluntary or involuntary, then, upon any such sale transaction or liquidation, dissolution or winding up of the Company, the Company would have been required to pay in cash the outstanding principal balance of the Note, together with accrued and unpaid interest thereon, plus a make whole premium of 50% of the aggregate principal amount (less accrued and unpaid interest). The Company evaluated the economic features embedded in the Note and identified features that were required to be bifurcated and accounted for separately as a derivative. Accordingly, a derivative liability of $3.6 million was recorded on the issuance date of the Note and $3.8 million was subsequently reclassified to equity representing the fair value of the derivative liability on the date of extinguishment. The change in the fair value of the derivative liability of $0.2 million is included in interest and other income (expense), net in the accompanying condensed consolidated statements of operations. In June 2020, in connection with completion of the IPO, the Note was converted into 1,250,000 shares of common stock and all obligations under the Note were extinguished. Upon the conversion, the Company recorded a $3.6 million loss on extinguishment of the debt, which represented the difference between the carrying value of the Note and the derivative liability and the fair value of the shares of common stock issued to the Note holder of $3.4 million combined with amortization of the related debt discount of $0.2 million. The loss on extinguishment of debt was included in the interest and other income (expense), net in the accompanying condensed consolidated statements of operations for nine months ended September 30, 2020.

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## 8. Mortgages Payable

In January 2014, the Company executed a mortgage with Comerica Bank for $1.8 million for the purpose of acquiring property located in Ann Arbor, Michigan, which is used for laboratory testing and research purposes. The mortgage matures in 2024 and requires monthly principal and interest payments at a fixed interest rate of 2.94% plus a floating rate at LIBOR. As of each of September 30, 2020 and December 31, 2019, the outstanding balance of this mortgage was $1.4 million. The Company also has a mortgage with American Bank of Commerce (originally executed in February 2008) outstanding on Avero's property located in Lubbock, Texas, which is used primarily for laboratory testing. The mortgage matures in 2029 and requires monthly principal and interest payments at an interest rate of 3.25%. As of September 30, 2020 and December 31, 2019, the outstanding balance of this mortgage was $1.8 million and $1.9 million, respectively.

As of September 30, 2020, the minimum principal payments under the mortgages payable were as follows (in thousands):

| Year ending December 31, | Minimum Mortgages Payable Payments Obligations |
|---|---|
| Remainder of 2020 | $ 66 |
| 2021 | 271 |
| 2022 | 281 |
| 2023 | 292 |
| 2024 | 1,338 |
| Thereafter | 884 |
| Total future minimum payments | 3,132 |
| Less current portion of mortgages payable | (268) |
| Mortgages payable, net of current portion | $ 2,864 |

## 9. Commitments and Contingencies

### Operating Leases

The Company has entered into various noncancelable operating lease agreements, primarily for office space, laboratory space, and vehicles, which expire over the next two to four years. Minimum rent payments under operating leases are recognized on a straight-line basis over the term of the lease. Rent expense for operating leases was $1.8 million and $6.0 million, for the three and nine months ended September 30, 2020, respectively, and $2.3 million and $6.6 million, respectively, for the three and nine months ended September 30, 2019.

As of September 30, 2020, net minimum payments under the non-cancelable operating leases were as follows (in thousands):

| Year ending December 31, | Minimum Operating Lease Payments |
|---|---|
| Remainder of 2020 | $ 1,933 |
| 2021 | 5,476 |
| 2022 | 3,017 |
| 2023 | 1,036 |
| 2024 and thereafter | 38 |
| Total future minimum lease payments | $ 11,500 |

**Capital Leases**

The Company has entered into various capital lease agreements, primarily for equipment. The outstanding leases have a weighted average imputed interest rate of 5.98% per annum. As of September 30, 2020, the future minimum payments under the capital leases were as follows (in thousands):

| Year ending December 31, | Minimum Capital Lease Payments |
|---|---|
| Remainder of 2020 | $ 145 |
| 2021 | 324 |
| 2022 and thereafter | 47 |
| Total future minimum lease payments | 516 |
| Less amounts representing interest | (20) |
| Present value of minimum capital lease payments | 496 |
| Less current portion of capital lease obligations | (399) |
| Capital lease obligations, net of current portion | $ 97 |

**Contingencies**

The Company, in the ordinary course of its business, can be involved in lawsuits, threats of litigation, and audit and investigative demands from third parties. While management is unable to predict the exact outcome of such matters, it is management's current belief, that any potential liabilities resulting from these contingencies, individually or in the aggregate, could have a material impact on the Company's financial position and results of operations.

The regulations governing government reimbursement programs (e.g., Medicaid, Tricare, and Medicare) and commercial payor reimbursement programs are complex and may be subject to interpretation. As a provider of services to patients covered under government and commercial payor programs, post payment review audits, and other forms of reviews and investigations are routine. The Company believes it complies in all material respects with the statutes, regulations, and other requirements applicable to its laboratory operations.

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***Federal Investigations***

In April 2018, the Company received a civil investigative demand from an Assistant U.S. Attorney ("AUSA") for the Southern District of New York ("SDNY") and a Health Insurance Portability and Accountability Act subpoena issued by an AUSA for the Southern District of California ("SDCA"). In May 2018, the Company received a subpoena from the State of New York Medicaid Fraud Control Unit.

On July 21, 2020, July 23, 2020, and October 1, 2020, the Company entered into agreements with certain governmental agencies and the 45 states participating in the settlement ("State AGs") to resolve, with respect to such agencies and State AGs, all of such agencies' and State AGs' outstanding civil, and, where applicable, federal criminal investigations described above. Specifically, the Company has entered into:

a civil settlement agreement, effective July 23, 2020, with the DOJ through the AUSA for SDNY, and on behalf of the Office of Inspector General of the Department of Health and Human Services (the "OIG"), and with the relator named therein (the "SDNY Civil Settlement Agreement");

a civil settlement agreement, effective July 23, 2020, with the DOJ through the AUSA for SDCA, and on behalf of the Defense Health Agency, the Tricare Program and the Office of Personnel Management, which administers the Federal Employees Health Benefits Program (the "SDCA Civil Settlement Agreement");

a non-prosecution agreement, effective July 21, 2020, with the AUSA for SDCA (the "Non-Prosecution Agreement") in resolution of all criminal allegations;

a corporate integrity agreement, effective July 21, 2020, with the OIG (the "Corporate Integrity Agreement"); and

civil settlement agreements, effective October 1, 2020, with the State AGs ("the State Settlement Agreements").

The Company refers to the SDNY Civil Settlement Agreement, the SDCA Civil Settlement Agreement, the Non-Prosecution Agreement, the Corporate Integrity Agreement and the State Settlement Agreements collectively as the Agreements.

*SDNY Civil Settlement Agreement*

Pursuant to the SDNY Civil Settlement Agreement, the Company is required to pay a settlement amount of approximately $19.4 million, which includes approximately $9.7 million designated as restitution to the U.S. federal government. During the three months ended September 30, 2020, the Company paid approximately $9.1 million. The Company paid an additional approximately $4.1 million subsequent to September 30, 2020, for an aggregate of approximately $13.1 million paid to date. The outstanding settlement amount is payable in three installments as follows:

approximately $1.6 million on or before December 31, 2020;

approximately $2.0 million on or before December 31, 2021; and

approximately $2.8 million on or before December 31, 2022.

The remaining amounts payable to the government will be subject to interest at a rate of 1.25% per annum, and any or all amounts may be paid earlier at the option of the Company. Furthermore, the Company has agreed that, if during calendar years 2020 through 2023, and so long as amounts payable to the government remain unpaid, the Company receives any civil settlement, damages awards, or tax

refunds, to the extent that the amounts exceed $5.0 million in a calendar year, it will pay 26% of the amount received in such civil settlement, damages award, or tax refunds as an accelerated payment of the scheduled amounts set forth above, up to a maximum total acceleration of $4.2 million. As previously reported, during the three months ended March 31, 2020, the Company recorded a discrete tax benefit of $37.7 million related to the net operating loss carryback provisions available under the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act") for taxes paid by the Company in years 2013, 2014, 2015 and 2017 (the "CARES Act Tax Benefit"). In June 2020, the Company received a tax benefit payment of approximately $22.7 million for a portion of the CARES Act Tax Benefit, and because this tax refund was received prior to the effective date of the SDNY Civil Settlement Agreement, the payment the initial settlement payment installment included an added payment of approximately $5.9 million. In addition, because the Company received a tax benefit payment of approximately $15.7 million in September 2020, and accelerated payment of approximately $4.1 million was made on October 1, 2020 with a corresponding reduction in the previously agreed upon payment term and subsequent payment amounts.

Additionally, under the SDNY Civil Settlement Agreement, the U.S. federal government and the relator agreed to dismiss all civil claims asserted by the relator under the *qui tam* provisions of the federal False Claims Act.

*SDCA Civil Settlement Agreement*

The SDCA Civil Settlement Agreement requires the Company to pay a settlement amount of approximately $16.4 million, which includes approximately $10.0 million designated as restitution to the U.S. federal government. During the three months ended September 30, 2020, the Company paid approximately $7.7 million. The Company paid an additional $3.4 million subsequent to September 30, 2020, for an aggregate of $11.1 million paid to date. The outstanding settlement amount is payable in three installments as follows:

- approximately $1.4 million on or before December 31, 2020;
- approximately $1.8 million on or before December 31, 2021; and
- approximately $2.2 million on or before December 31, 2022.

The remaining amounts payable to the government, will be subject to interest at a rate of 1.25% per annum, and any or all amounts may be paid earlier at the option of the Company.

On July 21, 2020, the Company issued a promissory note to the U.S. federal government for the full settlement amount in connection with the SDCA Civil Settlement Agreement (the "Promissory Note"). The Promissory Note contains customary events of default and related acceleration of payment provisions. In addition, the Promissory Note provides, among other terms, that, if during calendar years 2020 through 2023, and so long as amounts payable to the government remain unpaid, the Company receives any civil settlement, damages awards, or tax refunds, to the extent that the amounts exceed $5.0 million in a calendar year, it will pay 22% of the amount received in such civil settlement, damages award, or tax refunds as an accelerated payment of the scheduled amounts set forth above up to a maximum total acceleration of approximately $3.4 million. Because the Company received a tax benefit payment of approximately $22.7 million for a portion of the CARES Act Tax Benefit in June 2020 and because this tax refund was received prior to the effective date of the Promissory Note, the initial payment installment included an added payment of $4.9 million. In addition, because the Company received a tax benefit payment of approximately $15.7 million in September 2020, an accelerated payment of approximately $3.4 million was made on October 1,2020, with a corresponding reduction in the previously agreed upon payment term and subsequent payment amounts.

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*Non-Prosecution Agreement*

Effective July 21, 2020, the Company entered into the Non-Prosecution Agreement, pursuant to which the Company agreed with the DOJ to (i) pay the restitution provided for under the SDCA Civil Settlement Agreement, (ii) not commit any felonies, (iii) continue to implement a compliance and ethics program designed to prevent and detect violations of applicable fraud and kickback laws throughout its operations and (iv) fulfill certain other disclosure, reporting and cooperation obligations. The DOJ agreed that it will not prosecute the Company for any conduct described in the Non-Prosecution Agreement provided that the Company performs its obligations under the Non-Prosecution Agreement during the period from July 21, 2020 through July 21, 2021. The Non-Prosecution Agreement provides that the DOJ may unilaterally, upon notice to the Company, extend the term of the agreement in 6-month increments, for a maximum total term of 24 months (that is, two 6-month extensions).

*Corporate Integrity Agreement*

In connection with the resolution of the investigated matters, and in exchange for the OIG's agreement not to exercise its authority to permissively exclude the Company from participating in federal healthcare programs, effective July 21, 2020, the Company entered into a five-year Corporate Integrity Agreement with the OIG. The Corporate Integrity Agreement requires, among other matters, that the Company maintain a Compliance Officer, a Compliance Committee, board review and oversight of certain federal healthcare compliance matters, compliance programs, and disclosure programs; provide management certifications and compliance training and education; engage an independent review organization to conduct claims and arrangements reviews; and implement a risk assessment and internal review process. The Company's failure to comply with its obligations under the Corporate Integrity Agreement could result in monetary penalties and/or the Company being excluded from participating in federal healthcare programs.

*State Settlement Agreements*

Effective October 1, 2020, the Company entered into agreements with the State AGs with respect to the investigated matters. The State Settlement Agreements require the Company to pay a settlement amount of approximately $13.2 million to the participating states. The State Settlement Agreements include acceleration provisions similar to the SDNY Civil Settlement Agreement and the SDCA Civil Settlement Agreements described above upon the Company's receipt of civil settlements, damages awards, and tax refunds, with the amount to be accelerated and the timing of accelerated payment subject to such receipts. Because the Company received the June 2020 and September 2020 tax benefits totaling approximately $38.4 million, the initial payment to the participating states included added payments reflecting 17% of that amount, for a total initial payment on October 2, 2020 of approximately $8.7 million. The outstanding settlement amount is payable in four installments as follows:

- approximately $1.1 million on or before December 31, 2020;
- approximately $1.4 million on or before December 31, 2021;
- approximately $1.9 million on or before December 31, 2022; and
- approximately $0.2 million on or before December 31, 2023.

*Settlement Accruals*

As of December 31, 2019, the Company had accrued an aggregate of $35.8 million associated with a potential settlement with the DOJ and the participating State AGs within accrued expenses and other

current liabilities and as a reduction of revenue as reflected on the consolidated balance sheet of the Company as of December 31, 2019 and consolidated statement of operations for the year ended December 31, 2019. In addition, in the quarter ended March 31, 2020, the Company accrued an additional $13.2 million with respect to the total amount to be paid under the agreement in principle to the DOJ and the participating State AGs, and additional amounts for related costs as of and for the quarterly period ended March 31, 2020. As of September 30, 2020, the Company's accrual consists of $20.2 million in accrued expenses and other current liabilities and $12.1 million in other long-term liabilities.

***Payor Settlement Agreements***

On June 21, 2018, the Company received a letter from Cigna alleging damages related to contract terms. On December 5, 2018, Cigna and the Company entered into a settlement agreement whereby Avero agreed to pay an aggregate amount of $12.0 million with an upfront payment of $6.0 million and the remaining $6.0 million to be paid over 24 months. For the year ended December 31, 2018, the Company recorded a charge of $12.0 million associated with this claim in its consolidated statements of operations as a reduction to revenue. As of September 30, 2020, the remaining settlement accrual related to Cigna is $0.8 million included in accrued expenses and other current liabilities.

On June 25, 2018, the Company received a letter from Aetna's external legal counsel that included various allegations relating to the Company's past practices. In November 2019, the Company and Aetna entered into a settlement agreement for $15.0 million, to be paid in installment payments through December 2020. During the year ended December 31, 2018, the Company recorded a charge of $15.0 million associated with this claim in its consolidated statements of operations as a reduction to revenue. As of September 30, 2020, the Company's accrual consists of $5.0 million included in accrued expenses and other current liabilities.

On October 18, 2018, the Company received a letter from UnitedHealth Group that included various allegations relating to the Company's past practices. On September 30, 2019, the Company entered into a settlement agreement with United HealthCare Services, Inc. and UnitedHealthcare Insurance Company ("United") in which the Company agreed to pay an aggregate amount of $30.0 million. The settlement is to be paid with an upfront payment of $2.0 million, and the remaining balance to be paid every six months starting December 31, 2019, with the first two installment payments of $5.0 million each, and $6.0 million each thereafter. As of September 30, 2020, the remaining settlement accrual related to United is $18.0 million consisting of $12.0 million included in accrued expenses and other current liabilities and $6.0 million included in other long-term liabilities.

***Payor Recoveries***

As noted above, the regulations governing government reimbursement programs (e.g., Medicaid, Tricare, and Medicare) and commercial payor reimbursement programs are complex and may be subject to interpretation. As a provider of services to patients covered under government reimbursement and commercial payor programs, the Company is routinely subject to post-payment review audits and other forms of reviews and investigations. If a third-party payor successfully challenges that a payment to the Company for prior testing was in breach of contract or otherwise contrary to policy or law, they may recoup such payment. The Company may also decide to negotiate and settle with a third-party payor in order to resolve an allegation of overpayment. In the ordinary course of business, the Company addresses and evaluates a number of such claims from payors. In the past, the Company has negotiated and settled these types of claims with third-party payors. The Company may be required to resolve further disputes in the future. The Company is aware of one commercial payor that is reviewing historical payments and

may make a claim for recoupment in the future. While management is unable to predict the exact outcome of any such claims, it is management's current belief, that any potential liabilities resulting from these contingencies, individually or in the aggregate, could have a material impact on the Company's financial position and results of operations.

In connection with the third-party review of the Company's coding and billing processes described in Note 4, which identified that the Company had not effectively transitioned to the implementation of the new CPT code for reimbursement for the Company's Preparent expanded carrier screening tests during 2019 and early 2020, the Company reviewed its reimbursement from commercial payors for these tests over the same time period. The Company may need to engage with payors in order to determine if any amounts could be subject to recovery or recoupment, as it is customarily done with commercial payors. Any amounts subject to recovery or recoupment will depend on the interpretation of widely variable payor medical and billing policies. The Company will not know if any overpayments exist until it completes this engagement with individual commercial payors. If negotiations with payors result in claims or conclusions that overpayments have been made, this could have a material impact on the Company's financial results and position. The Company is unable to predict the outcome of this matter and is unable to make a meaningful estimate of the amount or range of loss, if any, that could result from any unfavorable outcome related to this matter.

***OIG Inquiry***

On October 16, 2019, the Company received an inquiry from the Texas Health & Human Services Commission Office of Inspector General (the "TX OIG"), alleging that the Company did not hold the required CLIA Laboratory Certificate of Accreditation to perform, bill for, or be reimbursed by the Texas Medicaid Program for certain tests performed by us from January 1, 2015 through December 31, 2018. Although management believes that the Company holds and have held all required CLIA certificates and/or subcontract with third-party laboratories that hold and have held such certificates to perform all of the tests subject to the TX OIG inquiry, there can be no assurance that the TX OIG will agree with this position. The Company submitted a written response to the inquiry on October 23, 2019 and are awaiting a response from the TX OIG on the matter. It is not possible to predict the outcome of these matters and the timing for resolution.

***Natera Lawsuit***

On June 17, 2020, Natera, Inc. filed suit in the Western District of Texas (W.D. Texas Civil Action No. 6:20-cv-532) asserting the Company's infringement of six Natera patents based on a portion of our NIPT product offering. On June 19, 2020, Natera filed a substantially similar second suit in the Northern District of Texas (N.D. Texas Civil Action No. 3:20-cv-1634). On July 31, 2020, the Company filed a motion to dismiss the Western District of Texas case based on improper venue. The parties are now conducting limited discovery related to this motion after which Natera will file its responsive pleadings. The Northern District of Texas case has been stayed until a decision with respect to the motion to dismiss is made.

On July 2, 2020, the Company filed a Complaint for Declaratory Judgment of Non-Infringement against Natera in the Southern District of California (S.D. California Civil Action No. 3:20-cv-1252). This case has been stayed pending the outcome of the Company's venue motion in the Western District of Texas.

Management believes that the claims in Natera's complaints are without merit and the Company is vigorously defending against them.

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***IPO Litigation***

On June 23, 2020, the Company completed its IPO. Subsequent to the IPO, two lawsuits were filed against the Company, certain of its executive officers and directors, and the underwriters of the IPO. The lawsuits allege that the Company's registration statement and related prospectus for the IPO made false and misleading statements and omissions in violation of the Securities Act of 1933 by failing to disclose that the Company (i) had overbilled government payors by $10.3 million in 2019 and early 2020; (ii) would need to refund this overpayment in the second quarter of 2020; and (iii) were allegedly suffering from accelerating negative trends with respect to testing volumes, revenues, and product pricing during the second quarter of 2020. Both lawsuits seek, among other things, unspecified compensatory damages, interest, costs, and attorneys' fees. The Company intends to vigorously defend against these claims. Given the uncertainty of litigation, the preliminary stages of these cases, and the legal standards that must be met for, among other things, success on the merits, the Company is unable to predict the ultimate outcome of these actions, and therefore cannot estimate the reasonably possible loss or range of loss, if any, that may result from these actions. Subject to a reservation of rights, the Company is advancing expenses subject to indemnification by the underwriters of the IPO. More details on each lawsuit are below:

*Soe Action*. On August 28, 2020, a putative securities class action was filed in the U.S. District Court for the Southern District of California, entitled *Aung Kyaw Soe v. Progenity, Inc., et al*., No. 3:20-cv-01683-CAB-AHG. The plaintiff, Aung Kyaw Soe, seeks to bring this action on behalf of all purchasers of Progenity common stock pursuant to or traceable to the registration statement issued in connection with the IPO. On September 23, 2020, the court ordered that no defendant has any obligation to answer or otherwise respond to the complaint in this action pending appointment of a lead plaintiff and the lead plaintiff's filing of an amended complaint or designation of the existing complaint as the operative complaint.

*Brickman Investments Inc. Action*. On September 11, 2020, another putative securities class action was filed in the U.S. District Court for the Southern District of California, entitled *Brickman Investments Inc. v. Progenity, Inc., et al.*, No. 3:20-cv-01795-BEN-LL. The plaintiff, Brickman Investments Inc., seeks to bring this action on behalf of all purchasers of Progenity common stock pursuant to or traceable to the registration *statement* and related prospectus issued in connection with the IPO. In addition to the remedies described above, the plaintiff seeks rescission or rescissory damages. Motions for appointment of lead plaintiff and lead counsel, as well as to consolidate the two actions, are pending.

## 10. Stockholders' Equity

### Common Stock

Pursuant to the Company's eighth amended and restated certificate of incorporation, which went into effect immediately prior to the completion of the IPO, the Company is authorized to issue 350 million shares of common stock and 10 million shares of undesignated preferred stock. Each holder of common stock is entitled to one vote per share of common stock held.

On June 18, 2020, the Company completed its IPO. In the IPO, the Company issued and sold 6,666,667 shares of its common stock, at a price to the public of $15.00 per share. The Company received approximately $88.7 million in net proceeds, after deducting $7.0 million in underwriting discounts and commissions and $4.3 million in other offering expenses payable by the Company. Other offering costs consisted primarily of legal and accounting fees, which were direct and incremental fees related to the IPO. As of December 31, 2019, $1.1 million of deferred offering costs were included in prepaid expenses and other current assets in the accompanying condensed consolidated balance sheet.

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**Treasury Stock**

In June 2014, the Company authorized an Equity Repurchase Program for Key Employees (the "Repurchase Program"). The Repurchase Program allowed the Company to repurchase for cash a portion of the common stock equity interests of certain employees, provided that (i) no more than 25% of the equity interest of any employee was repurchased under the Repurchase Program, (ii) the purchase price paid for each share of common stock equaled the most recent appraisal valuation of the Company's common stock, and (iii) the aggregate repurchases did not exceed the lesser of (a) equity interest representing, in the aggregate, 0.8 million shares of common stock, (b) a purchase price, in the aggregate, of more than $6.0 million, and (c) the maximum repurchases permitted under the General Corporation Law of the State of Delaware. In addition, it was the Company's practice to require individuals exercising stock options to hold the shares received upon exercising for a reasonable period of time in order for the holder to be exposed to the economic risks and rewards of share ownership prior to participating in the Repurchase Program. A reasonable period of time was defined as a period of at least six months and that covered at least two common stock appraisal valuations. The Repurchase Program has been discontinued.

**Convertible Preferred Stock**

As of December 31, 2019, the Company had outstanding Series A Preferred Stock and Series B Preferred Stock. The Company recorded the preferred stock at fair value on the dates of issuance net of issuance costs.

On August 27, 2019, the Company issued 9,090,910 shares of Series B Preferred Stock at an issuance price of $2.75 per share for an aggregate consideration of $25.0 million (the "August 2019 Financing") pursuant to a Series B Preferred Stock Purchase Agreement with a private equity firm. In addition, the Company amended the Series B Preferred Stock Purchase Warrant dated October 27, 2017 to increase the Series B Preferred Stock underlying the Series B Preferred Stock Purchase Warrant from 1,416,431 shares to 1,818,182 shares and adjust the exercise price to $2.75 per share. The $25.0 million of proceeds from the August 2019 Financing were allocated among the newly issued Series B Preferred Stock shares and additional shares of Series B Preferred Stock Purchase Warrant based on their relative fair values.

In connection with the August 2019 Financing, the Board of Directors and stockholders approved a 1.28-for-1 stock split for the Company's Series B Preferred Stock and Series B Preferred Stock Purchase Warrant issued and outstanding prior to the August 2019 Financing, which was effected on August 27, 2019 pursuant to an amendment to the amended and restated certificate of incorporation. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Purchase Warrant was lowered from $3.53 to $2.75 per share. As a result, the Company issued 4,017,512 additional shares of Series B Preferred Stock as a stock dividend to the preferred stockholders, which was recorded as a $13.1 million increase to accumulated deficit in the consolidated statements of stockholders' deficit during the year ended December 31, 2019.

On August 27, 2019, the Company entered into an Exchange Agreement with holders of Series A-1 Preferred Stock (the "Exchange Agreement") pursuant to which the outstanding 1,500,000 shares of Series A-1 Preferred Stock were exchanged for 35,664,240 shares of Series B Preferred Stock. The exchange ratio was 1.2 to 1 on as-if converted to 4,810,651 shares of common stock that the Series A-1 Preferred Stock can be converted to, based on the conversion rate of 3.2 to 1. The Company determined that such exchange constituted a modification to the Series A-1 Preferred Stock. Accordingly, the increase

comparing the fair value of the Series B Preferred Stock with the fair value of the Series A-1 Preferred Stock represented a dividend to the preferred stockholders of approximately $27.6 million, which was recorded as an increase to accumulated deficit in the consolidated statements of stockholders' deficit during the year ended December 31, 2019.

On November 12, 2019, the Company entered into a Series B Preferred Stock Purchase Agreement (the "November Series B Preferred Stock Purchase Agreement") with a private equity firm and received $25.0 million (the "November 2019 Financing") in exchange for the issuance of 11,111,111 shares of Series B Preferred Stock at $2.25 per share. In connection with the November 2019 Financing, the Board of Directors and stockholders approved a 1.22-for-1 stock split for the Company's Series B Preferred Stock and Series B Preferred Stock Purchase Warrant issued and outstanding prior to the November 2019 Financing. The conversion price of the Series B Preferred Stock and exercise price of the outstanding Series B Preferred Stock Purchase Warrant was lowered from $2.75 to $2.25 per share. As a result, the Company issued 13,985,993 additional shares of Series B Preferred Stock and adjusted the Series B Preferred Stock Purchase Warrant to purchase up to 2,222,222 shares of Series B Preferred Stock. The issuance of additional shares represented a stock dividend to the preferred stockholders, which was recorded as a $36.4 million increase to accumulated deficit in the consolidated statements of stockholders' deficit during the year ended December 31, 2019. In connection with the November 2019 Financing, the Company amended the certificate of incorporation. Following the amendment, there are no authorized or outstanding shares of Series A-1 Preferred Stock.

On November 22, 2019, the Company completed an additional equity financing pursuant to the November Series B Preferred Stock Purchase Agreement with certain existing, accredited investors for an aggregate of $6.1 million in exchange for the issuance of an aggregate of 2,722,222 shares of Series B Preferred Stock at $2.25 per share.

On December 19, 2019, the Company completed an additional equity financing pursuant to the November Series B Preferred Stock Purchase Agreement with the same private equity firm as the November 2019 Financing for $25.0 million in exchange for the issuance of 11,111,111 shares of Series B Preferred Stock at $2.25 per share.

In February 2020, the Company issued and sold an aggregate of 5,066,666 shares of Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $11.4 million.

On March 31, 2020, in connection with the Credit Agreement Amendment, which provided for the payment of interest due and payable as of March 31, 2020 and June 30, 2020 (only in the event the IPO had not been consummated by such date) in shares of Series B Preferred Stock, the Company issued an aggregate of 967,130 shares of Series B Preferred Stock at a subscription price of $2.25 per share to existing investors as payment for interest due and payable as of March 31, 2020 and all applicable fees.

On April 3, 2020, the Company issued and sold an aggregate of 4,444,444 shares of its Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $10.0 million in cash.

The fair value of the preferred stock was estimated using a hybrid between a probability-weighted expected return method ("PWERM") and option pricing model ("OPM"), estimating the probability weighted value across multiple scenarios, while using an OPM to estimate the allocation of value within one or more of these scenarios. Under a PWERM, the value of the Company's various classes of stock

was estimated based upon an analysis of future values for the Company assuming various future outcomes, including two IPO scenarios and one scenario contemplating the continued operation of the Company as a privately held enterprise. Guideline public company multiples were used to value the Company under its various scenarios. Share value for each class of stock was based upon the probability-weighted present value of expected future share values, considering each of these possible future outcomes, as well as the rights of each share class.

The significant unobservable inputs into the valuation model used to estimate the fair value of the preferred stock include the timing of potential events (primarily the IPO) and their probability of occurring, the selection of guideline public company multiples, a discount for the lack of marketability of the common stock, and the discount rate used to calculate the present value of the estimated equity value allocated to each share class.

Preferred stock outstanding as of December 31, 2019 consisted of the following (in thousands, except share and per share data):

| | December 31, 2019 | | | |
|---|---|---|---|---|
| | Shares Authorized | Shares Issued and Outstanding | Per Share Price at Issuance | Aggregate Liquidation Preference |
| Series A | 4,120,000 | 4,120,000 | $ 0.48543 | $ 2,000 |
| Series B | 126,035,000 | 101,867,405 | 2.25000 | 229,202 |
| Total preferred stock | 130,155,000 | 105,987,405 | | $ 231,202 |

In connection with the IPO, on June 18, 2020, all outstanding Series A Preferred Stock and Series B Preferred Stock converted into 33,443,562 shares of common stock, including the issuance of 2,045,522 shares of common stock pursuant to an adjustment in the conversion rate of all of the shares of Series B Preferred Stock outstanding immediately prior to the IPO. Upon conversion of the convertible preferred stock, the Company reclassified their carrying value to common stock and additional paid-in capital.

**Common Stock Reserved for Future Issuance**

The Company reserved shares of common stock, on an as-if-converted basis, for future issuance as follows:

| | September 30, 2020 | December 31, 2019 |
|---|---|---|
| Series A Preferred Stock | — | 13,213,254 |
| Series B Preferred Stock | — | 16,488,731 |
| Series B Preferred Stock Purchase Warrant | — | 359,699 |
| Common stock warrant | 400,160 | — |
| Restricted stock units outstanding | 1,194,077 | 322,608 |
| Outstanding options to purchase common stock | 3,531,577 | 2,561,866 |
| Available for future issuance under equity incentive plan | 4,109,953 | 1,717,817 |
| Total | 9,235,767 | 34,663,975 |

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**11. Stock-Based Compensation**

In February 2018, the Company adopted the 2018 Equity Incentive Plan (the "2018 Plan"), with 0.7 million shares available for future grant. Upon adoption of the 2018 Plan, no new stock options or awards are issuable under the Second Amended and Restated 2012 Stock Plan (the "2012 Plan") or the 2015 Consultant Stock Plan (the "2015 Plan"). The 2018 Plan is the successor to and continuation of the 2012 Plan, as amended, and the 2015 Plan, and is administered with either stock options or restricted stock units. The 2018 Plan also provides for other types of equity to issue awards, which at this time the Company does not plan to utilize. The 2018 Plan was amended in March 2019 with 1.1 million shares available for future grant.

In December 2019, the Company adopted the Second Amended and Restated 2018 Equity Incentive Plan, which increased the number of shares available for future grant to 2.7 million shares. On March 4, 2020, the Board of Directors adopted the Third Amended and Restated 2018 Equity Incentive Plan (the "2018 Third Amended Plan"), which increased the number of shares available for future grant to a total of 7.6 million shares and was approved by stockholders on March 5, 2020. The Board of Directors administers the plans.

In January 2020, the Board of Directors approved the modification of the exercise price of certain outstanding stock options under the existing incentive plans. As a result of this modification, an additional stock-based compensation expense of $0.9 million is being recognized over the remaining vesting period for the unvested stock options.

Activity under the 2012 Plan, the 2015 Plan, and the 2018 Third Amended Plan for the nine months ended September 30, 2020, is set forth below (in thousands, except share and per share data):

| | Stock Options Outstanding | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term (in years) | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Balance at December 31, 2019 | 2,561,866 | $ 9.01 | | |
| Options granted | 1,757,170 | 10.23 | | |
| Options exercised | (505,852) | 1.14 | | |
| Options forfeited/cancelled | (281,607) | 11.31 | | |
| Balance at September 30, 2020 | 3,531,577 | $ 9.01 | 7.67 | $ 3,965 |
| Vested and expected to vest at September 30, 2020 | 3,531,577 | $ 9.01 | 7.64 | $ 3,965 |
| Vested and exercisable at September 30, 2020 | 1,674,215 | $ 7.98 | 5.81 | $ 3,744 |

As of September 30, 2020, the number of shares available for grant under the 2018 Third Amended Plan was 4,109,953.

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The Company uses the Black-Scholes option pricing model to estimate the fair value of each option grant on the date of grant or any other measurement date. The following table sets forth the assumptions used to determine the fair value of stock options granted during the nine months ended September 30, 2020:

| | Nine Months Ended September 30, 2020 |
|---|---|
| Risk-free interest rate | 0.4% – 1.7% |
| Expected volatility | 57.0% – 71.0% |
| Expected dividend yield | — |
| Expected life (years) | 4.0 – 6.3 years |

The following table presents total stock-based compensation expense included in each functional line item in the accompanying condensed consolidated statements of operations (in thousands):

| | Three Months Ended September 30, | | Nine Months Ended September 30, | |
|---|---|---|---|---|
| | 2020 | 2019 | 2020 | 2019 |
| Cost of sales | $ 311 | $ 59 | $ 749 | $ 161 |
| Research and development | 815 | 216 | 2,327 | 598 |
| Selling and marketing | 444 | 128 | 1,329 | 379 |
| General and administrative | 1,804 | 228 | 4,050 | 645 |
| Total stock-based compensation expense | $ 3,374 | $ 631 | $8,455 | $1,783 |

The weighted-average grant date fair value of options granted during the nine months ended September 30, 2020 and 2019 was $6.51 per option and $7.42 per option, respectively. At September 30, 2020 and December 31, 2019, there was $12.2 million and $4.1 million, respectively, of compensation cost related to unvested stock options expected to be recognized over a remaining weighted average vesting period of 3.01 years and 2.69 years, respectively.

**12. Income Taxes**

The Company calculates its interim income tax provision in accordance with ASC Topic 270, *Interim Reporting*, and Topic 740, *Accounting for Income Taxes*. At the end of each interim period, management estimates the annual effective tax rate and applies such rate to the Company's ordinary quarterly earnings to calculate income tax expense related to ordinary income. Due to maintenance of a full valuation allowance, the Company had a zero effective tax rate, prior to discretely recognized items, for the three and nine months ended September 30, 2020. The tax effects of items significant, unusual and infrequent in nature are discretely calculated and recognized in the period during which they occur.

On March 27, 2020, the CARES Act was enacted. The CARES Act includes several significant provisions for corporations, including those pertaining to net operating loss ("NOL") carryforwards, interest deductions and payroll tax benefits. Corporate taxpayers may carryback NOLs originating during 2018 through 2020 for up to five years. During the first quarter of 2020, the Company recorded a discrete tax benefit of $37.7 million related to the NOL carryback provisions available under the CARES Act legislation corresponding to anticipated tax refunds applicable to taxable years 2013, 2014, 2015, and 2017. If any tax refund is received that is more than $5.0 million in a single year, along with other civil settlements, damages awards, and tax refunds, the Company has agreed to pay 65% of all such amounts received to accelerate payments to the government in connection with the government settlement (see

Note 9). During the nine months ended September 30, 2020, the Company received a tax refund of $38.4 million related to the NOL carryback provisions available under the CARES Act, including $15.7 million tax refund in the third quarter of 2020 related to the 2019 NOL.

The Company's NOL carryforwards and research and expenditure credit carryforwards may be subject to an annual limitation under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), and similar state provisions if the Company experiences an ownership change within the meaning of such Code sections. In general, an ownership change, as defined by Sections 382 and 383 of the Code, occurs when there is a 50 percentage points or more shift in ownership, consisting of shareholders owning more than 5% in the Company, occurring within a three-year testing period. During the third quarter 2020, the Company completed a formal Section 382 study and concluded that an ownership change, within the meaning of Sections 382 and 383, limiting future utilization of existing tax attribute carry-forwards, had not occurred.

**13. Net Loss Per Share**

Net loss per share is computed by dividing net loss attributable to common stockholders for the period by the weighted average number of common shares outstanding during the period. Diluted loss per share reflects the additional dilution from potential issuances of common stock, such as stock issuable pursuant to the exercise of stock options, as well as from the possible conversion of the Company's preferred stock and exercise of the outstanding warrant. The treasury stock and if-converted methods are used to calculate the potential dilutive effect of these common stock equivalents. However, potentially dilutive shares are excluded from the computation of diluted loss per share when their effect is antidilutive. Due to the Company reporting a net loss attributable to common stockholders for all periods presented, all potentially dilutive securities were antidilutive and have been excluded from the computation of diluted loss per share.

The table below provides potentially dilutive securities in equivalent common shares not included in the Company's calculation of diluted loss per share because to do so would be antidilutive:

| | September 30, 2020 | September 30, 2019 |
|---|---|---|
| Options to purchase common stock | 3,531,577 | 2,571,297 |
| Restricted stock units | 1,194,077 | 316,481 |
| Common stock warrant | 400,160 | — |
| Series A Preferred Stock | — | 13,213,254 |
| Series A-1 Preferred Stock | — | — |
| Series B Preferred Stock | — | 10,187,272 |
| Series B Preferred Stock Purchase Warrant | — | 294,299 |
| Total | 5,125,814 | 26,582,603 |




We are a biotechnology company with a track record of success in developing and commercializing molecular testing products as well as innovating in precision medicine.

## CONSISTENT GROWTH

Focus on women's health to date

Robust product portfolio

~1.5 million tests performed

## MULTI-OMIC APPROACH

Genomics

Epigenomics

Proteomics

Metabolomics

## BREAKTHROUGH INNOVATION

GI precision medicine platform technology

Pursuing Dx and Rx opportunities

420+ Patents

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**$25,000,000**

# PROGENITY, INC.

## Common Stock


**PROSPECTUS**

**Piper Sandler**
**Wells Fargo Securities**
**BTIG**

**, 2020**

## PART II

## INFORMATION NOT REQUIRED IN THE PROSPECTUS

### Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses, other than underwriting discounts and commissions, payable by the registrant in connection with the sale of common stock being registered. All of the amounts shown are estimated except the Securities and Exchange Commission (the "SEC") registration fee and the Financial Industry Regulatory Authority, Inc. ("FINRA") filing fee.

| | Amount To Be Paid |
|---|---|
| SEC registration fee | $ 3,137 |
| FINRA filing fee | 4,813 |
| Printing and engraving expenses | 100,000 |
| Legal fees and expenses | 200,000 |
| Accounting fees and expenses | 100,000 |
| Transfer agent and registrar fees | 6,000 |
| Miscellaneous fees and expenses | 36,050 |
| Total | $ 450,000 |

### Item 14. Indemnification of Directors and Officers.

The company is a Delaware corporation. Section 145(a) of the Delaware General Corporation Law, or the DGCL, provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine, upon application, that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper.

Further subsections of DGCL Section 145 provide that:

(1) to the extent a present or former director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (i) and (ii) of Section 145 or in the defense of any claim, issue or matter therein, such person shall be indemnified against expenses, including attorneys' fees, actually and reasonably incurred by such person in connection therewith;

(2) the indemnification and advancement of expenses provided for pursuant to Section 145 shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise; and

(3) the corporation shall have the power to purchase and maintain insurance of behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under Section 145.

As used in this Item 14, the term "proceeding" means any threatened, pending or completed action, suit or proceeding, whether or not by or in the right of the company, and whether civil, criminal, administrative, investigative or otherwise.

Section 145 of the DGCL makes provision for the indemnification of officers and directors in terms sufficiently broad to indemnify officers and directors of the company under certain circumstances from liabilities (including reimbursement for expenses incurred) arising under the Securities Act. The company's organizational documents provide, in effect, that, to the fullest extent and under the circumstances permitted by Section 145 of the DGCL, the company will indemnify any and all of its officers and directors. The company has entered into indemnification agreements with its officers and directors. The company may, in its discretion, similarly indemnify its employees and agents. The company's certificate of incorporation also relieves its directors from monetary damages to the company or its stockholders for breach of such director's fiduciary duty as a director to the fullest extent permitted by the DGCL. Under Section 102(b)(7) of the DGCL, a corporation may relieve its directors from personal liability to such corporation or its stockholders for monetary damages for any breach of their fiduciary duty as directors except (i) for a breach of the duty of loyalty, (ii) for failure to act in good faith, (iii) for intentional misconduct or knowing violation of law, (iv) for willful or negligent violations of certain provisions in the DGCL imposing certain requirements with respect to stock repurchases, redemptions and dividends or (v) for any transactions from which the director derived an improper personal benefit.

The company has purchased insurance policies that, within the limits and subject to the terms and conditions thereof, cover certain expenses and liabilities that may be incurred by directors and officers in connection with proceedings that may be brought against them as a result of an act or omission committed or suffered while acting as a director or officer of the company.

The form of Underwriting Agreement, to be entered into in connection with this offering and to be attached as Exhibit 1.1 hereto, provides for the indemnification by the underwriters of us and our officers and directors for certain liabilities, including liabilities arising under the Securities Act, and affords certain rights of contribution with respect thereto.

**Item 15. Recent Sales of Unregistered Securities.**

Since January 1, 2017, we have made the following sales of unregistered securities:

***Issuances of Capital Stock***

In October 2017, we issued and sold 14,164,306 shares of our Series B Preferred Stock at a purchase price of $3.53 per share to an investor in exchange for aggregate consideration of $50.0 million, composed of $37.5 million in cash and 3,489,885 shares of our Series A-2 Preferred Stock, which shares were valued in the aggregate at $12.5 million.

In August 2019, we issued and sold 9,090,910 shares of our Series B Preferred Stock at a purchase price of $2.75 per share to an existing investor in exchange for aggregate consideration of $25.0 million in cash. Concurrent with the issuance, we offered all holders of our Series A-1 Preferred Stock the opportunity to exchange their shares of Series A-1 Preferred Stock for Series B Preferred Stock. All holders of Series A-1 Preferred Stock exchanged all of their shares of Series A-1 Preferred Stock (an aggregate amount of 1,500,000 shares) for an aggregate of 35,664,240 shares of Series B Preferred Stock.

In November 2019, we issued and sold an aggregate of 13,833,333 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $31.1 million in cash.

In December 2019, we issued and sold an aggregate of 11,111,111 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to an existing investor in exchange for aggregate consideration of approximately $25.0 million in cash.

In February 2020, we issued and sold an aggregate of 5,066,666 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $11.4 million in cash.

In March 2020, in connection with an amendment to our existing credit agreement, which provides for the payment of interest due and payable as of March 31, 2020 and June 30, 2020 in shares of our Series B Preferred Stock, we issued an aggregate of 967,130 shares of our Series B Preferred Stock at a subscription price of $2.25 per share to existing investors as payment for interest due and payable as of March 31, 2020 and all applicable fees.

In April 2020, we issued and sold an aggregate of 4,444,444 shares of our Series B Preferred Stock at a purchase price of $2.25 per share to existing investors in exchange for aggregate consideration of approximately $10.0 million in cash.

In May 2020, we issued and sold an unsecured convertible promissory note, or the Convertible Note, to an existing investor with an aggregate principal amount of $15.0 million. The Convertible Note accrues interest at a rate of 8.0% per annum and is convertible at the option of the holder at any time prior to the maturity date of May 8, 2022 into (i) shares of our Series B Preferred Stock at an initial conversion price of $13.90 per share, subject to certain adjustments, or (ii) shares of another class of equity securities of the Company issued pursuant to an equity financing at a 20% discount to the share price paid by the purchasers of such equity securities in such financing. The Convertible Note will automatically convert into shares of our Common Stock upon an initial public offering at a 20% discount to the public offering price per share (or, if not a “qualified IPO” as defined in the Company’s certificate of incorporation, at the election of a majority of the holders). Interest under the Convertible Note is not generally payable except that if the Convertible Note is not converted pursuant to its terms on or prior to the maturity date and there are not sufficient authorized and unissued shares of Series B preferred stock for issuance upon the conversion of the Convertible Note on the maturity date, then the

Company is required to pay all outstanding principal and any accrued and unpaid interest under the Convertible Note in cash. If the holders of the Note have not elected to convert the Convertible Note prior to, or in connection with, any sale transaction or a liquidation, dissolution or winding up of the Company, either voluntary or involuntary, then, upon any such sale transaction or liquidation, dissolution or winding up of the Company, the Company is required to pay in cash the outstanding principal balance of the Note, together with accrued and unpaid interest thereon, plus a make whole premium of 50% of the aggregate principal amount (less accrued and unpaid interest).

The offers, sales, and issuances of the securities listed in this Item 15 under the subheading "Issuances of Capital Stock" were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act.

***Grants of Restricted Stock Units and Stock Options***

Since January 1, 2017 through the date hereof, we have granted 1,412,589 restricted stock units and stock options to purchase an aggregate of 3,338,537 shares of our common stock to employees, directors, and non-employee service providers. The stock options granted have a weighted average exercise price of $11.41.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. The offers, sales and issuances of the securities listed in this Item 15 under the subheading "Issuances of Capital Stock" were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 promulgated under the Securities Act as offers and sales of securities pursuant to certain compensatory benefit plans and contracts relating to compensation in compliance with Rule 701 or Rule 175.

**Item 16. Exhibits and Financial Statement Schedules.**

**(a) Exhibits**

| Exhibit Number | Description of Exhibit |
|---|---|
| 1.1 | Form of Underwriting Agreement. |
| 3.1 | Eighth Amended and Restated Certificate of Incorporation of the registrant. |
| 3.2 | Amended and Restated Bylaw of the registrant. |
| 4.1 | Form of common stock certificate of the registrant. |
| 4.2 | Series B Preferred Stock Purchase Warrant. |
| 4.3 | First Amendment to Series B Preferred Stock Purchase Warrant. |
| 4.4 | Second Amendment to Series B Preferred Stock Purchase Warrant. |
| 4.5 | Fourth Amended and Restated Investors' Rights Agreement, dated as of August 27, 2019, by and among Progenity, Inc. and certain of its stockholders. |
| 4.6 | Amendment No. 1 to Fourth Amended and Restated Investors' Rights Agreement, dated as of November 10, 2020, by and among Progenity, Inc., and certain of its stockholders. |
| 5.1* | Opinion of Gibson, Dunn & Crutcher LLP. |
| 10.1 | Form of Indemnification Agreement for directors and executive officers. |

| Exhibit Number | Description of Exhibit |
|---|---|
| 10.2+ | 2011 Incentive Stock Plan. |
| 10.3+ | Second Amended and Restated 2012 Stock Plan. |
| 10.4+ | 2015 Consultant Stock Plan. |
| 10.5+ | Third Amended and Restated 2018 Equity Incentive Plan. |
| 10.6+ | 2020 Employee Stock Purchase Plan. |
| 10.7+ | Offer Letter by and between Progenity, Inc. and Eric d'Esparbes, dated as of May 1, 2019. |
| 10.8+ | Offer Letter by and between Progenity, Inc. and Sami Shihabi, dated as of December 13, 2017. |
| 10.9+ | Offer Letter by and between Progenity, Inc. and Matt Cooper, dated as of March 20, 2015. |
| 10.10+ | Offer Letter by and between Progenity, Inc. and Clarke Neumann, dated as of August 26, 2014. |
| 10.11+ | Offer Letter by and between Progenity, Inc. and George Gianakopoulos, dated as of August 29, 2014. |
| 10.12+ | Offer Letter by and between Progenity, Inc. and Troy Seelye, dated as of January 19, 2020. |
| 10.13+ | Offer Letter by and between Progenity, Inc. and Damon Silvestry, dated as of March 8, 2020. |
| 10.14+ | Severance Plan. |
| 10.15# | Supply & Service Agreement by and between Progenity, Inc. and Illumina, Inc., dated as of November 26, 2014, as amended. |
| 10.16# | Settlement Agreement by and between Progenity, Inc. and Aetna Health Management, Inc., dated as of November 11, 2019. |
| 10.17# | Amendment to Settlement Agreement by and between Progenity, Inc. and Aetna Health Management, Inc., dated as of April 29, 2020. |
| 10.18# | Confidential Settlement Agreement and Mutual Release by and among Progenity, Inc., United HealthCare Services, Inc. and UnitedHealthcare Insurance Company, dated as of September 30, 2019. |
| 10.19# | Settlement and General Release Agreement by and among Progenity, Inc., Connecticut General Life Insurance Company and Cigna Health and Life Insurance Company, dated as of December 5, 2018. |
| 10.20# | Settlement and General Release Agreement by and among Mattison Pathology, LLP d/b/a Avero Diagnostics, Connecticut General Life Insurance Company and Cigna Health and Life Insurance Company, dated as of December 5, 2018. |
| 10.21 | Credit and Security Agreement by and among Progenity, Inc., as borrower, Athyrium Opportunities III Co-Invest 1 LP, as a lender and collateral agent, and the other lenders party thereto, dated as of October 27, 2017. |
| 10.22 | First Amendment to Credit and Security Agreement by and among Progenity, Inc., as borrower, Athyrium Opportunities III Co-Invest 1 LP, as a lender and collateral agent, and the other lenders party thereto, dated as of March 31, 2020. |
| 10.23 | Second Amendment to Credit and Security Agreement by and among Progenity, Inc., as borrower, Athyrium Opportunities III Co-Invest 1 LP, as a lender and collateral agent, and the other lenders party thereto, dated as of May 6, 2020. |
| 10.24 | Management Services Agreement, by and between Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership, and Avero Laboratory Holdings, LLC, a Delaware limited liability company, dated as of June 8, 2015. |

| Exhibit Number | Description of Exhibit |
|---|---|
| 10.25 | Nominee Agreement, by and among Avero Laboratory Holdings, LLC, a Delaware limited liability company, Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership, Thomas R. Mattison, M.D., P.A., Michael T. Mattison, M.D., P.A., Tanner L. Mattison, M.D., P.A., Thomas R. Mattison, M.D., Michael T. Mattison, M.D., and Tanner L. Mattison, M.D., dated as of June 8, 2015. |
| 10.26 | Stipulation and Order of Settlement and Dismissal, effective July 23, 2020, among the U.S. Department of Justice through the U.S. Attorney's Office for the Southern District of New York, and on behalf of the Office of Inspector General of the Department of Health and Human Services, and with the relator named therein and Progenity, Inc. |
| 10.27 | Settlement Agreement, effective July 23, 2020, among the United States of America, acting through the U.S. Department of Justice through the U.S. Attorney's Office for the Southern District of California, and on behalf of the Defense Health Agency, the Tricare Program and the Office of Personnel Management, which administers the Federal Employees Health Benefits Program, and Progenity, Inc. |
| 10.28 | Promissory Note issued pursuant to the Settlement Agreement, dated July 21, 2020, among the United States of America, acting through the U.S. Department of Justice through the U.S. Attorney's Office for the Southern District of California, and on behalf of the Defense Health Agency, the Tricare Program and the Office of Personnel Management, which administers the Federal Employees Health Benefits Program, and Progenity, Inc. |
| 10.29 | Non-Prosecution Agreement, effective July 21, 2020, between the U.S. Attorney's Office for the Southern District of California and Progenity, Inc. |
| 10.30 | Corporate Integrity Agreement, effective July 21, 2020, between the Office of Inspector General of the Department of Health and Human Services and Progenity, Inc. |
| 10.31 | Amendment to Settlement Agreement by and between Progenity, Inc. and UnitedHealth Group, dated as of November 19, 2020 |
| 21.1 | List of subsidiaries. |
| 23.1 | Consent of Independent Registered Public Accounting Firm. |
| 23.2* | Consent of Gibson, Dunn & Crutcher LLP (see Exhibit 5.1). |
| 24.1 | Power of Attorney. |
| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document |

* To be filed by amendment.
\+ Indicates management contract or compensatory plan.
\# Certain confidential portions of this exhibit were omitted by means of marking such portions with asterisks because the identified confidential portions (i) are not material and (ii) would be competitively harmful if publicly disclosed.

**(b) No financial statement schedules are provided because the information called for is not required or is shown in the financial statements or the notes thereto.**

**Item 17. Undertakings.**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the

Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance on Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be a part of this registration statement as of the time it was declared effective.

(2) For purposes of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 30th day of November, 2020.

Progenity, Inc.

By: /s/ Harry Stylli
**Dr. Harry Stylli**
**Chairman and Chief Executive Officer**

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Eric d'Esparbes and Clarke W. Neumann, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place or stead, in any and all capacities (including, without limitation, the capacities listed below), to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, and hereby grants to such attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates set forth opposite their names.

| Signature | Title | Date |
|---|---|---|
| /s/ Harry Stylli<br>**Dr. Harry Stylli** | Chairman and Chief Executive Officer<br>(principal executive officer) | November 30, 2020 |
| /s/ Eric d'Esparbes<br>**Eric d'Esparbes** | Chief Financial Officer<br>(principal financial and accounting officer) | November 30, 2020 |
| /s/ Jeffrey Alter<br>**Jeffrey Alter** | Director | November 30, 2020 |
| /s/ John Bigalke<br>**John Bigalke** | Director | November 30, 2020 |
| /s/ Jeffrey Ferrell<br>**Jeffrey Ferrell** | Director | November 30, 2020 |
| /s/ Brian L. Kotzin<br>**Dr. Brian L. Kotzin** | Director | November 30, 2020 |
| /s/ Samuel Nussbaum<br>**Dr. Samuel Nussbaum** | Director | November 30, 2020 |
| /s/ Lynne Powell<br>**Lynne Powell** | Director | November 30, 2020 |

**Exhibit 1.1**

**[ ● ] Shares**

**Progenity, Inc.**

**Common Stock**

**PURCHASE AGREEMENT**

[ ● ], 2020

PIPER SANDLER & CO.
WELLS FARGO SECURITIES, LLC
As Representatives of the several
Underwriters named in Schedule I hereto

c/o Piper Sandler & Co.
800 Nicollet Mall, Suite 800
Minneapolis, MN 55402

c/o Wells Fargo Securities, LLC
500 West 33rd Street, 14th Floor
New York, NY 10001

Ladies and Gentlemen:

Progenity, Inc., a Delaware corporation (the ***"Company"***), proposes to sell to the several Underwriters named in Schedule I hereto (the ***"Underwriters"***) an aggregate of [ ● ] shares (the ***"Firm Shares"***) of Common Stock, $0.001 par value per share (the ***"Common Stock"***), of the Company. The Firm Shares consist of [ ● ] authorized but unissued shares of Common Stock to be issued and sold by the Company. The Company has also granted to the several Underwriters an option to purchase up to [ ● ] additional shares of Common Stock on the terms and for the purposes set forth in Section 3 hereof (the ***"Option Shares"***). The Firm Shares and any Option Shares purchased pursuant to this Purchase Agreement are herein collectively called the ***"Securities."***

The Company hereby confirms its agreement with respect to the sale of the Securities to the several Underwriters, for whom Piper Sandler & Co. and Wells Fargo Securities, LLC are acting as representatives (the ***"Representatives"***).

1. ***Registration Statement and Prospectus***. A registration statement on Form S-1 (File No. 333-[ ● ]) with respect to the Securities, including a preliminary form of prospectus, has been prepared by the Company in conformity with the requirements of the Securities Act of 1933, as amended (the ***"Act"***), and the rules and regulations (the ***"Rules and Regulations"***) of the Securities and Exchange Commission (the ***"Commission"***) thereunder and has been filed with the Commission. Such registration statement, including the amendments, exhibits and schedules thereto, as of the time it became effective, including the Rule 430A Information (as defined below), is referred to herein as the ***"Registration Statement."*** The Company will prepare and file a prospectus pursuant to

Rule 424(b) of the Rules and Regulations that discloses the information previously omitted from the prospectus in the Registration Statement in reliance upon Rule 430A of the Rules and Regulations, which information will be deemed retroactively to be a part of the Registration Statement in accordance with Rule 430A of the Rules and Regulations (***"Rule 430A Information"***). If the Company has elected to rely upon Rule 462(b) of the Rules and Regulations to increase the size of the offering registered under the Act, the Company will prepare and file with the Commission a registration statement with respect to such increase pursuant to Rule 462(b) of the Rules and Regulations (such registration statement, including the contents of the Registration Statement incorporated by reference therein is the ***"Rule 462(b) Registration Statement"***). References herein to the ***"Registration Statement"*** will be deemed to include any such Rule 462(b) Registration Statement at and after the time of filing of the Rule 462(b) Registration Statement. ***"Preliminary Prospectus"*** means any prospectus included in the Registration Statement prior to the effective time of the Registration Statement, any prospectus filed with the Commission pursuant to Rule 424(a) under the Rules and Regulations and each prospectus that omits Rule 430A Information used after the effective time of the Registration Statement. ***"Prospectus"*** means the prospectus that discloses the public offering price and other final terms of the Securities and the offering and otherwise satisfies Section 10(a) of the Act. All references in this Agreement to the Registration Statement, any Preliminary Prospectus, the Prospectus or any amendment or supplement to any of the foregoing, is deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system or any successor system thereto.

2. ***Representations and Warranties of the Company***.

(a) *Representations and Warranties of the Company*. The Company represents and warrants to, and agrees with, the several Underwriters as follows:

(i) *Registration Statement and Prospectuses*. The Registration Statement and any post-effective amendment thereto has become effective under the Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued by the Commission, and no proceeding for that purpose has been initiated or, to the Company's knowledge, threatened by the Commission. No order preventing or suspending the use of any Preliminary Prospectus or the Prospectus (or any supplement thereto) has been issued by the Commission and no proceeding for that purpose has been initiated or, to the Company's knowledge, threatened by the Commission. As of the time each part of the Registration Statement (or any post-effective amendment thereto) became or becomes effective, such part conformed or will conform in all material respects to the requirements of the Act and the Rules and Regulations. Upon the filing or first use within the meaning of the Rules and Regulations, each Preliminary Prospectus and the Prospectus (or any supplement to either) conformed or will conform in all material respects to the requirements of the Act and the Rules and Regulations.

(ii) *Accurate Disclosure*. Each Preliminary Prospectus, at the time of filing thereof or the time of first use within the meaning of the Rules and Regulations, did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Registration Statement nor any

amendment thereto, at the effective time of each part thereof, at the First Closing Date (as defined below) or at the Second Closing Date (as defined below), contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Time of Sale (as defined below), neither (A) the Time of Sale Disclosure Package (as defined below) nor (B) any issuer free writing prospectus (as defined below), when considered together with the Time of Sale Disclosure Package, included an untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any supplement thereto at the time of any filing with the Commission pursuant to Rule 424(b) of the Rules and Regulations, at the First Closing Date or at the Second Closing Date, as applicable, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The representations and warranties in this Section 2(a)(ii) shall not apply to statements in or omissions from any Preliminary Prospectus, the Registration Statement (or any amendment thereto), the Time of Sale Disclosure Package or the Prospectus (or any supplement thereto) made in reliance upon, and in conformity with, written information furnished to the Company by you, or by any Underwriter through you, specifically for use in the preparation of such document, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 6(e).

Each reference to an ***"issuer free writing prospectus"*** herein means an issuer free writing prospectus as defined in Rule 433 of the Rules and Regulations.

***"Time of Sale Disclosure Package"*** means the Preliminary Prospectus dated [ ● ], 2020 and accepted by the Commission at [ ● ] p.m. (Eastern time) on [ ● ], 2020 and the information on Schedule V, all considered together.

Each reference to a ***"free writing prospectus"*** herein means a free writing prospectus as defined in Rule 405 of the Rules and Regulations.

***"Time of Sale"*** means [ ● ] p.m. (Eastern time) on the date of this Agreement.

(iii) *Issuer Free Writing Prospectuses*.

(A) Each issuer free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities or until any earlier date that the Company notified or notifies the Representatives as described in Section 4(a)(iii)(B), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, any Preliminary Prospectus or the Prospectus. The foregoing sentence does not apply to statements in or omissions from any issuer free writing prospectus based upon and in conformity with written information furnished to the Company by you or by any Underwriter through you specifically for use therein; it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 6(e).

(B) At the time of filing the Registration Statement and any post-effective amendment thereto, and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 of the Rules and Regulations, without taking account of any determination by the Commission pursuant to Rule 405 of the Rules and Regulations that it is not necessary that the Company be considered an ineligible issuer.

(C) Each issuer free writing prospectus satisfied, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities, all other conditions to use thereof as set forth in Rules 164 and 433 under the Act.

(iv) *Emerging Growth Company*. From the time of initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any person authorized to act on its behalf in any Testing-the-Waters Communication (as defined below)) through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the Act (an ***"Emerging Growth Company"***). ***"Testing-the-Waters Communication"*** means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Act.

(v) *Testing-the-Waters Materials*. The Company (i) has not alone engaged in any Testing-the-Waters Communications, other than Testing-the-Waters Communications with the prior consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the Act or institutions that are accredited investors within the meaning of Rule 501 under the Act and (ii) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications (as defined below). ***"Written Testing-the-Waters Communication"*** means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Act. Any individual Written Testing-the-Waters Communication does not conflict with the information contained in the

Registration Statement or the Time of Sale Disclosure Package, complied in all material respects with the Act, and when taken together with the Time of Sale Disclosure Package as of the Time of Sale, did not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(vi) *No Other Offering Materials*. The Company has not distributed and will not distribute any prospectus or other offering material in connection with the offering and sale of the Securities other than any Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus or other materials permitted by the Act to be distributed by the Company; *provided, however,* that, except as set forth on Schedule IV, the Company has not made and will not make any offer relating to the Securities that would constitute a free writing prospectus, except in accordance with the provisions of Section 4(a)(xiii) of this Agreement and the Company has not made and will not make any communication relating to the Securities that would constitute a Testing-the-Waters Communication, except in accordance with the provisions of Section 2(a)(v) of this Agreement.

(vii) *Financial Statements*. The financial statements of the Company, together with the related notes, set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus comply in all material respects with the requirements of the Act and the Exchange Act and fairly present the financial condition of the Company and its consolidated subsidiaries as of the dates indicated and the results of operations and changes in cash flows for the periods therein specified in conformity with generally accepted accounting principles in the United States ("***GAAP***") consistently applied throughout the periods involved; the supporting schedules included in the Registration Statement present fairly the information required to be stated therein; all non-GAAP financial information, if any, included in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus complies in all material respects with the requirements of Regulation G and Item 10 of Regulation S-K under the Act; and, except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there are no material off-balance sheet arrangements (as defined in Regulation S-K under the Act, Item 303(a)(4)(ii)) or any other relationships with unconsolidated entities or other persons, that are reasonably likely to have a material effect on the Company's financial condition, results of operations, liquidity, capital expenditures, capital resources or significant components of revenue or expenses. Other than the financial statements, related notes and schedules that are set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, no other financial statements or schedules are required to be included in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus. To the Company's knowledge, KPMG LLP, which has expressed its opinion with respect to the financial statements and schedules filed as a part of the Registration Statement and included in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, is (A) an independent public accounting firm within the meaning of the Act and the Rules and Regulations, (B) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act of 2002 (the ***"Sarbanes-Oxley Act"***)) and (C) not in violation of the auditor independence requirements of the Sarbanes-Oxley Act.

(viii) *Organization and Good Standing*. Each of the Company and its subsidiaries, including, without limitation, the entities set forth on Schedule II hereto (collectively, the "***Subsidiaries***"), has been duly organized and is validly existing and in good standing under the laws of its jurisdiction of incorporation or organization. Each of the Company and the Subsidiaries has full power and authority to own its properties and conduct its business as currently being carried on and as described in the Registration Statement, the Time of Sale Disclosure Package and Prospectus, and is duly qualified to do business and in good standing in each jurisdiction in which it owns or leases real property or in which the conduct of its business makes such qualification necessary and in which the failure to so qualify would have a material adverse effect upon the business, prospects, management, properties, operations, condition (financial or otherwise) or results of operations of the Company and the Subsidiaries, taken as a whole (***"Material Adverse Effect"***).

(ix) *Absence of Certain Events*. Except as contemplated in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, subsequent to the respective dates as of which information is given in the Time of Sale Disclosure Package, neither the Company nor any of the Subsidiaries has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions, or declared or paid any dividends or made any distribution of any kind with respect to its capital stock; and there has not been any change in the capital stock (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or conversion of convertible securities described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement, the Time of Sale Disclosure Package or the Prospectus), or any material change in the short-term or long-term debt (other than as a result of the conversion of convertible securities), or any issuance of options, warrants, convertible securities or other rights to purchase the capital stock, of the Company or any of the Subsidiaries, or any material adverse change in the general affairs, condition (financial or otherwise), business, prospects, management, properties, operations or results of operations of the Company and the Subsidiaries, taken as a whole (***"Material Adverse Change"***), or any development which could reasonably be expected to result in any Material Adverse Change.

(x) *Absence of Proceedings*. Except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there is not pending or, to the knowledge of the Company, threatened or contemplated, any action, suit or proceeding (A) to which the Company or any of the Subsidiaries is a party or (B) which has as the subject thereof any officer or director of the Company or any Subsidiary, any employee benefit plan sponsored by the Company or any Subsidiary or any property or assets owned or leased by the Company or any Subsidiary before or by any court or Governmental Authority (as defined below), or any arbitrator, which, individually or in the aggregate, could reasonably be expected to result in any Material Adverse Change, or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement or which are otherwise material in the context of the sale of the Securities. There are no current or, to the knowledge of the Company, pending, legal, governmental or regulatory actions, suits or proceedings (x) to which the Company or any of the Subsidiaries is subject or (y) which has as the subject thereof any officer or director of the Company or any Subsidiary, any employee

plan sponsored by the Company or any Subsidiary or any property or assets owned or leased by the Company or any Subsidiary, that are required to be described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus by the Act or by the Rules and Regulations and that have not been so described.

(xi) *Authorization; No Conflicts; Authority*. This Agreement has been duly authorized, executed and delivered by the Company, and constitutes a valid, legal and binding obligation of the Company, enforceable in accordance with its terms, except as rights to indemnity hereunder may be limited by federal or state securities laws and except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting the rights of creditors generally and subject to general principles of equity. The execution, delivery and performance of this Agreement and the consummation of the transactions herein contemplated will not (A) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of the Subsidiaries pursuant to any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of the Subsidiaries is a party or by which the Company or any of the Subsidiaries is bound or to which any of the property or assets of the Company or any of the Subsidiaries is subject, (B) result in any violation of the provisions of the Company's charter or by-laws or (C) result in the violation of any law or statute or any judgment, order, rule, regulation or decree of any court or arbitrator or federal, state, local or foreign governmental agency or regulatory authority having jurisdiction over the Company or any of the Subsidiaries or any of their properties or assets (each, a ***"Governmental Authority"***), except in the case of clause (A) as would not reasonably be expected to result in a Material Adverse Effect. No consent, approval, authorization or order of, or registration or filing with any Governmental Authority is required for the execution, delivery and performance of this Agreement or for the consummation of the transactions contemplated hereby, including the issuance or sale of the Securities by the Company, except such as may be required under the Act, the rules of the Financial Industry Regulatory Authority, Inc. (***"FINRA"***) or state securities or blue sky laws; and the Company has full power and authority to enter into this Agreement and to consummate the transactions contemplated hereby, including the authorization, issuance and sale of the Securities as contemplated by this Agreement.

(xii) *Capitalization; the Securities; Registration Rights*. All of the issued and outstanding shares of capital stock of the Company, including the outstanding shares of Common Stock, have been duly authorized and validly issued, are fully paid and nonassessable, have been issued in compliance with all applicable federal and state and foreign securities laws, were not issued in violation of or subject to any preemptive rights or other rights to subscribe for or purchase securities that have not been waived in writing (a copy of which has been delivered to counsel to the Representatives), and the holders thereof are not subject to personal liability by reason of being such holders; the Securities which may be sold hereunder by the Company have been duly authorized and, when issued, delivered and paid for in accordance with the terms of this Agreement, will be validly issued and fully paid and nonassessable, and the holders thereof will not be subject to personal liability by reason of being such holders; and the capital stock of the Company, including the Common

Stock, conforms in all material respects to the description thereof in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. Except as otherwise stated in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, (A) there are no preemptive rights or other rights to subscribe for or to purchase, or any restriction upon the voting or transfer of, any shares of Common Stock pursuant to the Company's charter, by-laws or any agreement or other instrument to which the Company or any of the Subsidiaries is a party or by which the Company or any of the Subsidiaries is bound, (B) neither the filing of the Registration Statement nor the offering or sale of the Securities as contemplated by this Agreement gives rise to any rights for or relating to the registration of any shares of Common Stock or other securities of the Company (collectively ***"Registration Rights"***) that have not been validly waived and (C) any person to whom the Company has granted Registration Rights has agreed not to exercise or has otherwise waived such rights until after expiration of the Lock-Up Period (as defined below). All of the issued and outstanding shares of capital stock of each of the Subsidiaries have been duly and validly authorized and issued and are fully paid and nonassessable, and, except as otherwise described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, the Company owns of record and beneficially, free and clear of any security interests, claims, liens, proxies, equities or other encumbrances, all of the issued and outstanding shares of such stock. The Company has an authorized and outstanding capitalization as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus under the caption "Capitalization." The Common Stock (including the Securities) conforms in all material respects to the description thereof contained in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(xiii) *Stock Options*. Except as described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there are no options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Company or any Subsidiary any shares of the capital stock of the Company or any Subsidiary. The description of the Company's stock option, stock bonus and other stock plans or arrangements (the ***"Company Stock Plans"***), and the options (the ***"Options"***) or other rights granted thereunder, set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights. Each grant of an Option (A) was duly authorized no later than the date on which the grant of such Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto and (B) was made in accordance with the terms of the applicable Company Stock Plan, and all applicable laws and regulatory rules or requirements, including all applicable federal securities laws.

(xiv) *Compliance with Laws*. The Company and each of the Subsidiaries holds, and is operating in compliance in all material respects with, all franchises, grants, authorizations, approvals, clearances, exemptions, registrations, licenses, permits, easements, consents, certificates and orders of any Governmental Authority or self-regulatory

body required for the conduct of its business ("***Permits***") and all such Permits are valid and in full force and effect; and neither the Company nor any of the Subsidiaries has received notice of any revocation or modification of any such Permits or has reason to believe that any such Permit will not be renewed in the ordinary course; and the Company and each of the Subsidiaries is in compliance in all material respects with all applicable federal, state, local and foreign laws, regulations, orders and decrees.

(xv) *Ownership of Assets*. The Company and the Subsidiaries have good and marketable title to all property (whether real or personal) described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus as being owned by them, in each case free and clear of all liens, claims, security interests, other encumbrances or defects except such as would not reasonably be expected to result in a Material Adverse Effect or as are described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus. The property held under lease by the Company and the Subsidiaries is held by them under valid, subsisting and enforceable leases with only such exceptions with respect to any particular lease as do not interfere in any material respect with the conduct of the business of the Company or the Subsidiaries.

(xvi) *Intellectual Property*. The Company and each of the Subsidiaries owns, possesses, or can acquire or license on reasonable terms, all Intellectual Property necessary for the conduct of the Company's and the Subsidiaries' businesses as now conducted and as proposed to be conducted as described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus to be conducted, except as such failure to own, possess, acquire or license such rights would not result in a Material Adverse Effect. Furthermore, (A) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any such Intellectual Property, except as such infringement, misappropriation or violation would not result in a Material Adverse Effect; (B) there is no pending or, to the knowledge of the Company, threatened, action, suit, proceeding or claim by others challenging the Company's or any of the Subsidiaries' rights in or to any such Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (C) the Intellectual Property owned by the Company and the Subsidiaries, and to the knowledge of the Company, the Intellectual Property licensed to the Company and the Subsidiaries, has not been adjudged invalid or unenforceable, in whole or in part, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, and the Company is not aware of any facts which would form a reasonable basis for any such claim; (D) except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there is no prior, pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others that the Company or any of the Subsidiaries infringes, misappropriates or otherwise violates any Intellectual Property or other proprietary rights of others, neither the Company or any of the Subsidiaries has received any written notice of such claim and the Company is not aware of any other fact which would form a reasonable basis for any such claim; and (E) to the Company's knowledge, no employee of the Company or any of the Subsidiaries is in or has ever been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement

or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or any of the Subsidiaries or actions undertaken by the employee while employed with the Company or any of the Subsidiaries. ***"Intellectual Property"*** shall mean all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets, Internet domain names, technology, know-how and other intellectual property in the United States and foreign jurisdictions.

(xvii) *Health Care Authorizations*. The Company and each of the Subsidiaries has submitted and possesses, or qualifies for applicable exemptions to, such valid and current material registrations, listings, approvals, clearances, licenses, certificates, authorizations, accreditations, provider or supplier numbers, or permits and supplements or amendments thereto issued or required by the appropriate state, federal or foreign regulatory agencies or bodies necessary to conduct their business, including, without limitation, all such material registrations, listings, approvals, clearances, licenses, certificates, authorizations, accreditations, exemptions, provider or supplier numbers, or permits and supplements or amendments thereto required by the United States Food and Drug Administration (the "***FDA***"), the United States Department of Health and Human Services ("***HHS***"), the United States Centers for Medicare & Medicaid Services ("***CMS***"), the European Medicines Agency (the "***EMA***"), Health Canada or any other state, federal or foreign agencies or bodies engaged in the regulation of medical devices (including diagnostic products, such as laboratory developed tests), drugs, biologics or biohazardous materials (the "***Regulatory Agencies***") (collectively, "***Regulatory Licenses***"), and except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus: (i) the Company, each of its Subsidiaries and Mattison Pathology, LLP d/b/a Avero Diagnostics ("***Managed Practice***") has fulfilled and performed all of its obligations with respect to each Regulatory License and, to the Company's knowledge, no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any Regulatory License, and (ii) none of the Company, any of the Subsidiaries or the Managed Practice has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such Regulatory License, the lack of which would not, individually or in the aggregate, have a Material Adverse Effect.

(xviii) *Clinical Trials*. The studies, tests and preclinical and clinical trials conducted by or on behalf of, or sponsored by, the Company or the Subsidiaries, or in which the Company or the Subsidiaries have participated, that are described in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, or the results of which are referred to in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls established for each such study, test or preclinical or clinical trial and pursuant to, where applicable, accepted professional and scientific standards for products or product candidates comparable to those being developed by the Company or the Subsidiaries and all applicable statutes, rules and regulations of the Regulatory Agencies to which they are subject, including without limitation the Health Care Laws, including 21 C.F.R. Parts 50, 54, 56, 58, 312 and 812; the

descriptions of the results of such studies, tests and trials contained in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus do not contain any misstatement of a material fact or omit a material fact necessary to make such statements not misleading; the Company has no knowledge of any studies, tests or trials not described in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus the results of which reasonably call into question in any material respect the results of the studies, tests and trials described in the Registration Statement, the Time of Sale Disclosure Package or Prospectus; and neither the Company nor any of the Subsidiaries has received any notices or other correspondence from the FDA, the EMA, Health Canada or any other foreign, state or local governmental body exercising comparable authority or any Institutional Review Board or comparable authority requiring or threatening the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of, or sponsored by, the Company or in which the Company has participated, and, to the Company's knowledge, there are no reasonable grounds for the same. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there has not been any violation of law or regulation by the Company or the Subsidiaries in their respective product development efforts, submissions or reports to any regulatory authority that could reasonably be expected to require investigation, corrective action or enforcement action.

(xix) *Compliance with Health Care Laws*. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, the Company, the Subsidiaries, the Managed Practice and, to the Company's knowledge, their respective directors, employees and agents (while acting in such capacity) are in material compliance with all health care laws applicable to the Company and the Subsidiaries, or any of their products or activities, including, but not limited to, the federal Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Law (42 U.S.C. Section 1320a-7a), the civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Claims Law (42 U.S.C. Section 1320a-7b(a)), the Stark law (42 U.S.C. Section 1395nn), the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. Section 1320d et seq.) as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.) ("***HIPAA***"), all criminal laws relating to healthcare fraud and abuse, including but not limited to 18 U.S.C. sections 286 and 287, the healthcare fraud criminal provisions under HIPAA, the exclusion laws (42 U.S.C. Section 1320a-7), the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the Controlled Substances Act (21 U.S.C. Section 801 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), the Clinical Laboratory Improvement Amendments of 1988 (42 U.S.C. Section 263a), Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), TRICARE (10 U.S.C. Sections 1071 et seq.), any state corporate practice or fee-splitting prohibitions, and any state or federal anti-markup or comparable laws or regulations, the regulations promulgated pursuant to such laws, and any other state, federal or foreign law, accreditation standards, regulation, memorandum, opinion letter or other issuance which imposes requirements on the manufacturing, development, testing, labeling, advertising, marketing or distribution of drugs, biologics and medical devices (including diagnostic products and laboratory developed tests), kickbacks, patient or program charges, recordkeeping, claims process, documentation

requirements, medical necessity, referrals, the hiring of employees or acquisition of services or supplies from those who have been excluded from government health care programs, quality, safety, privacy, security, licensure, accreditation or any other aspect of providing health care, clinical laboratory or diagnostics products or services (collectively, "***Health Care Laws***"). None of the Company, the Subsidiaries, the Managed Practice or any of its respective officers, directors, employees or, to the Company's knowledge, agents, have engaged in activities which are, as applicable, cause for false claims liability, civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, TRICARE or any other state or federal healthcare program (collectively, the "***Programs***"). Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, none of the Company, any of the Subsidiaries or the Managed Practice has received any notification, correspondence or any other written or, to the Company's knowledge, oral communication, including notification of any pending or threatened claim, suit, proceeding, hearing, enforcement, investigation, arbitration or other action ("***Action***") from any governmental authority, including, without limitation, the FDA, the EMA, Health Canada, the United States Federal Trade Commission, the United States Drug Enforcement Administration, CMS, HHS's Office of Inspector General, the United States Department of Justice and state Attorneys General or similar agencies of potential or actual non-compliance by, or liability of, the Company, the Subsidiaries or the Managed Practice under any Health Care Laws, except, with respect to any of the foregoing, such as would not, individually or in the aggregate, be material to the Company, its Subsidiaries or the Managed Practice. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, to the Company's knowledge, there are no facts or circumstances that would reasonably be expected to give rise to material liability of the Company, the Subsidiaries or the Managed Practice under any Health Care Laws. Except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, none of the Company, any of its Subsidiaries or the Managed Practice is a party to, and has any ongoing reporting obligations pursuant to any corporate integrity agreement, deferred prosecution agreement, monitoring agreement, consent decree, settlement order, plan of correction or similar agreement imposed by any governmental or regulatory authority. Additionally, none of the Company, its Subsidiaries, the Managed Practice or any of its respective employees, officers or directors, nor to the Company's knowledge, any of its agents, has been excluded, suspended or debarred from participation in any Program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar Action that could reasonably be expected to result in debarment, suspension, or exclusion. The statements with respect to Health Care Laws and the Company's, the Subsidiaries' and the Managed Practice's compliance therewith included in the Preliminary Prospectus, in the Time of Sale Disclosure Package and in the Prospectus fairly summarize the matters therein described.

(xx) *Third-Party Payor Programs*. Each of the Company, its Subsidiaries and the Managed Practice meets all Program requirements and conditions of participation and are a party to valid participation or other agreements required for payment by such Programs and other third-party payor programs in which the Company is a participant. There are no material suspensions, offsets, overpayments or recoupments of any Program or material third-party payor payments being sought, requested or claimed, or to the Company's knowledge, threatened against the Company, any Subsidiary or the

Managed Practice. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, as of the date of this Agreement, none of the Company, any Subsidiary or the Managed Practice has received any notice of denial of payment, recoupment, or overpayment from any Program or other third-party payor in excess of Five Hundred Thousand Dollars ($500,000). Except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there is no Action pending or received or, to the Company's knowledge, threatened, against the Company, any Subsidiary or the Managed Practice which relates to a violation of any legal requirement pertaining to the Programs or other third-party payor requirement which could result in the imposition of material penalties, termination or the exclusion by the Company or its Subsidiary from participation in any Program or other third-party payor program in which the Company is a participant.

(xxi) *Cybersecurity.* The Company's, its Subsidiaries' and the Managed Practice's information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "***IT Systems***") are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company, its Subsidiaries and the Managed Practice as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company, its Subsidiaries and the Managed Practice have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses. "***Personal Data***" means (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) "personal data" as defined by GDPR (as defined below); (iv) any information which would qualify as "protected health information" under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, "***HIPAA***"); and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company, its Subsidiaries and the Managed Practice are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(xxii) *Compliance with Data Privacy Laws*. The Company, its Subsidiaries and the Managed Practice are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the Company, its Subsidiaries and the Managed Practice have taken commercially reasonable actions to prepare to comply with, and currently are in compliance with, the European Union General Data Protection Regulation ("***GDPR***") (EU 2016/679) (collectively, the "***Privacy Laws***"). To ensure compliance with the Privacy Laws, the Company, its Subsidiaries and the Managed Practice have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the "***Policies***"). The Company, its Subsidiaries and the Managed Practice have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any Subsidiary or the Managed Practice: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(xxiii) *Post-Market Reporting Obligations*. The Company and the Subsidiaries are in compliance in all material respects with all applicable regulatory post-market reporting obligations, including, without limitation, the FDA's adverse event reporting requirements at 21 CFR Parts 310, 314, 600, and 803, and, to the extent applicable, the respective counterparts thereof promulgated by governmental authorities in countries outside the United States.

(xxiv) *No Shutdowns or Prohibitions*. Neither the Company nor any of the Subsidiaries has had any product, clinical laboratory or manufacturing site (whether Company-owned or that of a third party manufacturer) subject to a governmental authority (including FDA) shutdown or import or export prohibition, nor received any FDA Form 483 or other governmental authority notice of inspectional observations, "warning letters," "untitled letters," requests to make changes to the Company's products, processes or operations, or similar correspondence or notice from the FDA or other governmental authority alleging or asserting material noncompliance with any applicable Health Care Laws. To the Company's knowledge, neither the FDA nor any other governmental authority is considering such action.

(xxv) *No Safety Notices*. (A) Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, there have been no recalls, field notifications, field corrections, market withdrawals or replacements, warnings, "dear doctor" letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of

the Company or the Subsidiaries' products ("***Safety Notices***") and (B) to the Company's knowledge, there are no facts that would be reasonably likely to result in (1) a Safety Notice with respect to the Company or any of the Subsidiaries' products or services, (2) a change in labeling of any of the Company's or the Subsidiaries' respective products or services, or (3) a termination or suspension of marketing or testing of any of the Company's or the Subsidiaries' respective products or services.

(xxvi) *No Violations or Defaults*. (A) Neither the Company nor any of the Subsidiaries is in violation of its respective charter, by-laws or other organizational documents, or in breach of or otherwise in default, and (B) except as would not reasonably be expected to result in a Material Adverse Effect, no event has occurred which, with notice or lapse of time or both, would constitute such a default in the performance of any material obligation, agreement or condition contained in any bond, debenture, note, indenture, loan agreement or any other material contract, lease or other instrument to which it is subject or by which any of them may be bound, or to which any of the material property or assets of the Company or any of the Subsidiaries is subject.

(xxvii) *Taxes*. The Company and the Subsidiaries have timely filed all federal, state, local and foreign income and franchise tax returns required to be filed or have properly requested extensions thereof (except as such failure to timely file such tax returns would not result in a Material Adverse Effect) and are not in default in the payment of any taxes which were payable pursuant to said returns or any assessments with respect thereto, other than any which the Company or any of the Subsidiaries is contesting in good faith. There is no pending dispute with any taxing authority relating to any of such returns, and the Company has no knowledge of any proposed liability for any tax to be imposed upon the properties or assets of the Company or any of the Subsidiaries for which there is not an adequate reserve reflected in the Company's financial statements included in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(xxviii) *Exchange Listing and Exchange Act Registration*. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and is included or approved for listing on the Nasdaq Global Select Market and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Nasdaq Global Select Market nor has the Company received any notification that the Commission or the Nasdaq Global Select Market is contemplating terminating such registration or listing. The Company has complied in all material respects with the applicable requirements of the Nasdaq Global Select Market for maintenance of inclusion of the Common Stock thereon. The Company has filed an application to include the Securities on the Nasdaq Global Select Market. Except as previously disclosed to counsel for the Underwriters or as set forth in the Time of Sale Disclosure Package and the Prospectus, to the knowledge of the Company, no beneficial owners of the Company's capital stock or subordinated debt who, together with their associated persons and affiliates, hold in the aggregate 10% or more of such capital stock or subordinated debt, have any direct or indirect association or affiliate with a FINRA member.

(xxix) *Ownership of Other Entities*. Other than the Subsidiaries listed in Schedule II to this Agreement, the Company, directly or indirectly, owns no capital stock or other equity or ownership or proprietary interest in any corporation, partnership, association, trust or other entity.

(xxx) *Internal Controls*. The Company and the Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; and (D) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, the Company's internal control over financial reporting is effective and none of the Company, its board of directors and audit committee is aware of any "significant deficiencies" or "material weaknesses" (each as defined by the Public Company Accounting Oversight Board) in its internal control over financial reporting, or any fraud, whether or not material, that involves management or other employees of the Company or the Subsidiaries who have a significant role in the Company's internal controls; and since the end of the latest audited fiscal year, there has been no change in the Company's internal control over financial reporting (whether or not remediated) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company's board of directors has, subject to the exceptions, cure periods and the phase-in periods specified in the applicable stock exchange rules (***"Exchange Rules"***), validly appointed an audit committee to oversee internal accounting controls whose composition satisfies the applicable requirements of the Exchange Rules and the Company's board of directors and/or the audit committee has adopted a charter that satisfies the requirements of the Exchange Rules in respect of the audit committee.

(xxxi) *No Brokers or Finders*. Other than as contemplated by this Agreement, the Company has not incurred and will not incur any liability for any finder's or broker's fee or agent's commission in connection with the execution and delivery of this Agreement or the consummation of the transactions contemplated hereby.

(xxxii) *Insurance*. The Company and each of the Subsidiaries carries, or is covered by, insurance from reputable insurers in such amounts and covering such risks as the Company reasonably believes is adequate for the conduct of its business and the value of its properties and the properties of the Subsidiaries and as is customary for companies engaged in similar businesses in similar industries; all policies of insurance and any fidelity or surety bonds insuring the Company or any of the Subsidiaries or its business, assets, employees, officers and directors are in full force and effect; the Company and the Subsidiaries are in compliance with the terms of such policies and instruments in all material respects; there are no claims by the Company or any of the Subsidiaries under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; neither the Company nor any of the Subsidiaries has been refused

any insurance coverage sought or applied for; and neither the Company nor any of the Subsidiaries has reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

(xxxiii) *Investment Company Act*. The Company is not and, after giving effect to the offering and sale of the Securities and the application of the proceeds therefrom, will not be an "investment company," as such term is defined in the Investment Company Act of 1940, as amended.

(xxxiv) *Sarbanes-Oxley Act*. The Company is in compliance with all applicable provisions of the Sarbanes-Oxley Act and the rules and regulations of the Commission thereunder.

(xxxv) *Disclosure Controls*. The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-14 and 15d-14 under the Exchange Act) and such controls and procedures are effective in ensuring that material information relating to the Company, including the Subsidiaries, is made known to the principal executive officer and the principal financial officer. The Company has utilized such controls and procedures in preparing and evaluating the disclosures in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(xxxvi) *Anti-Bribery and Anti-Money Laundering Laws*. Each of the Company, the Subsidiaries, any of their respective officers, directors, affiliates and employees, and, to the Company's knowledge, any of their respective agents has not violated, its participation in the offering will not violate, and the Company and each of the Subsidiaries has instituted and maintains policies and procedures designed to ensure continued compliance with, each of the following laws: (A) anti-bribery laws, including but not limited to, any applicable law, rule or regulation of any locality, including but not limited to any law, rule or regulation promulgated to implement the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, signed December 17, 1997, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.K. Bribery Act 2010, or any other law, rule or regulation of similar purposes and scope or (B) anti-money laundering laws, including but not limited to, applicable federal, state, international, foreign or other laws, regulations or government guidance regarding anti-money laundering, including, without limitation, Title 18 U.S. Code section 1956 and 1957, the Patriot Act, the Bank Secrecy Act and international anti-money laundering principles or procedures by an intergovernmental group or organization, such as the Financial Action Task Force on Money Laundering, of which the United States is a member and with which designation the United States representative to the group or organization continues to concur, all as amended, and any Executive order, directive or regulation pursuant to the authority of any of the foregoing, or any orders or licenses issued thereunder.

(xxxvii) *OFAC*.

(A) Neither the Company nor any of the Subsidiaries, nor any or their directors, officers or employees, nor, to the Company's knowledge, any agent, affiliate or representative of the Company or the Subsidiaries, is an individual or entity that is, or is owned or controlled by an individual or entity that is:

(1) the subject of any sanctions administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty's Treasury, or other relevant sanctions authority (collectively, ***"Sanctions"***), nor

(2) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Burma/Myanmar, Cuba, Iran, Libya, North Korea and Syria).

(B) Neither the Company nor any of the Subsidiaries will, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other individual or entity:

(1) to fund or facilitate any activities or business of or with any individual or entity or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(2) in any other manner that will result in a violation of Sanctions by any individual or entity (including any individual or entity participating in the offering, whether as underwriter, advisor, investor or otherwise).

(C) For the past five years, neither the Company nor any of the Subsidiaries has knowingly engaged in, and is not now knowingly engaged in, any dealings or transactions with any individual or entity, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(xxxviii) *Compliance with Environmental Laws*. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, neither the Company nor any of the Subsidiaries is in violation of any statute, any rule, regulation, decision or order of any Governmental Authority or any court, domestic or foreign, relating to the use, disposal or release of hazardous or toxic substances or relating to the protection or restoration of the environment or human exposure to hazardous or toxic substances (collectively, ***"Environmental Laws"***), owns or operates any real property contaminated with any substance that is subject to any Environmental Laws, is liable for any off-site disposal or contamination pursuant to any Environmental Laws, or is subject to any claim relating to any Environmental Laws, which violation,

contamination, liability or claim would individually or in the aggregate, have a Material Adverse Effect; and the Company is not aware of any pending investigation which might lead to such a claim. Neither the Company nor any of the Subsidiaries anticipates incurring any material capital expenditures relating to compliance with Environmental Laws.

(xxxix) *Compliance with Occupational Laws*. The Company and each of the Subsidiaries (A) is in compliance, in all material respects, with any and all applicable foreign, federal, state and local laws, rules, regulations, treaties, statutes and codes promulgated by any and all Governmental Authorities (including pursuant to the Occupational Health and Safety Act) relating to the protection of human health and safety in the workplace (***"Occupational Laws"***); (B) has received all material permits, licenses or other approvals required of it under applicable Occupational Laws to conduct its business as currently conducted; and (C) is in compliance, in all material respects, with all terms and conditions of such permit, license or approval. No action, proceeding, revocation proceeding, writ, injunction or claim is pending or, to the Company's knowledge, threatened against the Company or any of the Subsidiaries relating to Occupational Laws, and the Company does not have knowledge of any facts, circumstances or developments relating to its operations or cost accounting practices that could reasonably be expected to form the basis for or give rise to such actions, suits, investigations or proceedings.

(xl) *ERISA and Employee Benefits Matters*. (A) To the knowledge of the Company, no "prohibited transaction" as defined under Section 406 of ERISA or Section 4975 of the Code and not exempt under ERISA Section 408 and the regulations and published interpretations thereunder has occurred with respect to any Employee Benefit Plan. At no time has the Company or any ERISA Affiliate maintained, sponsored, participated in, contributed to or has or had any liability or obligation in respect of any Employee Benefit Plan subject to Part 3 of Subtitle B of Title I of ERISA, Title IV of ERISA, or Section 412 of the Code or any "multiemployer plan" as defined in Section 3(37) of ERISA or any multiple employer plan for which the Company or any ERISA Affiliate has incurred or would reasonably be expected to incur liability under Section 4063 or 4064 of ERISA. No Employee Benefit Plan provides or promises, or at any time provided or promised, retiree health, life insurance, or other retiree welfare benefits except as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state law. Each Employee Benefit Plan is and has been operated in material compliance with its terms and all applicable laws, including but not limited to ERISA and the Code and, to the knowledge of the Company, no event has occurred (including a "reportable event" as such term is defined in Section 4043 of ERISA) and no condition exists that would subject the Company or any ERISA Affiliate to any material tax, fine, lien, penalty or liability imposed by ERISA, the Code or other applicable law. Each Employee Benefit Plan intended to be qualified under Code Section 401(a) is so qualified and has a favorable determination or opinion letter from the Internal Revenue Service upon which it can rely, and any such determination or opinion letter remains in effect and has not been revoked; to the knowledge of the Company, nothing has occurred since the date of any such determination or opinion letter that is reasonably likely to adversely affect such qualification; (B) with respect to each Foreign Benefit Plan, such Foreign Benefit Plan (1) if intended to qualify for special tax treatment, meets, in all

material respects, the requirements for such treatment, and (2) if required to be funded, is funded to the extent required by applicable law, and with respect to all other Foreign Benefit Plans, adequate reserves therefor have been established on the accounting statements of the applicable Company or Subsidiary; (C) the Company does not have any obligations under any collective bargaining agreement with any union and no organization efforts are underway with respect to Company employees. As used in this Agreement, ***"Code"*** means the Internal Revenue Code of 1986, as amended; ***"Employee Benefit Plan"*** means any "employee benefit plan" within the meaning of Section 3(3) of ERISA, including, without limitation, all stock purchase, stock option, stock-based severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (x) any current or former employee, director or independent contractor of the Company or the Subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Company or any of the Subsidiaries or (y) the Company or any of the Subsidiaries has had or has any present or future obligation or liability; ***"ERISA"*** means the Employee Retirement Income Security Act of 1974, as amended; ***"ERISA Affiliate"*** means any member of the company's controlled group as defined in Code Section 414(b), (c), (m) or (o); and ***"Foreign Benefit Plan"*** means any Employee Benefit Plan established, maintained or contributed to outside of the United States or which covers any employee working or residing outside of the United States.

(xli) *Business Arrangements*. Except as disclosed in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, neither the Company nor any of the Subsidiaries has granted rights to develop, manufacture, produce, assemble, distribute, license, market or sell its products to any other person and is not bound by any agreement that affects the exclusive right of the Company or such Subsidiary to develop, manufacture, produce, assemble, distribute, license, market or sell its products.

(xlii) *Labor Matters*. No labor problem or dispute with the employees of the Company or any of the Subsidiaries exists or, to the knowledge of the Company, is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or the Subsidiaries' principal suppliers, contractors or customers, that could have a Material Adverse Effect.

(xliii) *Restrictions on Subsidiary Payments to the Company*. No Subsidiary is currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such Subsidiary's capital stock, from repaying to the Company any loans or advances to such Subsidiary from the Company or from transferring any of such Subsidiary's property or assets to the Company or any other Subsidiary, except as described in or contemplated by the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(xliv) *Disclosure of Legal Matters*. There are no statutes, regulations, legal or governmental proceedings or contracts or other documents required to

be described in the Time of Sale Disclosure Package or the Prospectus or included as exhibits to the Registration Statement that are not described or included as required.

(xlv) *Statistical Information*. Any third-party statistical and market-related data included in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate in all material respects.

(xlvi) *Forward-looking Statements*. No forward-looking statement (within the meaning of Section 27A of the Act and Section 21E of the Exchange Act) contained in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(xlvii) *FinCEN Matters*. All of the beneficial ownership information provided to the Underwriters or to counsel for the Underwriters by the Company or its counsel in compliance with the control and beneficial ownership certification requirements of the Financial Crimes Enforcement Network within the U.S. Department of the Treasury (***"FinCEN"***) is true, complete, correct and compliant with the rules, regulations and requirements of FinCEN.

(b) *Effect of Certificates*. Any certificate signed by any officer of the Company and delivered to you or to counsel for the Underwriters shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

3. ***Purchase, Sale and Delivery of Securities***.

(a) *Firm Shares*. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell the Firm Shares to the several Underwriters, and each Underwriter agrees, severally and not jointly, to purchase from the Company the number of Firm Shares set forth opposite the name of such Underwriter in Schedule I hereto. The purchase price for each Firm Share shall be $[ ● ] per share. The obligation of each Underwriter to the Company shall be to purchase from the Company that number of Firm Shares (to be adjusted by the Representatives to avoid fractional shares) which represents the same proportion of the number of Firm Shares to be sold by the Company pursuant to this Agreement as the number of Firm Shares set forth opposite the name of such Underwriter in Schedule I hereto represents to the total number of Firm Shares to be purchased by all Underwriters pursuant to this Agreement. In making this Agreement, each Underwriter is contracting severally and not jointly; except as provided in paragraph (d) of this Section 3 and in Section 8 hereof, the agreement of each Underwriter is to purchase only the respective number of Firm Shares specified in Schedule I.

(b) *Option Shares*. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company, with respect to [ ● ] Option Shares, hereby grants to the several Underwriters an option to purchase all or any portion of the Option Shares at the same purchase price as the Firm Shares, for use solely

in covering any over-allotments made by the Underwriters in the sale and distribution of the Firm Shares. The option granted hereunder may be exercised in whole or in part at any time (but not more than once) within 30 days after the effective date of this Agreement upon notice (confirmed in writing) by the Representatives to the Company setting forth the aggregate number of Option Shares as to which the several Underwriters are exercising the option and the date and time, as determined by you, when the Option Shares are to be delivered, but in no event earlier than the First Closing Date (as defined below) nor earlier than the second business day or later than the tenth business day after the date on which the option shall have been exercised. If the option is exercised, the number of Option Shares to be purchased by each Underwriter shall be the same percentage of the total number of Option Shares to be purchased by the several Underwriters as the number of Firm Shares to be purchased by such Underwriter is of the total number of Firm Shares to be purchased by the several Underwriters, as adjusted by the Representatives in such manner as the Representatives deem advisable to avoid fractional shares. No Option Shares shall be sold and delivered unless the Firm Shares previously have been, or simultaneously are, sold and delivered.

(c) *Payment and Delivery*.

(i) The Securities to be purchased by each Underwriter hereunder, in book-entry form in such authorized denominations and registered in such names as Piper Sandler & Co. may request upon at least 48 hours' prior notice to the Company, shall be delivered by or on behalf of the Company to Piper Sandler & Co., through the facilities of the Depository Trust Company (***"DTC"***), for the accounts of the several Underwriters, with any transfer taxes payable in connection with the transfer of the Securities to the Underwriters duly paid, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of Federal (same-day) funds to the account specified by the Company to Piper Sandler & Co. at least 48 hours in advance. The time and date of such delivery and payment shall be, with respect to the Firm Shares, 9:30 a.m., New York City time, on [ ● ], 2020 or such other time and date as Piper Sandler & Co. and the Company may agree upon in writing, and, with respect to the Option Shares, 9:30 a.m., New York City time, on the date specified by Piper Sandler & Co. in each written notice given by Piper Sandler & Co. of the Underwriters' election to purchase such Option Shares, or such other time and date as Piper Sandler & Co. and the Company may agree upon in writing. Such time and date for delivery of the Firm Shares is herein called the ***"First Closing Date,"*** each such time and date for delivery of the Option Shares, if not the First Closing Date, is herein called a ***"Second Closing Date,"*** and each such time and date for delivery is herein called a ***"Closing."***

(ii) The documents to be delivered at each Closing by or on behalf of the parties hereto pursuant to Section 5 hereof, including the cross receipt for the Securities and any additional documents requested by the Underwriters pursuant to Section 5(j) hereof, will be delivered at the offices of Piper Sandler & Co., 800 Nicollet Mall, Minneapolis, Minnesota (the ***"Closing Location"***), and the Securities will be delivered to Piper Sandler & Co., through the facilities of the DTC, for the accounts of the several Underwriters, all at such Closing. A meeting will be held at the Closing Location at 9:30 a.m., New York City time, on the New York Business Day next preceding such Closing, at which meeting the final drafts of the documents to be delivered pursuant to the preceding sentence will be available for review by the parties hereto. For the purposes of this Section 3, ***"New York Business Day"*** shall mean

each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in New York City are generally authorized or obligated by law or executive order to close.

(iii) In the event that the Firm Shares (and Option Shares, if elected by the Representatives) are not delivered to the Representatives by 2:30 p.m., New York City time, on the First Closing Date (and the Second Closing Date, if elected by the Representatives), the Company will return payment of the full purchase price to Piper Sandler & Co.'s agent, Pershing LLC, via same day funds by 4:30 p.m., New York City time. The Company shall remain liable to Pershing LLC for the full amount of the purchase price and any costs associated with recovering the purchase price until the full amount has been received by Pershing LLC.

(d) *Purchase by Representatives on Behalf of Underwriters*. It is understood that you, individually and not as Representatives of the several Underwriters, may (but shall not be obligated to) make payment to the Company, on behalf of any Underwriter for the Securities to be purchased by such Underwriter. Any such payment by you shall not relieve any such Underwriter of any of its obligations hereunder. Nothing herein contained shall constitute any of the Underwriters an unincorporated association or partner with the Company.

4. ***Covenants***.

(a) *Covenants of the Company*. The Company covenants and agrees with the several Underwriters as follows:

(i) *Required Filings*. The Company will prepare and file a Prospectus with the Commission containing the Rule 430A Information omitted from the Preliminary Prospectus within the time period required by, and otherwise in accordance with the provisions of, Rules 424(b) and 430A of the Rules and Regulations. If the Company has elected to rely upon Rule 462(b) of the Rules and Regulations to increase the size of the offering registered under the Act and the Rule 462(b) Registration Statement has not yet been filed and become effective, the Company will prepare and file the Rule 462 Registration Statement with the Commission within the time period required by, and otherwise in accordance with the provisions of, Rule 462(b) and the Act. The Company will prepare and file with the Commission, promptly upon your request, any amendments or supplements to the Registration Statement or Prospectus that, in your opinion, may be necessary or advisable in connection with the distribution of the Securities by the Underwriters; and the Company will furnish the Representatives and counsel for the Underwriters a copy of any proposed amendment or supplement to the Registration Statement or Prospectus and will not file any amendment or supplement to the Registration Statement or Prospectus to which you shall reasonably object by notice to the Company after having been furnished a copy a reasonable time prior to the filing.

(ii) *Notification of Certain Commission Actions*. The Company will advise you, promptly after it shall receive notice or obtain knowledge thereof, of the issuance by the Commission of any stop order suspending the effectiveness of the

Registration Statement, or any post-effective amendment thereto or preventing or suspending the use of any Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus or any issuer free writing prospectus, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and the Company will promptly use its reasonable best efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued.

(iii) *Continued Compliance with Securities Laws*.

(A) Within the time during which a prospectus (assuming the absence of Rule 172 of the Rules and Regulations) relating to the Securities is required to be delivered under the Act by any Underwriter or dealer, the Company will comply with all requirements imposed upon it by the Act, as now and hereafter amended, and by the Rules and Regulations, as from time to time in force, and by the Exchange Act, so far as necessary to permit the continuance of sales of or dealings in the Securities as contemplated by the provisions hereof, the Time of Sale Disclosure Package and the Prospectus. If during such period any event occurs as a result of which the Prospectus (or if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such period it is necessary to amend the Registration Statement or supplement the Prospectus (or if the Prospectus is not yet available to prospective investors, the Time of Sale Disclosure Package) to comply with the Act, the Company promptly will (1) notify you of such untrue statement or omission, (2) amend the Registration Statement or supplement the Prospectus (or, if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) (at the expense of the Company) so as to correct such statement or omission or effect such compliance, and (3) notify you when any amendment to the Registration Statement is filed or becomes effective or when any supplement to the Prospectus (or, if the Prospectus is not yet available to prospective purchasers, the Time of Sale Disclosure Package) is filed.

(B) If at any time following issuance of an issuer free writing prospectus or Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such issuer free writing prospectus or Written Testing-the-Waters Communication conflicted or would conflict with the information contained in the Registration Statement, any Preliminary Prospectus or the Prospectus relating to the Securities or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company (1) has promptly notified or promptly will notify the Representatives of such conflict, untrue statement or omission, (2) has promptly amended or will promptly amend or supplement, at its own expense, such issuer free writing prospectus or Written Testing-the-Waters

Communication to eliminate or correct such conflict, untrue statement or omission and (3) has notified or promptly will notify you when such amendment or supplement was or is filed with the Commission to the extent required to be filed by the Rules and Regulations.

(iv) *Blue Sky Qualifications*. The Company shall take or cause to be taken all necessary action to qualify the Securities for sale under the securities laws of such domestic United States or foreign jurisdictions as you reasonably designate and to continue such qualifications in effect so long as required for the distribution of the Securities, except that the Company shall not be required in connection therewith to qualify as a foreign corporation or to execute a general consent to service of process in any state.

(v) *Provision of Documents*. The Company will furnish, at its own expense, to the Underwriters and counsel for the Underwriters copies of the Registration Statement, and to the Underwriters and any dealer each Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus, any issuer free writing prospectus and all amendments and supplements to such documents, in each case as soon as available and in such quantities as you may from time to time reasonably request.

(vi) *Rule 158*. The Company will make generally available to its security holders as soon as practicable, but in no event later than 15 months after the end of the Company's current fiscal quarter, an earnings statement (which need not be audited) covering a 12-month period beginning after the effective date of the Registration Statement (which, for purposes of this paragraph, will be deemed to be the effective date of the Rule 462(b) Registration Statement, if applicable) that shall satisfy the provisions of Section 11(a) of the Act and Rule 158 of the Rules and Regulations.

(vii) *Payment and Reimbursement of Expenses*. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, will pay or cause to be paid (A) all expenses (including transfer taxes allocated to the respective transferees) incurred by the Company in connection with the delivery to the Underwriters of the Securities, (B) all expenses and fees (including, without limitation, fees and expenses of the Company's accountants and counsel but, except as otherwise provided below, not including fees of the Underwriters' counsel) in connection with the preparation, printing, filing, delivery, and shipping of the Registration Statement (including the financial statements therein and all amendments, schedules, and exhibits thereto), the Securities, each Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus, any issuer free writing prospectus and any amendment thereof or supplement thereto, and the printing, delivery, and shipping of this Agreement and other underwriting documents, including Blue Sky Memoranda (covering the states and other applicable jurisdictions), (C) all filing fees and reasonable and documented fees and disbursements of the Underwriters' counsel incurred in connection with the qualification of the Securities for offering and sale by the Underwriters or by dealers under the securities or blue sky laws of the states and other jurisdictions which you shall designate, (D) the fees and expenses of the Company's transfer agent or registrar, (E) the filing fees and reasonable and documented fees and disbursements of Underwriters' counsel incident to any required review and approval by FINRA of the terms of the sale of

the Securities, (F) Nasdaq Global Select Market listing fees, if any, (G) the cost and expenses of the Company relating to investor presentations or any "road show" undertaken in connection with marketing of the Securities, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives and officers of the Company and any such consultants, and one half of the cost of any aircraft chartered in connection with the road show, and (H) all other costs and expenses of the Company incident to the performance of its obligations hereunder that are not otherwise specifically provided for herein. If this Agreement is terminated by the Representatives pursuant to Section 9 hereof or if the sale of the Securities provided for herein is not consummated by reason of any failure, refusal or inability on the part of the Company to perform any agreement on its part to be performed, or because any other condition of the Underwriters' obligations hereunder required to be fulfilled by the Company is not fulfilled, the Company will reimburse the several Underwriters for all reasonable out-of-pocket accountable disbursements (including but not limited to reasonable fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges) incurred by the Underwriters in connection with their investigation, preparing to market and marketing of the Securities or in contemplation of performing their obligations hereunder; provided, however, that the total fees and disbursement of Underwriters' counsel pursuant to (C) and (E) above shall not exceed $50,000 in the aggregate. The Underwriters shall pay one half of the cost of any aircraft chartered in connection with the road show and except as otherwise explicitly provided for in this Section 4(a)(vii), the Underwriters shall pay all of their own expenses, including expenses incurred in connection with any road show and any travel and lodging expenses incurred in connection with drafting sessions.

(viii) *Use of Proceeds*. The Company will apply the net proceeds from the sale of the Securities to be sold by it hereunder for the purposes set forth in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus and will file such reports with the Commission with respect to the sale of the Securities and the application of the proceeds therefrom as may be required in accordance with Rule 463 of the Rules and Regulations.

(ix) *Company Lock Up*. The Company will not, without the prior written consent of Piper Sandler & Co. and Wells Fargo Securities, LLC, from the date of execution of this Agreement and continuing to and including the date 90 days after the date of the Prospectus (the ***"Lock-Up Period"***), (A) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or (B) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Common Stock, whether any such transaction described in clause (A) or (B) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, except (i) to the Underwriters pursuant to this Agreement, (ii) for issuances and

grants to directors, officers, employees and consultants of the Company pursuant to the Company Stock Plans, (iii) for issuances pursuant to the exercise (including any net exercise or exercise by delivery of already-owned shares of Common Stock) of outstanding options or warrants or conversion of convertible securities described as outstanding in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, (iv) for issuances of common stock or securities convertible into or exercisable for shares of common stock in connection with any acquisition, collaboration, partnership, joint venture, strategic alliance, licensing or other strategic transaction or any debt financing transaction, so long as the purpose of such issuance is not primarily for capital raising; provided, that in the case of this clause (iv), such issuances shall not be greater than 10% of the total outstanding shares of common stock outstanding immediately after the completion of this offering, (v) any shares of Common Stock issued or options to purchase shares of Common Stock granted pursuant to any non-employee director compensation plan or dividend reinvestment plan referred to in the Registration Statement, the Time of Sale Disclosure Package or the Prospectus, (vi) the filing by the Company of a registration statement with the Commission on Form S-8 or a successor form thereto with respect to the registration of securities to be offered under any plans or programs in effect on the date hereof and referred to in clauses (ii) and (v) above, or (vii) for the sale of the Company's [ ● ]% Senior Convertible Notes due 20[ ● ] pursuant to that certain Purchase Agreement, dated as of the date hereof, by and among the Company and the Representatives, and for issuances of shares of Common Stock upon conversion thereof; provided further, that each recipient of shares of Common Stock, or securities exchangeable or exercisable for or convertible into common stock, shall be contractually prohibited from selling, offering, disposing of or otherwise transferring any such shares or securities during the remainder of the Lock-Up Period. The Company agrees not to accelerate the vesting of any option or warrant or the lapse of any repurchase right prior to the expiration of the Lock-Up Period.

(x) *Stockholder Lock-Ups*. The Company has caused to be delivered to you prior to the date of this Agreement a letter, in the form of Exhibit A hereto (the ***"Lock-Up Agreement"***), from each individual or entity listed on Schedule III. The Company will enforce the terms of each Lock-Up Agreement and issue stop-transfer instructions to its transfer agent and registrar for the Common Stock with respect to any transaction or contemplated transaction that would constitute a breach of or default under the applicable Lock-Up Agreement.

(xi) *No Market Stabilization or Manipulation*. The Company has not taken and will not take, directly or indirectly, any action designed to or which would reasonably be expected to cause or result in, or which has constituted, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities, and has not effected any sales of Common Stock which are required to be disclosed in response to Item 701 of Regulation S-K under the Act which have not been so disclosed in the Registration Statement.

(xii) *SEC Reports*. The Company will file on a timely basis with the Commission such periodic and special reports as required by the Rules and Regulations.

(xiii) *Internal Controls*. The Company and the Subsidiaries will maintain such controls and other procedures, including without limitation those required by Sections 302 and 906 of the Sarbanes-Oxley Act and the applicable regulations thereunder, that are designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive officer and its principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure, to ensure that material information relating to Company, including the Subsidiaries, is made known to them by others within those entities.

(xiv) *Sarbanes-Oxley*. The Company and the Subsidiaries will comply with all applicable provisions of the Sarbanes-Oxley Act.

(xv) *Free Writing Prospectuses*. The Company represents and agrees that, unless it obtains the prior written consent of Piper Sandler & Co., and each Underwriter severally represents and agrees that, unless it obtains the prior written consent of the Company and Piper Sandler & Co., it has not made and will not make any offer relating to the Securities that would constitute an issuer free writing prospectus or that would otherwise constitute a free writing prospectus required to be filed with the Commission; provided that the prior written consent of the parties hereto shall be deemed to have been given in respect of the free writing prospectuses included in Schedule IV. Any such free writing prospectus consented to by the Company and Piper Sandler & Co. is hereinafter referred to as a ***"Permitted Free Writing Prospectus."*** The Company represents that it has treated or agrees that it will treat each Permitted Free Writing Prospectus as an issuer free writing prospectus, and has complied and will comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Permitted Free Writing Prospectus. The Company represents that it has satisfied and agrees that it will satisfy the conditions in Rule 433 to avoid a requirement to file with the Commission any electronic road show. Each Underwriter severally represents and agrees that, (A) unless it obtains the prior written consent of the Company and Piper Sandler & Co., it has not distributed, and will not distribute any Written Testing-the-Waters Communication, and (B) any Testing-the-Waters Communication undertaken by it was with entities that are qualified institutional buyers with the meaning of Rule 144A under the Act or institutions that are accredited investors within the meaning of Rule 501 under the Act.

(xvi) *Emerging Growth Company*. The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (A) completion of the distribution of Securities within the meaning of the Act and (B) completion of the 90-day restricted period referenced to in Section 4(a)(ix) hereof.

5. ***Conditions of Underwriters' Obligations***. The obligations of the several Underwriters hereunder are subject to the accuracy, as of the date hereof and at each of the First Closing Date and the Second Closing Date (as if made at such Closing Date), of and compliance with all representations, warranties and agreements of the Company contained herein, to the performance by the Company of its obligations hereunder and to the following additional conditions:

(a) *Required Filings; Absence of Certain Commission Actions*. All filings required by Rules 424, 430A and 433 of the Rules and Regulations shall have been timely made (without reliance on Rule 424(b)(8) or Rule 164(b)); no stop order suspending the effectiveness of the Registration Statement or any part thereof or any amendment thereof, nor suspending or preventing the use of the Time of Sale Disclosure Package, the Prospectus or any issuer free writing prospectus shall have been issued; no proceedings for the issuance of such an order shall have been initiated or, to the knowledge of the Company, threatened; and any request of the Commission for additional information (to be included in the Registration Statement, the Time of Sale Disclosure Package, the Prospectus, any issuer free writing prospectus or otherwise) shall have been complied with to your satisfaction.

(b) *Continued Compliance with Securities Laws*. No Underwriter shall have advised the Company that (i) the Registration Statement or any amendment thereof or supplement thereto contains an untrue statement of a material fact which, in your opinion, is material or omits to state a material fact which, in your opinion, is required to be stated therein or necessary to make the statements therein not misleading, or (ii) the Time of Sale Disclosure Package or the Prospectus, or any amendment thereof or supplement thereto, or any issuer free writing prospectus contains an untrue statement of fact which, in your opinion, is material, or omits to state a fact which, in your opinion, is material and is required to be stated therein, or necessary to make the statements therein, in light of the circumstances under which they are made, not misleading.

(c) *Absence of Certain Events*. Except as contemplated in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus, subsequent to the respective dates as of which information is given in the Time of Sale Disclosure Package and the Prospectus, neither the Company nor any of the Subsidiaries shall have incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions, or declared or paid any dividends or made any distribution of any kind with respect to its capital stock; and there shall not have been any change in the capital stock (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or conversion of convertible securities), or any material change in the short-term or long-term debt of the Company (other than as a result of the conversion of convertible securities), or any issuance of options, warrants, convertible securities or other rights to purchase the capital stock of the Company or any of the Subsidiaries, or any Material Adverse Change or any development involving a prospective Material Adverse Change (whether or not arising in the ordinary course of business), that, in your judgment, makes it impractical or inadvisable to offer or deliver the Securities on the terms and in the manner contemplated in the Registration Statement, the Time of Sale Disclosure Package and the Prospectus.

(d) *No Downgrade*. On or after the Time of Sale, (i) no downgrading shall have occurred in the rating accorded the Company's debt securities or preferred stock by any

"nationally recognized statistical organization," as that term is defined by the Commission for purposes of Rule 436(g)(2) under the Act, and (ii) no such organization shall have publicly announced that it has under surveillance or review, with possible negative implications, its rating of any of the Company's debt securities or preferred stock.

(e) *Opinion of Company Counsel*. On each Closing Date, there shall have been furnished to you, as Representatives of the several Underwriters, the opinion of each of (i) Gibson, Dunn & Crutcher LLP, corporate counsel for the Company, (ii) Casimir Jones S.C., intellectual property counsel for the Company, (iii) Wilson, Sonsini, Goodrich & Rosati, P.C., intellectual property counsel for the Company, and (iv) Fish & Richardson P.C., intellectual property counsel for the Company, each dated such Closing Date and addressed to you, in each case in form and substance reasonably satisfactory to you.

(f) *Opinion of Underwriters' Counsel*. On each Closing Date, there shall have been furnished to you, as Representatives of the several Underwriters, such opinion or opinions from Latham & Watkins LLP, counsel for the several Underwriters, dated such Closing Date and addressed to you, with respect to the formation of the Company, the validity of the Securities, the Registration Statement, the Time of Sale Disclosure Package or the Prospectus and other related matters as you reasonably may request, and such counsel shall have received such papers and information as they request to enable them to pass upon such matters.

(g) *Comfort Letter*. On the date hereof, on the effective date of any post-effective amendment to the Registration Statement filed after the date hereof and on each Closing Date you, as Representatives of the several Underwriters, shall have received an accountant's "comfort" letter of KPMG LLP, dated such date and addressed to you, in form and substance reasonably satisfactory to you.

(h) *Officers' Certificate*. On each Closing Date, there shall have been furnished to you, as Representatives of the Underwriters, a certificate, dated such Closing Date and addressed to you, signed by the chief executive officer and by the chief financial officer of the Company, to the effect that:

(i) The representations and warranties of the Company in this Agreement are true and correct as if made at and as of such Closing Date, and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such Closing Date; and

(ii) No stop order or other order suspending the effectiveness of the Registration Statement or any part thereof or any amendment thereof or the qualification of the Securities for offering or sale, nor suspending or preventing the use of the Time of Sale Disclosure Package, the Prospectus or any issuer free writing prospectus, has been issued, and no proceeding for that purpose has been instituted or, to the best of their knowledge, is contemplated by the Commission or any state or regulatory body.

(i) *Lock-Up Agreement*. The Underwriters shall have received all of the Lock-Up Agreements referenced in Section 4 and the Lock-Up Agreements shall remain in full force and effect.

(j) *Other Documents*. The Company shall have furnished to you and counsel for the Underwriters such additional documents, certificates and evidence as you or they may have reasonably requested.

(k) *FINRA No Objections*. FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(l) *Exchange Listing*. The Securities to be delivered on such Closing Date will have been approved for listing on the Nasdaq Global Select Market, subject to official notice of issuance.

All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof only if they are reasonably satisfactory in form and substance to you and counsel for the Underwriters. The Company will furnish you with such conformed copies of such opinions, certificates, letters and other documents as you shall reasonably request.

6. ***Indemnification and Contribution***.

(a) *Indemnification by the Company*. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject, under the Act or otherwise (including in settlement of any litigation if such settlement is effected with the written consent of the Company), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon: (i) an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, including the 430A Information and any other information deemed to be a part of the Registration Statement at the time of effectiveness and at any subsequent time pursuant to the Rules and Regulations, if applicable, any Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto, any issuer free writing prospectus, any issuer information that the Company has filed or is required to file pursuant to Rule 433(d) of the Rules and Regulations, or any Written Testing-the-Waters Communication, or any road show as defined in Rule 433(h) under the Act (a ***"road show"***), (ii) the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any investigation or proceeding by any governmental authority, commenced or threatened (whether or not any Underwriter is a target of or party to such investigation or proceeding); and the Company will reimburse each Underwriter for any legal or other expenses reasonably incurred by it in connection with investigating or defending against such loss, claim, damage, liability or action as such expenses are incurred; *provided, however,* that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by you, or by any Underwriter

through you, specifically for use in the preparation thereof; it being understood and agreed that the only information furnished by an Underwriter consists of the information described as such in Section 6(e).

(b) *Indemnification by the Underwriters*. Each Underwriter will, severally and not jointly, indemnify and hold harmless the Company, its affiliates, directors and officers and each person, if any, who controls the Company within the meaning of Section 15 of the Act and Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) (i) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, any Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus, or any amendment or supplement thereto, any issuer free writing prospectus, any issuer information that the Company has filed or is required to file pursuant to Rule 433(d) of the Rules and Regulations, or any Written Testing-the-Waters Communication, or any road show, or (ii) arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon or in conformity with written information furnished to the Company by you, or by such Underwriter through you, specifically for use in the preparation thereof (it being understood and agreed that the only information furnished by an Underwriter consists of the information described as such in Section 6(e)), and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending against any such loss, claim, damage, liability or action as such expenses are incurred.

(c) *Notice and Procedures*. Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission to so notify the indemnifying party shall not relieve the indemnifying party from any liability that it may have to any indemnified party except to the extent such indemnifying party has been materially prejudiced by such failure (through the forfeiture of substantive rights or defenses). In case any such action shall be brought against any indemnified party, and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in, and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of the indemnifying party's election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation; provided, however, that if, in the sole judgment of the Representatives, it is advisable for the Underwriters to be represented as a group by separate counsel, the Representatives shall have the right to employ a single counsel (in addition to local counsel) to represent the Representatives and all Underwriters who may be subject to liability arising from any claim in respect of which indemnity may be sought by the Underwriters under subsection (a) of this Section 6, in which event the

reasonable fees and expenses of such separate counsel shall be borne by the indemnifying party or parties and reimbursed to the Underwriters as incurred. An indemnifying party shall not be obligated under any settlement agreement relating to any action under this Section 6 to which it has not agreed in writing. In addition, no indemnifying party shall, without the prior written consent of the indemnified party (which consent shall not be unreasonably withheld or delayed), effect any settlement of any pending or threatened proceeding unless such settlement includes an unconditional release of such indemnified party for all liability on claims that are the subject matter of such proceeding and does not include a statement as to, or an admission of, fault, culpability or a failure to act by or on behalf of an indemnified party. Notwithstanding the foregoing, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel pursuant to this Section 6(c), such indemnifying party agrees that it shall be liable for any settlement effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) *Contribution; Limitations on Liability; Non-Exclusive Remedy*. If the indemnification provided for in this Section 6 is unavailable or insufficient to hold harmless an indemnified party under subsection (a) or (b) above, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of the losses, claims, damages or liabilities referred to in subsection (a) or (b) above, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters and the parties' relevant intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this subsection (d) were to be determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in the first sentence of this subsection (d). The amount paid by an indemnified party as a result of the losses, claims, damages or liabilities referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending against any action or claim which is the subject of this subsection (d). Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the Securities purchased by it hereunder exceeds the amount of any damages that such Underwriter

has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations hereunder and not joint. The remedies provided for in this Section 6 are not exclusive and shall not limit any rights or remedies that might otherwise be available to any indemnified party at law or in equity.

(e) *Information Provided by the Underwriters*. The Underwriters severally confirm and the Company acknowledges that the statements with respect to the public offering of the Securities by the Underwriters set forth in the first sentence of the third paragraph, the first paragraph under the heading "Commissions and Expenses," the first sentence of the first paragraph and the first sentence of the sixth paragraph under the heading "Stabilization" and the first sentence under the heading "Electronic Distribution" under the caption "Underwriting" in the Time of Sale Disclosure Package and in the Prospectus are correct and constitute the only information concerning such Underwriters furnished in writing to the Company by or on behalf of the Underwriters specifically for inclusion in the Registration Statement, any Preliminary Prospectus, the Time of Sale Disclosure Package, the Prospectus or any issuer free writing prospectus.

7. ***Representations and Agreements to Survive Delivery***. All representations, warranties, and agreements of the Company herein or in certificates delivered pursuant hereto, and the agreements of the several Underwriters and the Company contained in Section 6 hereof, shall remain operative and in full force and effect regardless of any investigation made by or on behalf of any Underwriter or any controlling person thereof, or the Company or any of its officers, directors or controlling persons, and shall survive delivery of, and payment for, the Securities to and by the Underwriters hereunder and any termination of this Agreement.

8. ***Substitution of Underwriters***.

(a) *Obligation to Purchase Under Certain Circumstances*. If any Underwriter or Underwriters shall fail to take up and pay for the amount of Firm Shares agreed by such Underwriter or Underwriters to be purchased hereunder, upon tender of such Firm Shares in accordance with the terms hereof, and the amount of Firm Shares not purchased does not aggregate more than 10% of the total amount of Firm Shares set forth in Schedule I hereto, the remaining Underwriters shall be obligated to take up and pay for (in proportion to their respective underwriting obligations hereunder as set forth in Schedule I hereto except as may otherwise be determined by you) the Firm Shares that the withdrawing or defaulting Underwriters agreed but failed to purchase.

(b) *Termination Under Certain Circumstances*. If any Underwriter or Underwriters shall fail to take up and pay for the amount of Firm Shares agreed by such Underwriter or Underwriters to be purchased hereunder, upon tender of such Firm Shares in accordance with the terms hereof, and the amount of Firm Shares not purchased aggregates more than 10% of the total amount of Firm Shares set forth in Schedule I hereto, and arrangements satisfactory to you for the purchase of such Firm Shares by other persons are not made within 36 hours thereafter, this Agreement shall terminate. In the event of any such termination, the Company shall not be under any liability to any Underwriter (except to the extent provided in Section 4(a)(vii) and Section 6 hereof)

nor shall any Underwriter (other than an Underwriter who shall have failed, otherwise than for some reason permitted under this Agreement, to purchase the amount of Firm Shares agreed by such Underwriter to be purchased hereunder) be under any liability to the Company (except to the extent provided in Section 6 hereof).

(c) *Postponement of Closing*. If Firm Shares to which a default relates are to be purchased by the non-defaulting Underwriters or by any other party or parties, the Representatives or the Company shall have the right to postpone the First Closing Date for not more than seven business days in order that the necessary changes in the Registration Statement, in the Time of Sale Disclosure Package, in the Prospectus or in any other documents, as well as any other arrangements, may be effected. As used herein, the term "Underwriter" includes any person substituted for an Underwriter under this Section 8.

(d) *No Relief from Liability*. No action taken pursuant to this Section shall relieve any defaulting Underwriter from liability, if any, in respect of such default.

9. ***Termination***.

(a) *Right to Terminate*. You, as Representatives of the several Underwriters, shall have the right to terminate this Agreement by giving notice to the Company as hereinafter specified at any time at or prior to the First Closing Date, and the option referred to in Section 3(b), if exercised, may be cancelled at any time prior to the Second Closing Date, if (i) the Company shall have failed, refused or been unable, at or prior to such Closing Date, to perform any agreement on its part to be performed hereunder, (ii) any other condition of the Underwriters' obligations hereunder is not fulfilled, (iii) trading in the Company's Common Stock shall have been suspended by the Commission or the Nasdaq Global Select Market or trading in securities generally on the Nasdaq Stock Market or New York Stock Exchange shall have been wholly suspended, (iv) minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities shall have been required, on the Nasdaq Stock Market or New York Stock Exchange, by such Exchange or by order of the Commission or any other Governmental Authority, (v) a banking moratorium shall have been declared by federal or state authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States, or (vi) there shall have occurred any attack on, outbreak or escalation of hostilities or act of terrorism involving the United States, any declaration by the United States of a national emergency or war, any change in financial markets, any substantial change or development involving a prospective substantial change in United States or international political, financial or economic conditions, or any other calamity or crisis that, in your judgment, is material and adverse and makes it impractical or inadvisable to proceed with the completion of the sale of and payment for the Securities. Any such termination shall be without liability of any party to any other party except that the provisions of Section 4(a)(vii) and Section 6 hereof shall at all times be effective and shall survive such termination.

(b) *Notice of Termination*. If you elect to terminate this Agreement as provided in this Section, the Company shall be notified promptly by you by telephone, confirmed by letter.

10. ***Default by the Company***.

(a) *Default by the Company*. If the Company shall fail at the First Closing Date to sell and deliver the number of Securities which it is obligated to sell hereunder, then this Agreement shall terminate without any liability on the part of any Underwriter or, except as provided in Section 4(a)(vii) and Section 6 hereof, any non-defaulting party.

(b) *No Relief from Liability*. No action taken pursuant to this Section shall relieve the Company from liability, if any, in respect of such default.

11. ***Notices***. Except as otherwise provided herein, all communications hereunder shall be in writing and, (a) if to the Underwriters, shall be mailed via overnight delivery service or hand delivered via courier to the Representatives c/o Piper Sandler & Co., 800 Nicollet Mall, Minneapolis, Minnesota 55402 and Wells Fargo Securities, LLC, 375 Park Avenue, New York, New York 10152, to the attention of Equity Capital Markets and separately, General Counsel; and (b) if to the Company, shall be mailed or delivered to it at 4330 La Jolla Village Drive, San Diego, California 92122, to the attention of Clarke Neumann, General Counsel, or in each case to such other address as the person to be notified may have requested in writing. Any party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose.

12. ***Persons Entitled to Benefit of Agreement***. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns and the controlling persons, officers and directors referred to in Section 6. Nothing in this Agreement is intended or shall be construed to give to any other person, firm or corporation any legal or equitable remedy or claim under or in respect of this Agreement or any provision herein contained. The term “successors and assigns” as herein used shall not include any purchaser, as such purchaser, of any of the Securities from any of the several Underwriters.

13. ***Absence of Fiduciary Relationship***. The Company acknowledges and agrees that: (a) the Representatives have been retained solely to act as underwriters in connection with the sale of the Securities and that no fiduciary, advisory or agency relationship between the Company and the Representatives have been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Representatives have advised or are advising the Company on other matters; (b) the price and other terms of the Securities set forth in this Agreement were established by the Company following discussions and arms-length negotiations with the Representatives and do not constitute a recommendation, investment advice, or solicitation of any action by the Representatives, and the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement; (c) it has been advised that the Representatives and their affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representatives have no obligation to disclose such interest and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; (d) it has been advised that the Representatives are acting, in respect of the transactions contemplated by this Agreement, solely for the benefit of the Representatives and the other Underwriters, and not on behalf of the Company; (e) none of the activities of the Representatives in connection with the

transactions contemplated herein constitutes a recommendation, investment advice or solicitation of any action by the Representatives with respect to any entity or natural person; and (f) it waives to the fullest extent permitted by law, any claims it may have against the Representatives for breach of fiduciary duty or alleged breach of fiduciary duty in respect of any of the transactions contemplated by this Agreement and agrees that the Representatives shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

14. ***Governing Law; Waiver of Jury Trial***. This Agreement shall be governed by and construed in accordance with the laws of the State of New York. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

15. ***Recognition of the U.S. Special Resolution Regimes***.

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 15:

"***BHC Act Affiliate***" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

"***Covered Entity***" means any of the following:

(i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);

(ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or

(iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"***Default Right***" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"***U.S. Special Resolution Regime***" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

16. ***Counterparts***. This Agreement may be executed in one or more counterparts and, if executed in more than one counterpart, the executed counterparts shall each be deemed to be an original and all such counterparts shall together constitute one and the same instrument.

17. ***General Provisions.*** This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement. The invalidity or unenforceability of any Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Section, paragraph or provision hereof. If any Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

**[Signature Page Follows]**

Please sign and return to the Company the enclosed duplicates of this Agreement whereupon this Agreement will become a binding agreement between the Company and the several Underwriters in accordance with its terms.

Very truly yours,

**Progenity, Inc.**

By _____
Title:

Confirmed as of the date first above mentioned, on behalf of themselves and the other several Underwriters named in Schedule I hereto.

PIPER SANDLER & CO.

By _____
Managing Director

WELLS FARGO SECURITIES, LLC

By _____
Managing Director

**SCHEDULE I**

| Underwriter | Number of Firm Shares (1) |
|---|---|
| Piper Sandler & Co. | |
| Wells Fargo Securities, LLC | |
| Raymond James & Associates, Inc. | |
| BTIG, LLC | |
| Total | |

(1) The Underwriters may purchase up to an additional [ ● ] Option Shares, to the extent the option described in Section 3(b) of the Agreement is exercised, in the proportions and in the manner described in the Agreement.

**SCHEDULE II**

**Subsidiaries of the Company**

1. Avero Laboratory Holdings LLC
2. SPX3, Inc.
3. Progenity Holding Company, Inc.
4. Molecular Diagnostic Health Sciences, LLC
5. Progenity UK Limited
6. Progenity Pty Ltd

**SCHEDULE III**

**List of Individuals and Entities Executing Lock-Up Agreements**

**Officers**

Harry Stylli, Ph.D.
Eric d'Esparbes
Damon Silvestry
Sami Shihabi
Matthew Cooper, Ph.D.
Troy Seelye
Clarke Neumann, J.D.
George Gianakopoulos

**Non-Employee Directors**

Jeffrey D. Alter
John T. Bigalke
Jeffrey A. Ferrell
Brian L. Kotzin, M.D.
Samuel R. Nussbaum, M.D.
Lynne Powell

**Significant Stockholders**

Athyrium Opportunities III Acquisition 2 LP
Athyrium Opportunities III Co-Invest 1 LP
Athyrium Opportunities Fund (A) LP
Athyrium Opportunities 2020 LP
Athyrium Opportunities Fund (B) LP

**SCHEDULE IV**

**Certain Permitted Free Writing Prospectuses**

1. A term sheet substantially in the form of Schedule V hereto.

**SCHEDULE V**

**Pricing Term Sheet**

**EXHIBIT A**

**Form of Lock-Up Agreement**

**Lock-Up Agreement**

[ ● ], 2020

Piper Sandler & Co.
Wells Fargo Securities, LLC
As representatives of the underwriters named
in Schedule II to the Underwriting Agreement
referred to below

c/o Piper Sandler & Co.
800 Nicollet Mall, Suite 800
Minneapolis, MN 55402

c/o Wells Fargo Securities, LLC
500 West 33rd Street, 14th Floor
New York, New York 10001

Dear Sirs and Madams:

As an inducement to the underwriters (the ***"Underwriters"***) to execute a purchase agreement (the ***"Underwriting Agreement"***) providing for a public offering (the ***"Offering"***) of common stock, par value $0.001 (the ***"Common Stock"***), of Progenity, Inc. and any successor (by merger or otherwise) thereto (the ***"Company"***), the undersigned hereby agrees that without, in each case, the prior written consent of each of Piper Sandler & Co. and Wells Fargo Securities, LLC during the period specified in the second succeeding paragraph (the ***"Lock-Up Period"***), the undersigned will not: (1) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, make any short sale or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into, exercisable or exchangeable for or that represent the right to receive Common Stock (including without limitation, Common Stock which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission and securities which may be issued upon exercise of a stock option or warrant) whether now owned or hereafter acquired (the ***"Undersigned's Securities"***); (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Undersigned's Securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise; (3) make any demand for or exercise any right with respect to, the registration of any Common Stock or any security convertible into or exercisable or exchangeable for Common Stock; or (4) publicly disclose the intention to do any of the foregoing.

The undersigned agrees that the foregoing restrictions preclude the undersigned from engaging in any hedging or other transaction which is designed to or which reasonably could be expected to lead to or result in a sale or disposition of the Undersigned's Securities even if such of the Undersigned's Securities would be disposed of by someone other than the undersigned. Such prohibited hedging or other transactions would include without limitation any short sale or any purchase, sale or grant of any right (including without limitation any put or call option) with respect to any of the Undersigned's

Securities or with respect to any security that includes, relates to, or derives any significant part of its value from the Undersigned's Securities.

The Lock-Up Period will commence on the date of this Agreement and continue and include the date 90 days after the date of the final prospectus used to sell Common Stock in the Offering pursuant to the Underwriting Agreement, to which you are or expect to become parties.

Notwithstanding the foregoing, the undersigned may transfer the Undersigned's Securities (i) as a *bona fide* gift or gifts, (ii) to any immediate family member or other dependent of the undersigned, (iii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, (iv) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity (1) transfers to another corporation, partnership, limited liability company, trust or other business entity that is a direct or indirect affiliate (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) of the undersigned or (2) distributions of shares of Common Stock or any security convertible into or exercisable for Common Stock to limited partners, limited liability company members or equityholders of the undersigned, (v) if the undersigned is a trust, transfers to the beneficiary of such trust, (vi) transfers by testate succession or intestate succession, (vii) by operation of law, including pursuant to an order of a court (including a domestic order or a negotiated divorce settlement) or regulatory agency, or to comply with any regulations related to the undersigned's ownership of the Undersigned's Securities, (viii) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (vii) above, (ix) pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of Common Stock involving a Change of Control of the Company (including voting in favor of any such transaction or taking any other action in connection with such transaction); *provided*, that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Undersigned's Securities shall remain subject to the restrictions contained in this Agreement; and *provided further*, that "Change of Control" shall mean the transfer, in one transaction or in a series of related transactions, to a person or group of affiliated persons (other than an Underwriter pursuant to the Offering) of the Company's voting securities if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity), or (x) pursuant to the Underwriting Agreement; *provided*, that in the case of clauses (i) through (viii), (A) such transfer shall not involve a disposition for value, (B) the transferee agrees in writing with the Underwriters to be bound by the terms of this Agreement, and (C) no filing by any party under Section 16(a) of the Securities Exchange Act of 1934, as amended (the ***"Exchange Act"***), shall be required or shall be made voluntarily in connection with such transfer during the Lock-Up Period. For purposes of this Agreement, "immediate family" shall mean any relationship by blood, marriage, domestic partnership or adoption, not more remote than first cousin.

In addition, the foregoing restrictions shall not apply to (i) the exercise of stock options granted pursuant to the Company's equity incentive plans; *provided*, that such restrictions shall apply to any of the Undersigned's Securities issued upon such exercise, or (ii) the establishment of any contract, instruction or plan (a ***"Plan"***) that satisfies all of the requirements of Rule 10b5-1(c)(1)(i)(B) under the Exchange Act; *provided* that no sales of the Undersigned's Securities shall be made pursuant to such a Plan prior to the expiration of the Lock-Up Period, and such a Plan may only be established if no public announcement of the establishment or existence thereof and no filing with the Securities and Exchange Commission or other regulatory authority in respect thereof or transactions thereunder or contemplated thereby, by the undersigned, the Company or any other person, shall be required, and no such announcement or filing is made voluntarily, by the undersigned, the Company or any other person, prior to the expiration of the Lock-Up Period.

In furtherance of the foregoing, the Company and its transfer agent and registrar are hereby authorized to decline to make any transfer of shares of Common Stock if such transfer would constitute a violation or breach of this Agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Agreement and that upon request, the undersigned will execute any additional documents necessary to ensure the validity or enforcement of this Agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned.

The undersigned understands that this Agreement shall be automatically terminated and be of no further force and effect, and the undersigned shall be released from all obligations under this Agreement if (i) the Company notifies the Underwriters that it does not intend to proceed with the Offering, (ii) the Underwriting Agreement does not become effective, or if the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder, (iii) the registration statement filed with the Securities and Exchange Commission with respect to the Offering is withdrawn, or (iv) the Offering is not completed by December 18, 2020. The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Offering in reliance upon this Agreement.

This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

_____

Printed Name of Holder

By: _____

Signature

_____

Printed Name of Person Signing
(and indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

# EIGHTH AMENDED & RESTATED CERTIFICATE OF INCORPORATION

# OF

# Progenity, Inc.
# (a Delaware corporation)

(Pursuant to Sections 242 and 245 of the General Corporation Law of the State of Delaware (the "DGCL"))

PROGENITY, INC., a corporation organized and existing under and by virtue of the provisions of the DGCL,

**DOES HEREBY CERTIFY:**

**FIRST:** That the name of the corporation is Progenity, Inc. (the "Corporation"), and that the Corporation was originally incorporated pursuant to the DGCL on January 9, 2012 under the name Ascendant MDx, Inc.

**SECOND:** The Corporation's Seventh Amended and Restated Certificate of Incorporation (the "Seventh Amended and Restated Certificate of Incorporation") was filed with the Secretary of State of the State of Delaware on April 3, 2020.

**THIRD:** That the stockholders of the Corporation duly authorized and approved the amendment and restatement of the Seventh Amended and Restated Certificate of Incorporation of the Corporation, as approved by the Board of Directors of the Corporation, in accordance with Section 228 of the DGCL.

**FOURTH:** That the Board of Directors of the Corporation duly adopted resolutions proposing to amend and restate the Seventh Amended and Restated Certificate of Incorporation of the Corporation, declaring such amendment and restatement to be advisable and in the best interests of the Corporation and its stockholders, and authorizing appropriate officers of the Corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

**RESOLVED**, that the Seventh Amended and Restated Certificate of Incorporation of the Corporation be amended and restated in its entirety to read as follows:

## ARTICLE I
## NAME

The name of the Corporation is Progenity, Inc.

**ARTICLE II**
**AGENT**

The address of the Corporation's registered office in the State of Delaware and the County of Kent is 850 New Burton Road, Suite 201, Dover, DE 19904. The name of its registered agent at such address is COGENCY GLOBAL INC.

**ARTICLE III**
**PURPOSE**

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.

**ARTICLE IV**
**STOCK**

Section 4.1 Authorized Stock. The total number of shares which the Corporation shall have authority to issue is 360,000,000, of which 350,000,000 shall be designated as Common Stock, par value $.001 per share (the "Common Stock"), and 10,000,000 shall be designated as Preferred Stock, par value $.001 per share (the "Preferred Stock").

Section 4.2 Common Stock.

(a) Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote; provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate of Incorporation, including any certificate of designations relating to any series of Preferred Stock (each hereinafter referred to as a "Preferred Stock Designation"), that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation (including any Preferred Stock Designation).

(b) Dividends. Subject to the rights of the holders of any outstanding series of Preferred Stock, the holders of shares of Common Stock shall be entitled to receive dividends to the extent permitted by law when, as and if declared by the Board of Directors of the Corporation (the "Board of Directors").

(c) Liquidation. Upon the dissolution, liquidation or winding up of the Corporation, subject to the rights of the holders of any outstanding series of Preferred Stock, the holders of shares of Common Stock shall be entitled to receive the assets of the Corporation available for distribution to its stockholders ratably in proportion to the number of shares held by them.

Section 4.3 Preferred Stock. The Preferred Stock may be issued from time to time in one or more series. Subject to limitations prescribed by law and the provisions of this Article IV (including any Preferred Stock Designation), the Board of Directors is hereby authorized to

provide by resolution and by causing the filing of a Preferred Stock Designation for the issuance of the shares of Preferred Stock in one or more series, and to establish from time to time the number of shares to be included in each such series, and to fix the designations, powers, preferences, and relative, participating, optional or other rights, if any, and the qualifications, limitations or restrictions, if any, of the shares of each such series.

Section 4.4 No Class Vote on Changes in Authorized Number of Shares of Stock. Subject to the rights of the holders of any outstanding series of Preferred Stock, the number of authorized shares of Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL.

## ARTICLE V
## BOARD OF DIRECTORS

Section 5.1 Number. Except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), the Board of Directors shall consist of such number of directors as shall be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the total number of directors then authorized.

Section 5.2 Vacancies and Newly Created Directorships; Removal.

(a) Subject to the rights of the holders of any outstanding series of Preferred Stock, and unless otherwise required by law, newly created directorships resulting from any increase in the authorized number of directors and any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled solely by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum of the Board of Directors, or by the sole remaining director. Any director so chosen shall hold office until the next election of directors and until his or her successor shall have been duly elected and qualified. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

(b) Any director, or the entire Board of Directors, may be removed, with or without cause, by the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon; provided, however, that whenever the holders of any class or series are entitled to elect one or more directors by this Certificate of Incorporation (including any Preferred Stock Designation), with respect to the removal without cause of a director or directors so elected, the vote of the holders of the outstanding shares of that class or series and not the vote of the outstanding shares as a whole shall apply.

(c) During any period when the holders of any series of Preferred Stock have the right to elect additional directors as provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation) (the “Preferred Stock Directors”), and upon commencement and for the duration of the period during which such right continues: (i) the then otherwise total authorized number of directors of the Corporation shall automatically

be increased by such number of directors that the holders of any series of Preferred Stock have a right to elect, and the holders of such Preferred Stock shall be entitled to elect the additional directors so provided for or fixed pursuant to such provisions; and (ii) each Preferred Stock Director shall serve until such Preferred Stock Director's successor shall have been duly elected and qualified, or until such Preferred Stock Director's right to hold such office terminates pursuant to such provisions, whichever occurs earlier, subject to his or her earlier death, disqualification, resignation or removal. Except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), whenever the holders of any series of Preferred Stock having such right to elect additional directors are divested of such right pursuant to such provisions, the terms of office of all such Preferred Stock Directors elected by the holders of such Preferred Stock, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such additional directors, shall forthwith terminate (in which case each such Preferred Stock Director shall cease to be qualified as a director and shall cease to be a director) and the total authorized number of directors of the Corporation shall be automatically reduced accordingly.

Section 5.3 Powers. Except as otherwise required by the DGCL or as provided in this Certificate of Incorporation (including any Preferred Stock Designation), the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

Section 5.4 Election; Annual Meeting of Stockholders.

(a) Ballot Not Required. The directors of the Corporation need not be elected by written ballot unless the Bylaws of the Corporation so provide.

(b) Notice. Advance notice of nominations for the election of directors, and of business other than nominations, to be proposed by stockholders for consideration at a meeting of stockholders of the Corporation shall be given in the manner and to the extent provided in or contemplated by the Bylaws of the Corporation.

(c) Annual Meeting. The annual meeting of stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place, if any, either within or without the State of Delaware, on such date, and at such time as the Board of Directors shall fix.

## ARTICLE VI
## STOCKHOLDER ACTION

Except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), no action that is required or permitted to be taken by the stockholders of the Corporation may be effected by consent of stockholders in lieu of a meeting of stockholders; provided, however, that at any time when (i) Harry Stylli, (ii) Athyrium Capital Management, LP, and (iii) Andrew Midler, including for each any entities affiliated therewith, collectively, beneficially own (as defined by Securities and Exchange Commission rules promulgated under Section 13 of the Securities Exchange Act of 1934, as amended) shares representing more than 50% of the voting power of the stock outstanding and entitled to vote, any action required or permitted to be taken at any annual or special meeting of the stockholders

of the Corporation may be taken without a meeting, without prior notice and without a vote by consent in accordance with Section 228 of the DGCL.

**ARTICLE VII**
**SPECIAL MEETINGS OF STOCKHOLDERS**

Except as otherwise required by law, and except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), a special meeting of the stockholders of the Corporation may be called at any time only by the Board of Directors. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors.

**ARTICLE VIII**
**EXISTENCE**

The Corporation shall have perpetual existence.

**ARTICLE IX**
**AMENDMENT**

Section 9.1 Amendment of Certificate of Incorporation. The Corporation reserves the right at any time, and from time to time, to amend, alter, change or repeal any provision contained in this Certificate of Incorporation (including any Preferred Stock Designation), and other provisions authorized by the laws of the State of Delaware at the time in force may be added or inserted, in the manner now or hereafter prescribed by the laws of the State of Delaware, and all powers, preferences and rights of any nature conferred upon stockholders, directors or any other persons by and pursuant to this Certificate of Incorporation (including any Preferred Stock Designation) in its present form or as hereafter amended are granted subject to this reservation.

Section 9.2 Amendment of Bylaws. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, but subject to the terms of any series of Preferred Stock then outstanding, the Board of Directors is expressly authorized to adopt, amend or repeal the Bylaws of the Corporation. Except as otherwise provided in this Certificate of Incorporation (including the terms of any Preferred Stock Designation that require an additional vote) or the Bylaws of the Corporation, and in addition to any requirements of law, the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal, or adopt any provision inconsistent with, any provision of the Bylaws of the Corporation.

**ARTICLE X**
**LIABILITY OF DIRECTORS**

Section 10.1 No Personal Liability. To the fullest extent permitted by the DGCL as the same exists or as may hereafter be amended, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director.

Section 10.2 Amendment or Repeal. Any amendment, alteration or repeal of this Article X that adversely affects any right of a director shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, alteration or repeal.

**ARTICLE XI**
**FORUM FOR ADJUDICATION OF DISPUTES**

Section 11.1 Forum. Unless the Corporation, in writing, selects or consents to the selection of an alternative forum, the sole and exclusive forum for any internal corporate claims (as defined below), to the fullest extent permitted by law, and subject to applicable jurisdictional requirements, shall be the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have, or declines to accept, jurisdiction, another state court or a federal court located within the State of Delaware). For purposes of this Article XI, "internal corporate claims" means claims, including claims in the right of the Corporation: (a) that are based upon a violation of a duty by a current or former director, officer, employee or stockholder in such capacity; or (b) as to which the DGCL confers jurisdiction upon the Court of Chancery. Notwithstanding anything herein to the contrary, and for the avoidance of doubt: (y) this Article XI shall not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended; and (z) unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States of America shall be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended.

Section 11.2 Consent to Jurisdiction. If any action the subject matter of which is within the scope of this Article XI is filed in a court other than the Court of Chancery (or, if the Court of Chancery does not have, or declines to accept, jurisdiction, another state court or a federal court located within the State of Delaware) (a "Foreign Action") by any current or former stockholder (including any current or former beneficial owner), such stockholder shall be deemed to have consented to: (a) the personal jurisdiction of the Court of Chancery (or such other state or federal court located within the State of Delaware, as applicable) in connection with any action brought in any such court to enforce this Article XI; and (b) having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

Section 11.3 Enforceability. If any provision of this Article XI shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of this Article XI (including, without limitation, each portion of any sentence of this Article XI containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby.

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**IN WITNESS WHEREOF**, this Eighth Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of the corporation on this 23rd day of June, 2020.

By: /s/ Eric d'Esparbes
Eric d'Esparbes
Chief Financial Officer

[SIGNATURE PAGE TO EIGHTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF PROGENITY, INC.]

# AMENDED & RESTATED BYLAWS

# OF

# Progenity, Inc.
# (a Delaware corporation)

## ARTICLE I
## CORPORATE OFFICES

Section 1.1 Registered Office. The registered office of the Corporation shall be fixed in the Certificate of Incorporation of the Corporation (the "Certificate of Incorporation").

Section 1.2 Other Offices. The Corporation may also have an office or offices, and keep the books and records of the Corporation, except as otherwise required by law, at such other place or places, either within or without the State of Delaware, as the Corporation may from time to time determine or the business of the Corporation may require.

## ARTICLE II
## MEETINGS OF STOCKHOLDERS

Section 2.1 Annual Meeting. The annual meeting of stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place, if any, either within or without the State of Delaware, on such date, and at such time as the Board of Directors of the Corporation (the "Board of Directors") shall fix. The Board of Directors may postpone, reschedule or cancel any annual meeting of stockholders previously scheduled by the Board of Directors.

Section 2.2 Special Meeting. Except as otherwise required by law, and except as otherwise provided for or fixed pursuant to the Certificate of Incorporation, including any certificate of designations relating to any series of Preferred Stock of the Corporation (each hereinafter referred to as a "Preferred Stock Designation"), a special meeting of the stockholders of the Corporation may be called at any time only by the Board of Directors. The Board of Directors may postpone, reschedule or cancel any special meeting of stockholders previously scheduled by the Board of Directors. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors.

Section 2.3 Notice of Stockholders' Meetings.

(a) Whenever stockholders are required or permitted to take any action at a meeting, notice of the place, if any, date, and time of the meeting of stockholders, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for determining the stockholders entitled to notice of the meeting), the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting and, if the meeting is to be held solely by means of

remote communications, the means for accessing the list of stockholders contemplated by Section 2.5 of these Bylaws, shall be given. The notice shall be given not less than 10 nor more than 60 days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting, except as otherwise provided by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws. In the case of a special meeting, the purpose or purposes for which the meeting is called also shall be set forth in the notice.

(b) Except as otherwise required by law, notice may be given in writing directed to a stockholder's mailing address as it appears on the records of the Corporation and shall be given: (i) if mailed, when notice is deposited in the U.S. mail, postage prepaid; and (ii) if delivered by courier service, the earlier of when the notice is received or left at such stockholder's address.

(c) So long as the Corporation is subject to the Securities and Exchange Commission's proxy rules set forth in Regulation 14A under the Securities Exchange Act of 1934 (the "Exchange Act"), notice shall be given in the manner required by such rules. To the extent permitted by such rules, or if the Corporation is not subject to Regulation 14A, notice may be given by electronic transmission directed to the stockholder's electronic mail address, and if so given, shall be given when directed to such stockholder's electronic mail address unless the stockholder has notified the Corporation in writing or by electronic transmission of an objection to receiving notice by electronic mail or such notice is prohibited by Section 232(e) of the General Corporation Law of the State of Delaware (the "DGCL"). If notice is given by electronic mail, such notice shall comply with the applicable provisions of Sections 232(a) and 232(d) of the DGCL.

(d) Notice may be given by other forms of electronic transmission with the consent of a stockholder in the manner permitted by Section 232(b) of the DGCL, and shall be deemed given as provided therein.

(e) An affidavit that notice has been given, executed by the Secretary of the Corporation, Assistant Secretary or any transfer agent or other agent of the Corporation, shall be *prima facie* evidence of the facts stated in the notice in the absence of fraud. Notice shall be deemed to have been given to all stockholders who share an address if notice is given in accordance with the "householding" rules set forth in Rule 14a-3(e) under the Exchange Act and Section 233 of the DGCL.

(f) When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the place, if any, date and time thereof, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; provided, however, that if the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. If after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the Board of Directors shall fix a new record date for notice of such adjourned meeting in accordance with Section 7.6(a), and shall give notice of the adjourned

meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting.

Section 2.4 Organization.

(a) Unless otherwise determined by the Board of Directors, meetings of stockholders shall be presided over by the Chairman of the Board of Directors, or in his or her absence, by the Lead Independent Director or, in his or her absence, by another person designated by the Board of Directors. The Secretary of the Corporation, or in his or her absence, an Assistant Secretary, or in the absence of the Secretary and all Assistant Secretaries, a person whom the chairman of the meeting shall appoint, shall act as secretary of the meeting and keep a record of the proceedings thereof.

(b) The date and time of the opening and the closing of the polls for each matter upon which the stockholders shall vote at a meeting of stockholders shall be announced at the meeting. The Board of Directors may adopt such rules and regulations for the conduct of any meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chairman of the meeting shall have the authority to adopt and enforce such rules and regulations for the conduct of any meeting of stockholders and the safety of those in attendance as, in the judgment of the chairman, are necessary, appropriate or convenient for the conduct of the meeting. Rules and regulations for the conduct of meetings of stockholders, whether adopted by the Board of Directors or by the chairman of the meeting, may include, without limitation, establishing: (i) an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies and such other persons as the chairman of the meeting shall permit; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; (v) limitations on the time allotted for consideration of each agenda item and for questions and comments by participants; (vi) regulations for the opening and closing of the polls for balloting and matters that are to be voted on by ballot (if any); and (vii) procedures (if any) requiring attendees to provide the Corporation advance notice of their intent to attend the meeting. Subject to any rules and regulations adopted by the Board of Directors, the chairman of the meeting may convene and, for any or no reason, from time to time, adjourn and/or recess any meeting of stockholders pursuant to Section 2.7. The chairman of the meeting, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall have the power to declare that a nomination or other business was not properly brought before the meeting if the facts warrant (including if a determination is made, pursuant to Section 2.10(c)(i) of these Bylaws, that a nomination or other business was not made or proposed, as the case may be, in accordance with Section 2.10 of these Bylaws), and if such chairman should so declare, such nomination shall be disregarded or such other business shall not be transacted.

Section 2.5 List of Stockholders. The Corporation shall prepare, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting; provided, however, that if the record date for determining the stockholders entitled to vote is less than 10 days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the 10th day before the meeting date. Such list shall be arranged in

alphabetical order and shall show the address of each stockholder and the number of shares registered in the name of each stockholder. Nothing in this Section 2.5 shall require the Corporation to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting at least 10 days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of meeting; or (b) during ordinary business hours at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then a list of stockholders entitled to vote at the meeting shall be produced and kept at the time and place of the meeting during the whole time thereof and may be examined by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise required by law, the stock ledger shall be the only evidence as to who are the stockholders entitled to examine the list of stockholders required by this Section 2.5 or to vote in person or by proxy at any meeting of stockholders.

Section 2.6 Quorum. Except as otherwise required by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws, at any meeting of stockholders, a majority of the voting power of the stock outstanding and entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or series or classes or series is required, a majority of the voting power of the stock of such class or series or classes or series outstanding and entitled to vote on that matter, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to such matter. If a quorum is not present or represented at any meeting of stockholders, then the chairman of the meeting, or a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon, shall have power to adjourn or recess the meeting from time to time in accordance with Section 2.7, until a quorum is present or represented. Subject to applicable law, if a quorum initially is present at any meeting of stockholders, the stockholders may continue to transact business until adjournment or recess, notwithstanding the withdrawal of enough stockholders to leave less than a quorum, but if a quorum is not present at least initially, no business other than adjournment or recess may be transacted.

Section 2.7 Adjourned or Recessed Meeting. Any annual or special meeting of stockholders, whether or not a quorum is present, may be adjourned or recessed for any or no reason from time to time by the chairman of the meeting, subject to any rules and regulations adopted by the Board of Directors pursuant to Section 2.4(b). Any such meeting may be adjourned for any or no reason (and may be recessed if a quorum is not present or represented) from time to time by a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon. At any such adjourned or recessed meeting at which a quorum is present, any business may be transacted that might have been transacted at the meeting as originally called.

Section 2.8 Voting; Proxies

(a) Except as otherwise required by law or the Certificate of Incorporation (including any Preferred Stock Designation), each holder of stock of the Corporation entitled to vote at any meeting of stockholders shall be entitled to one vote for each share of such stock held of record by such holder that has voting power upon the subject matter in question.

(b) Except as otherwise required by law, the Certificate of Incorporation (including any Preferred Stock Designation), these Bylaws or any law, rule or regulation applicable to the Corporation or its securities, at each meeting of stockholders at which a quorum is present, all corporate actions to be taken by vote of the stockholders shall be authorized by the affirmative vote of at least a majority of the voting power of the stock present in person or represented by proxy and entitled to vote on the subject matter, and where a separate vote by a class or series or classes or series is required, if a quorum of such class or series or classes or series is present, such act shall be authorized by the affirmative vote of at least a majority of the voting power of the stock of such class or series or classes or series present in person or represented by proxy and entitled to vote on the subject matter. Voting at meetings of stockholders need not be by written ballot.

(c) Every stockholder entitled to vote for directors, or on any other matter, shall have the right to do so either in person or by one or more persons authorized to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the Corporation generally. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary of the Corporation a revocation of the proxy or an executed new proxy bearing a later date.

Section 2.9 Submission of Information by Director Nominees.

(a) To be eligible to be a nominee for election or re-election as a director of the Corporation, a person must deliver to the Secretary of the Corporation at the principal executive offices of the Corporation the following information:

(i) a written representation and agreement, which shall be signed by such person and pursuant to which such person shall represent and agree that such person: (A) consents to serving as a director if elected and (if applicable) to being named in the Corporation's proxy statement and form of proxy as a nominee, and currently intends to serve as a director for the full term for which such person is standing for election; (B) is not and will not become a party to any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity: (1) as to how the person, if elected as a director, will act or vote on any issue or question that has not been disclosed to the Corporation; or (2) that could limit or interfere with the person's ability to comply, if elected as a director, with such person's fiduciary duties under applicable law; (C) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the

Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director or nominee that has not been disclosed to the Corporation; and (D) if elected as a director, will comply with all of the Corporation's corporate governance, conflict of interest, confidentiality, and stock ownership and trading policies and guidelines, and any other Corporation policies and guidelines applicable to directors (which will be promptly provided following a request therefor); and

(ii) all completed and signed questionnaires prepared by the Corporation (including those questionnaires required of the Corporation's directors and any other questionnaire the Corporation determines is necessary or advisable to assess whether a nominee will satisfy any qualifications or requirements imposed by the Certificate of Incorporation or these Bylaws, any law, rule, regulation or listing standard that may be applicable to the Corporation, and the Corporation's corporate governance policies and guidelines) (all of the foregoing, "Questionnaires"). The Questionnaires will be promptly provided following a request therefor.

(b) A nominee for election or re-election as a director of the Corporation shall also provide to the Corporation such other information as it may reasonably request. The Corporation may request such additional information as necessary to permit the Corporation to determine the eligibility of such person to serve as a director of the Corporation, including information relevant to a determination whether such person can be considered an independent director.

(c) Notwithstanding any other provision of these Bylaws, if a stockholder has submitted notice of an intent to nominate a candidate for election or re-election as a director pursuant to Section 2.10, the Questionnaires described in Section 2.9(a)(ii) above and the additional information described in Section 2.9(b) above shall be considered timely if provided to the Corporation promptly upon request by the Corporation, but in any event within five business days after such request, and all information provided pursuant to this Section 2.9 shall be deemed part of the stockholder's notice submitted pursuant to Section 2.10.

Section 2.10 Notice of Stockholder Business and Nominations.

(a) Annual Meeting.

(i) Nominations of persons for election to the Board of Directors and the proposal of business other than nominations to be considered by the stockholders may be made at an annual meeting of stockholders only: (A) pursuant to the Corporation's notice of meeting (or any supplement thereto); (B) by or at the direction of the Board of Directors (or any authorized committee thereof); or (C) by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(a) is delivered to the Secretary of the Corporation, who is entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.10(a). For the avoidance of doubt, the foregoing clause (C) shall be the exclusive means for a stockholder to make nominations or propose other business at an annual meeting of stockholders (other than a proposal included in the Corporation's proxy statement pursuant to and in compliance with Rule 14a-8 under the Exchange Act).

(ii) For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (C) of the foregoing paragraph, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation and, in the case of business other than nominations, such business must be a proper subject for stockholder action. To be timely, a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not later than the close of business (as defined in Section 2.10(c)(ii) below) on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, or if no annual meeting was held in the preceding year, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the date on which public announcement (as defined in Section 2.10(c)(ii) below) of the date of such meeting is first made by the Corporation. In no event shall an adjournment or recess of an annual meeting, or a postponement of an annual meeting for which notice of the meeting has already been given to stockholders or a public announcement of the meeting date has already been made, commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. The number of nominees a stockholder may nominate for election at the annual meeting (or in the case of a stockholder giving the notice on behalf of a beneficial owner, the number of nominees a stockholder may nominate for election at the annual meeting on behalf of the beneficial owner) shall not exceed the number of directors to be elected at such annual meeting. For purposes of this Section 2.10, the 2020 annual meeting of stockholders shall be deemed to have been held on May 30, 2020. Such stockholder's notice shall set forth:

(A) as to each person whom the stockholder proposes to nominate for election or re-election as a director: (1) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to and in accordance with Regulation 14A under the Exchange Act; and (2) the information required to be submitted by nominees pursuant to Section 2.9(a)(i) above.

(B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), the reasons for conducting such business at the meeting and any substantial interest (within the meaning of Item 5 of Schedule 14A under the Exchange Act) in such business of such stockholder and the beneficial owner (within the meaning of Section 13(d) of the Exchange Act), if any, on whose behalf the proposal is made;

(C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is made or the other business is proposed:

(1) the name and address of such stockholder, as they appear on the Corporation's books, and the name and address of such beneficial owner;

(2) the class or series and number of shares of stock of the Corporation which are owned of record by such stockholder and such beneficial owner as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation owned of record by the stockholder and such beneficial owner as of the record date for the meeting; and

(3) a representation that the stockholder (or a qualified representative of the stockholder) intends to appear at the meeting to make such nomination or propose such business; and

(D) as to the stockholder giving the notice or, if the notice is given on behalf of a beneficial owner on whose behalf the nomination is made or the other business is proposed, as to such beneficial owner, and if such stockholder or beneficial owner is an entity, as to each director, executive, managing member or control person of such entity (any such individual or control person, a "control person"):

(1) the class or series and number of shares of stock of the Corporation which are beneficially owned (as defined in Section 2.10(c)(ii) below) by such stockholder or beneficial owner and by any control person as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation beneficially owned by such stockholder or beneficial owner and by any control person as of the record date for the meeting;

(2) a description of any agreement, arrangement or understanding with respect to the nomination or other business between or among such stockholder, beneficial owner or control person and any other person, including, without limitation any agreements that would be required to be disclosed pursuant to Item 5 or Item 6 of Exchange Act Schedule 13D (regardless of whether the requirement to file a Schedule 13D is applicable) and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such agreement, arrangement or understanding in effect as of the record date for the meeting;

(3) a description of any agreement, arrangement or understanding (including, without limitation, any derivative or short positions, profit interests, options, hedging transactions, and borrowed or loaned shares) that has been entered into as of the date of the stockholder's notice by, or on behalf of, such stockholder, beneficial owner or control person, the effect or intent of which is to mitigate loss, manage risk or benefit from changes in the share price of any class or series of the Corporation's stock, or maintain, increase or decrease the voting power of the stockholder, beneficial owner or control person with respect to securities of the Corporation, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such agreement, arrangement or understanding in effect as of the record date for the meeting; and

(4) a representation whether the stockholder or the beneficial owner, if any, will engage in a solicitation with respect to the nomination or other

business and, if so, the name of each participant in such solicitation (as defined in Item 4 of Schedule 14A under the Exchange Act) and whether such person intends or is part of a group which intends to deliver a proxy statement and/or form of proxy to holders of shares representing at least 50% of the voting power of the stock entitled to vote generally in the election of directors in the case of a nomination, or holders of at least the percentage of the Corporation's stock required to approve or adopt the business to be proposed in the case of other business.

(iii) Notwithstanding anything in Section 2.10(a)(ii) above or Section 2.10(b) below to the contrary, if the record date for determining the stockholders entitled to vote at any meeting of stockholders is different from the record date for determining the stockholders entitled to notice of the meeting, a stockholder's notice required by this Section 2.10 shall set forth a representation that the stockholder will notify the Corporation in writing within five business days after the record date for determining the stockholders entitled to vote at the meeting, or by the opening of business on the date of the meeting (whichever is earlier), of the information required under clauses (ii)(C)(2) and (ii)(D)(1)-(3) of this Section 2.10(a), and such information when provided to the Corporation shall be current as of the record date for determining the stockholders entitled to vote at the meeting.

(iv) This Section 2.10(a) shall not apply to a proposal proposed to be made by a stockholder if the stockholder has notified the Corporation of his or her intention to present the proposal at an annual or special meeting only pursuant to and in compliance with Rule 14a-8 under the Exchange Act and such proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such meeting.

(v) Notwithstanding anything in this Section 2.10(a) to the contrary, in the event that the number of directors to be elected to the Board of Directors at an annual meeting is increased and there is no public announcement by the Corporation naming all of the nominees for directors or specifying the size of the increased Board of Directors made by the Corporation at least 10 days prior to the last day a stockholder may deliver a notice in accordance with Section 2.10(a)(ii) above, a stockholder's notice required by this Section 2.10(a) shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the Corporation.

(b) Special Meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of meeting: (i) by or at the direction of the Board of Directors (or any authorized committee thereof); or (ii) provided that one or more directors are to be elected at such meeting, by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(b) is delivered to the Secretary of the Corporation, who is entitled to vote at the meeting and upon such election and who delivers notice thereof in writing setting forth the information required by Section 2.10(a) above and provides the additional information required by Section 2.9 above. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in the

Corporation's notice of meeting, if the notice required by this Section 2.10(b) shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not earlier than the close of business on the 120th day prior to such special meeting and not later than the close of business on the later of the 90th day prior to such special meeting or the 10th day following the date on which public announcement of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting is first made by the Corporation. The number of nominees a stockholder may nominate for election at the special meeting (or in the case of a stockholder giving the notice on behalf of a beneficial owner, the number of nominees a stockholder may nominate for election at the annual meeting on behalf of such beneficial owner) shall not exceed the number of directors to be elected at such special meeting. In no event shall an adjournment, recess or postponement of a special meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c) General.

(i) Except as otherwise required by law, only such persons who are nominated in accordance with the procedures set forth in this Section 2.10 shall be eligible to be elected at any meeting of stockholders of the Corporation to serve as directors and only such other business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 2.10. Except as otherwise required by law, each of the Board of Directors or the chairman of the meeting shall have the power to determine whether a nomination or any other business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in this Section 2.10 (including whether a stockholder or beneficial owner solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies in compliance with such stockholder's representation as required by clause (a)(ii)(D)(4) of this Section 2.10). If any proposed nomination or other business is not in compliance with this Section 2.10, then except as otherwise required by law, the chairman of the meeting shall have the power to declare that such nomination shall be disregarded or that such other business shall not be transacted. Notwithstanding the foregoing provisions of this Section 2.10, unless otherwise required by law, or otherwise determined by the Board of Directors or the chairman of the meeting, if the stockholder does not provide the information required under Section 2.9 or clauses (a)(ii)(C)(2) and (a)(ii)(D)(1)-(3) of this Section 2.10 to the Corporation within the time frames specified herein, any such nomination shall be disregarded and any such other business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. Notwithstanding the foregoing provisions of this Section 2.10, unless otherwise required by law, or otherwise determined by the Board of Directors or the chairman of the meeting, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or other business (whether pursuant to the requirements of these Bylaws or in accordance with Rule 14a-8 under the Exchange Act), such nomination shall be disregarded and such other business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. To be considered a qualified representative of a stockholder pursuant to the preceding sentence, a person must be a duly authorized officer, manager or partner of such stockholder or authorized by a writing executed by such stockholder (or a reliable reproduction of the writing) delivered to the Corporation prior to the making of such nomination or proposal at

such meeting (and in any event not fewer than five days before the meeting) stating that such person is authorized to act for such stockholder as proxy at the meeting of stockholders.

(ii) For purposes of this Section 2.10, the "close of business" shall mean 6:00 p.m. local time at the principal executive offices of the Corporation on any calendar day, whether or not the day is a business day, and a "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act. For purposes of clause (a)(ii)(D)(1) of this Section 2.10, shares shall be treated as "beneficially owned" by a person if the person beneficially owns such shares, directly or indirectly, for purposes of Section 13(d) of the Exchange Act and Regulations 13D and 13G thereunder or has or shares pursuant to any agreement, arrangement or understanding (whether or not in writing): (A) the right to acquire such shares (whether such right is exercisable immediately or only after the passage of time or the fulfillment of a condition or both); (B) the right to vote such shares, alone or in concert with others; and/or (C) investment power with respect to such shares, including the power to dispose of, or to direct the disposition of, such shares.

(iii) Nothing in this Section 2.10 shall be deemed to affect any rights of the holders of any series of Preferred Stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation (including any Preferred Stock Designation).

Section 2.11 Action by Written Consent.

(a) Except as otherwise provided for or fixed pursuant to the Certificate of Incorporation (including any Preferred Stock Designation), no action that is required or permitted to be taken by the stockholders of the Corporation may be effected by consent of stockholders in lieu of a meeting of stockholder; provided, however, that at any time when (i) Harry Stylli, (ii) Athyrium Capital Management, LP, and (iii) Andrew Midler, including for each any entities affiliated therewith, collectively, beneficially own (as defined by Securities and Exchange Commission rules promulgated under Section 13 of the Securities Exchange Act of 1934) shares representing more than 50% of the voting power of the stock outstanding and entitled to vote, any action required or permitted to be taken at any annual or special meeting of stockholders of the Corporation may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, are signed by the holders of the outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. To be effective, a written consent must be delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. No written consent shall be effective to take the corporate action referred to therein unless written consents signed by a sufficient number of holders to take action are delivered to the Corporation in accordance with this Section 2.11(a) within 60 days of the first date on which a written consent is so delivered to the Corporation. Any person executing a consent may provide, whether through instruction to an agent or otherwise, that such a consent shall be effective at a

future time (including a time determined upon the happening of an event), no later than 60 days after such instruction is given or such provision is made, if evidence of such instruction or provision is provided to the Corporation. Unless otherwise provided, any such consent shall be revocable prior to its becoming effective.

(b) Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for notice of such meeting had been the date that written consents signed by a sufficient number of stockholders to take the action were delivered to the Corporation in the manner required by this Section 2.11.

Section 2.12 Inspectors of Election. Before any meeting of stockholders, the Corporation may, and shall if required by law, appoint one or more inspectors of election to act at the meeting and make a written report thereof. Inspectors may be employees of the Corporation. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the chairman of the meeting may, and shall if required by law, appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. Inspectors need not be stockholders. No director or nominee for the office of director at an election shall be appointed as an inspector at such election.

Such inspectors shall:

(a) determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the validity of proxies and ballots;

(b) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors;

(c) count and tabulate all votes and ballots; and

(d) certify their determination of the number of shares represented at the meeting, and their count of all votes and ballots.

Section 2.13 Meetings by Remote Communications. The Board of Directors may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication in accordance with Section 211(a)(2) of the DGCL. If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication: (a) participate in a meeting of stockholders; and (b) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that: (i) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by

means of remote communication is a stockholder or proxyholder; (ii) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings; and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

Section 2.14 Delivery to the Corporation. Whenever this Article II requires one or more persons (including a record or beneficial owner of stock) to deliver a document or information to the Corporation or any officer, employee or agent thereof (including any notice, request, questionnaire, revocation, representation or other document or agreement), the Corporation shall not be required to accept delivery of such document or information unless the document or information is in writing exclusively (and not in an electronic transmission) and delivered exclusively by hand (including, without limitation, overnight courier service) or by certified or registered mail, return receipt requested.

## ARTICLE III
## DIRECTORS

Section 3.1 Powers. Except as otherwise required by the DGCL or as provided in the Certificate of Incorporation (including any Preferred Stock Designation), the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authorities these Bylaws expressly confer upon it, the Board of Directors may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws required to be exercised or done by the stockholders.

Section 3.2 Number, Term of Office and Election. Except as otherwise provided for or fixed pursuant to the Certificate of Incorporation (including any Preferred Stock Designation), the Board of Directors shall consist of such number of directors as shall be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the total number of directors then authorized (hereinafter referred to as the "Whole Board"). At any meeting of stockholders at which directors are to be elected, directors shall be elected by a plurality of the votes cast. Each director shall hold office until the next election of directors and until his or her successor shall have been duly elected and qualified. Directors need not be stockholders unless so required by the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws, wherein other qualifications for directors may be prescribed.

Section 3.3 Vacancies and Newly Created Directorships. Subject to the rights of the holders of any outstanding series of Preferred Stock, and unless otherwise required by law, newly created directorships resulting from any increase in the authorized number of directors and any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled solely by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum, or by the sole remaining director, and any director so chosen shall hold office until the next election of

directors. No decrease in the authorized number of directors shall shorten the term of any incumbent.

Section 3.4 Resignations and Removal.

(a) Any director may resign at any time upon notice given in writing or by electronic transmission to the Board of Directors, the Chairman of the Board of Directors or the Secretary of the Corporation. Such resignation shall take effect upon delivery, unless the resignation specifies a later effective date or time or an effective date or time determined upon the happening of an event or events. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

(b) Any director, or the entire Board of Directors, may be removed, with or without cause, by the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon; provided, however, that whenever the holders of any class or series are entitled to elect one or more directors by the Certificate of Incorporation (including any Preferred Stock Designation), with respect to the removal without cause of a director or directors so elected, the vote of the holders of the outstanding shares of that class or series and not the vote of the outstanding shares as a whole shall apply.

Section 3.5 Regular Meetings. Regular meetings of the Board of Directors shall be held at such place or places, within or without the State of Delaware, on such date or dates and at such time or times, as shall have been established by the Board of Directors and publicized among all directors. A notice of each regular meeting shall not be required.

Section 3.6 Special Meetings. Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the Chairman of the Board of Directors, the Chief Executive Officer, the Lead Independent Director (as defined below) or a majority of the directors then in office. The person or persons authorized to call special meetings of the Board of Directors may fix the place, within or without the State of Delaware, date and time of such meetings. Notice of each such meeting shall be given to each director, if by mail, addressed to such director at his or her residence or usual place of business, at least five days before the day on which such meeting is to be held, or shall be sent to such director by electronic transmission, or be delivered personally or by telephone, in each case at least 24 hours prior to the time set for such meeting. A notice of special meeting need not state the purpose of such meeting, and, unless indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 3.7 Participation in Meetings by Conference Telephone. Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board of Directors or committee by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at such meeting.

Section 3.8 Quorum and Voting. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws, a majority of the Whole Board shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, and the vote of a majority of

the directors present at a duly held meeting at which a quorum is present shall be the act of the Board of Directors. The chairman of the meeting or a majority of the directors present may adjourn the meeting to another time and place whether or not a quorum is present. At any adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally called.

Section 3.9 Board of Directors Action by Written Consent Without a Meeting. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or any committee thereof, may be taken without a meeting, provided that all members of the Board of Directors or committee, as the case may be, consent in writing or by electronic transmission to such action. After an action is taken, the consent or consents relating thereto shall be filed with the minutes or proceedings of the Board of Directors or committee in the same paper or electronic form as the minutes are maintained. Any person (whether or not then a director) may provide, whether through instruction to an agent or otherwise, that a consent to action shall be effective at a future time (including a time determined upon the happening of an event), no later than 60 days after such instruction is given or such provision is made and such consent shall be deemed to have been given at such effective time so long as such person is then a director and did not revoke the consent prior to such time. Any such consent shall be revocable prior to its becoming effective.

Section 3.10 Chairman of the Board. The Chairman of the Board shall preside at meetings of directors and shall perform such other duties as the Board of Directors may from time to time determine. If the Chairman of the Board is not present at a meeting of the Board of Directors, the Lead Independent Director shall preside, and if the Lead Independent Director is not present at a meeting of the Board of Directors, another director chosen by the Board of Directors shall preside.

Section 3.11 Lead Independent Director. The Independent Directors (as defined below) may elect a lead independent director from among the Independent Directors (the "Lead Independent Director"). The Lead Independent Director, if any, will chair meetings and executive sessions of the independent directors and will assume such other duties that the Board of Directors may designate from time to time or as prescribed by these Bylaws. "Independent Director" shall have the meaning ascribed to such term under the rules of the exchange upon which shares of the Corporation's Common Stock are primarily traded.

Section 3.12 Rules and Regulations. The Board of Directors shall adopt such rules and regulations not inconsistent with the provisions of law, the Certificate of Incorporation or these Bylaws for the conduct of its meetings and management of the affairs of the Corporation as the Board of Directors shall deem proper.

Section 3.13 Fees and Compensation of Directors. Unless otherwise restricted by the Certificate of Incorporation, directors may receive such compensation, if any, for their services on the Board of Directors and its committees, and as Lead Independent Director, and such reimbursement of expenses, as may be fixed or determined by resolution of the Board of Directors.

Section 3.14 Emergency Bylaws. In the event of any emergency, disaster or catastrophe, as referred to in Section 110 of the DGCL, or other similar emergency condition, as a result of which a quorum of the Board of Directors or a standing committee of the Board of Directors cannot readily be convened for action, then the director or directors in attendance at the meeting shall constitute a quorum. Such director or directors in attendance may further take action to appoint one or more of themselves or other directors to membership on any standing or temporary committees of the Board of Directors as they shall deem necessary and appropriate.

## ARTICLE IV
## COMMITTEES

Section 4.1 Committees of the Board of Directors. The Board of Directors may designate one or more committees, each such committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee to replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not he, she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent permitted by law and provided in the resolution of the Board of Directors establishing such committee, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (a) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval; or (b) adopting, amending or repealing any bylaw of the Corporation. All committees of the Board of Directors shall keep minutes of their meetings and shall report their proceedings to the Board of Directors when requested or required by the Board of Directors.

Section 4.2 Meetings and Action of Committees. Unless the Board of Directors provides otherwise by resolution, any committee of the Board of Directors may adopt, alter and repeal such rules and regulations not inconsistent with the provisions of law, the Certificate of Incorporation or these Bylaws for the conduct of its meetings as such committee may deem proper. A majority of the directors then serving on a committee shall constitute a quorum for the transaction of business by the committee except as otherwise required by law, the Certificate of Incorporation or these Bylaws, and except as otherwise provided in a resolution of the Board of Directors; provided, however, that in no case shall a quorum be less than one-third of the directors then serving on the committee. Unless the Certificate of Incorporation, these Bylaws or a resolution of the Board of Directors requires a greater number, the vote of a majority of the members of a committee present at a meeting at which a quorum is present shall be the act of the committee.

**ARTICLE V**
**OFFICERS**

Section 5.1 Officers. The officers of the Corporation shall consist of a Chief Executive Officer, a President, a Chief Financial Officer, a Secretary, a Controller and such other officers as the Board of Directors may from time to time determine, including a Treasurer and one or more Senior Vice Presidents or Vice Presidents, each of whom shall be elected by the Board of Directors, each to have such authority, functions or duties as set forth in these Bylaws or as determined by the Board of Directors. Each officer shall be elected by the Board of Directors and shall hold office for such term as may be prescribed by the Board of Directors and until such person's successor shall have been duly elected and qualified, or until such person's earlier death, disqualification, resignation or removal. Any number of offices may be held by the same person; provided, however, that no officer shall execute, acknowledge or verify any instrument in more than one capacity if such instrument is required by law, the Certificate of Incorporation or these Bylaws to be executed, acknowledged or verified by two or more officers. The Board of Directors may require any officer, agent or employee to give security for the faithful performance of his or her duties.

Section 5.2 Compensation. The salaries of the officers of the Corporation and the manner and time of the payment of such salaries shall be fixed and determined by the Board of Directors or by a duly authorized officer and may be altered by the Board of Directors from time to time as it deems appropriate, subject to the rights, if any, of such officers under any contract of employment.

Section 5.3 Removal, Resignation and Vacancies. Any officer of the Corporation may be removed, with or without cause, by the Board of Directors or by a duly authorized officer, without prejudice to the rights, if any, of such officer under any contract to which the Corporation is a party. Any officer may resign at any time upon notice given in writing or by electronic transmission to the Corporation, without prejudice to the rights, if any, of the Corporation under any contract to which such officer is a party. If any vacancy occurs in any office of the Corporation, the Board of Directors may elect a successor to fill such vacancy for the remainder of the unexpired term and until a successor shall have been duly elected and qualified.

Section 5.4 Chief Executive Officer. The Chief Executive Officer shall have general supervision and direction of the business and affairs of the Corporation, shall be responsible for corporate policy and strategy, and shall report directly to the Board of Directors. Unless otherwise provided in these Bylaws or determined by the Board of Directors, all other officers of the Corporation shall report directly to the Chief Executive Officer or as otherwise determined by the Chief Executive Officer. The Chief Executive Officer shall, if present and in the absence of the Chairman of the Board of Directors, preside at meetings of the stockholders.

Section 5.5 President. The person holding the office of Chief Executive Officer shall be the President of the Corporation unless the Board of Directors shall have designated another individual as the President. Subject to the supervisory powers of the Chief Executive Officer (if the President is an officer other than the Chief Executive Officer), the President shall have general responsibility for the management and control of the operations of the Corporation. The

President shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors or the Chief Executive Officer may from time to time determine.

Section 5.6 Chief Financial Officer. The Chief Financial Officer shall exercise all the powers and perform the duties of the office of the chief financial officer and in general have overall supervision of the financial operations of the Corporation. The Chief Financial Officer shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer or the President may from time to time determine.

Section 5.7 Vice Presidents. Each Vice President shall have such powers and duties as shall be prescribed by his or her superior officer, the Chief Executive Officer or the President. A Vice President shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer, the President or another duly authorized officer may from time to time determine.

Section 5.8 Treasurer. The Treasurer shall supervise and be responsible for all the funds and securities of the Corporation, the deposit of all moneys and other valuables to the credit of the Corporation in depositories of the Corporation, borrowings and compliance with the provisions of all indentures, agreements and instruments governing such borrowings to which the Corporation is a party, the disbursement of funds of the Corporation and the investment of its funds, and in general shall perform all of the duties incident to the office of the Treasurer. The Treasurer shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer, the President or the Chief Financial Officer may from time to time determine.

Section 5.9 Controller. The Controller shall be the chief accounting officer of the Corporation. The Controller shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer, the President, the Chief Financial Officer or the Treasurer may from time to time determine.

Section 5.10 Secretary. The powers and duties of the Secretary are: (i) to act as Secretary at all meetings of the Board of Directors, of the committees of the Board of Directors and of the stockholders and to record the proceedings of such meetings in a book or books to be kept for that purpose; (ii) to see that all notices required to be given by the Corporation are duly given and served; (iii) to act as custodian of the seal of the Corporation, if any, and affix the seal or cause it to be affixed to all certificates of stock of the Corporation and to all documents, the execution of which on behalf of the Corporation under its seal is duly authorized in accordance with the provisions of these Bylaws; (iv) to have charge of the books, records and papers of the Corporation and see that the reports, statements and other documents required by law to be kept and filed are properly kept and filed; and (v) to perform all of the duties incident to the office of Secretary. The Secretary shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer or the President may from time to time determine.

Section 5.11 Additional Matters. The Chief Executive Officer and the Chief Financial Officer of the Corporation shall have the authority to designate employees of the Corporation to have the title of Vice President, Assistant Vice President, Assistant Treasurer or Assistant Secretary. Any employee so designated shall have the powers and duties determined by the officer making such designation. The persons upon whom such titles are conferred shall not be deemed officers of the Corporation unless elected by the Board of Directors.

Section 5.12 Checks; Drafts; Evidences of Indebtedness. From time to time, the Board of Directors shall determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority, to sign or endorse all checks, drafts, other orders for payment of money and notes, bonds, debentures or other evidences of indebtedness that are issued in the name of or payable by the Corporation, and only the persons so authorized shall sign or endorse such instruments.

Section 5.13 Corporate Contracts and Instruments; How Executed. Except as otherwise provided in these Bylaws, the Board of Directors may determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority to enter into any contract or execute any instrument in the name of and on behalf of the Corporation. Such authority may be general or confined to specific instances. Unless so authorized, or within the power incident to a person's office or other position with the Corporation, no person shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

Section 5.14 Signature Authority. Unless otherwise determined by the Board of Directors or otherwise provided by law or these Bylaws, contracts, evidences of indebtedness and other instruments or documents of the Corporation may be executed, signed or endorsed: (i) by the Chief Executive Officer or the President; or (ii) by the Chief Financial Officer. The authority of any Vice President, Treasurer, Secretary or Controller to execute, sign or endorse contracts, evidences of indebtedness and other instruments or documents of the Corporation shall be determined by the Board of Directors.

Section 5.15 Action with Respect to Securities of Other Corporations or Entities. The Chief Executive Officer or any other officer of the Corporation authorized by the Board of Directors or the Chief Executive Officer is authorized to vote, represent, and exercise on behalf of the Corporation all rights incident to any and all shares or other equity interests of any other corporation or entity or corporations or entities, standing in the name of the Corporation. The authority herein granted may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

Section 5.16 Delegation. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officers or agents, notwithstanding the foregoing provisions of this Article V.

## ARTICLE VI
## INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.1 Right to Indemnification. Each person who was or is a party or is threatened to be made a party to, or was or is otherwise involved in, any action, suit, arbitration, alternative dispute resolution mechanism, investigation, inquiry, judicial, administrative or legislative hearing, or any other threatened, pending or completed proceeding, whether brought by or in the right of the Corporation or otherwise, including any and all appeals, whether of a civil, criminal, administrative, legislative, investigative or other nature (hereinafter a "proceeding"), by reason of the fact that he or she is or was a director or an officer (which means, for purposes of this Article VI, any individual designated by the Board of Directors as an officer for purposes of Section 16 of the Exchange Act) the Corporation or while a director or officer of the Corporation is or was serving at the request of the Corporation as a director, officer, employee, agent or trustee of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "indemnitee"), or by reason of anything done or not done by him or her in any such capacity, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes, penalties and amounts paid in settlement by or on behalf of the indemnitee) actually and reasonably incurred by such indemnitee in connection therewith, all on the terms and conditions set forth in these Bylaws; provided, however, that, except as otherwise required by law or provided in Section 6.3 with respect to suits to enforce rights under this Article VI, the Corporation shall indemnify any such indemnitee in connection with a proceeding, or part thereof, voluntarily initiated by such indemnitee (including claims and counterclaims, whether such counterclaims are asserted by: (i) such indemnitee; or (ii) the Corporation in a proceeding initiated by such indemnitee) only if such proceeding, or part thereof, was authorized or ratified by the Board of Directors or the Board of Directors otherwise determines that indemnification or advancement of expenses is appropriate.

Section 6.2 Right to Advancement of Expenses.

(a) In addition to the right to indemnification conferred in Section 6.1, an indemnitee shall, to the fullest extent permitted by law, also have the right to be paid by the Corporation the expenses (including attorneys' fees) incurred in defending any proceeding in advance of its final disposition (hereinafter an "advancement of expenses"); provided, however, that an advancement of expenses shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "undertaking"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal (hereinafter a "final adjudication") that such indemnitee is not entitled to be indemnified for such expenses under this Article VI or otherwise.

(b) Notwithstanding the foregoing Section 6.2(a), the Corporation shall not make or continue to make advancements of expenses to an indemnitee (except by reason of the fact that the indemnitee is or was a director of the Corporation, in which event this Section 6.2(b) shall not apply) if a determination is reasonably made that the facts known at the time such

determination is made demonstrate clearly and convincingly that the indemnitee acted in bad faith or in a manner that the indemnitee did not reasonably believe to be in or not opposed to the best interests of the Corporation, or, with respect to any criminal proceeding, that the indemnitee had reasonable cause to believe his or her conduct was unlawful. Such determination shall be made: (i) by the Board of Directors by a majority vote of directors who are not parties to such proceeding, whether or not such majority constitutes a quorum; (ii) by a committee of such directors designated by a majority vote of such directors, whether or not such majority constitutes a quorum; or (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the indemnitee.

Section 6.3 Right of Indemnitee to Bring Suit. Subject to Section 6.2(b), if a request for indemnification under Section 6.1 is not paid in full by the Corporation within 60 days, or if a request for an advancement of expenses under Section 6.2 is not paid in full by the Corporation within 20 days, after a written request has been received by the Secretary of the Corporation (and other required documentation), the indemnitee may at any time thereafter bring suit against the Corporation in a court of competent jurisdiction in the State of Delaware seeking an adjudication of entitlement to such indemnification or advancement of expenses. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit to the fullest extent permitted by law. In any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to enforce a right to an advancement of expenses) it shall be a defense that the indemnitee has not met any applicable standard of conduct for indemnification set forth in the DGCL. Further, in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the indemnitee has not met any applicable standard of conduct for indemnification set forth in the DGCL. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to be indemnified, or to such advancement of expenses, under applicable law, this Article VI or otherwise shall be on the Corporation.

Section 6.4 Non-Exclusivity of Rights. The rights to indemnification and to the advancement of expenses conferred in this Article VI shall not be exclusive of any other right which any person may have or hereafter acquire under any law, agreement, vote of stockholders or disinterested directors, provisions of a certificate of incorporation or bylaws, or otherwise.

Section 6.5 Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Section 6.6 Indemnification of Employees and Agents of the Corporation. The Corporation may, to the extent and in the manner permitted by law, and to the extent authorized from time to time, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation.

Section 6.7 Nature of Rights. The rights conferred upon indemnitees in this Article VI shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director or officer and shall inure to the benefit of the indemnitee's heirs, executors and administrators. Any amendment, alteration or repeal of this Article VI that adversely affects any right of an indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, alteration or repeal.

Section 6.8 Settlement of Claims. Notwithstanding anything in this Article VI to the contrary, the Corporation shall not be liable to indemnify any indemnitee under this Article VI for any amounts paid in settlement of any proceeding effected without the Corporation's written consent, which consent shall not be unreasonably withheld.

Section 6.9 Subrogation. In the event of payment under this Article VI, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of the indemnitee (excluding insurance obtained on the indemnitee's own behalf), and the indemnitee shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Corporation effectively to bring suit to enforce such rights.

Section 6.10 Severability. If any provision or provisions of this Article VI shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law: (a) the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not by themselves invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall be construed so as to give effect to the intent of the parties that the Corporation provide protection to the indemnitee to the fullest extent set forth in this Article VI.

**ARTICLE VII**
**CAPITAL STOCK**

Section 7.1 Certificates of Stock. The shares of the Corporation shall be represented by certificates; provided, however, that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by or in the name of the Corporation by any two authorized officers of the Corporation, including, without limitation, the Chief Executive Officer, the President, the Chief Financial Officer, the Treasurer, the Controller, the Secretary, or an Assistant Treasurer or Assistant Secretary, of the Corporation certifying the number of shares owned by such holder in the Corporation. Any or all such signatures may be facsimiles. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue.

Section 7.2 Special Designation on Certificates. If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the registered owner thereof shall be given a notice, in writing or by electronic transmission, containing the information required to be set forth or stated on certificates pursuant to this Section 7.2 or Sections 151, 156, 202(a) or 218(a) of the DGCL or with respect to this Section 7.2 and Section 151 of the DGCL a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Except as otherwise expressly provided by law, the rights and obligations of the holders of uncertificated stock and the rights and obligations of the holders of certificates representing stock of the same class and series shall be identical.

Section 7.3 Transfers of Stock. Transfers of shares of stock of the Corporation shall be made only on the books of the Corporation upon authorization by the registered holder thereof or by such holder’s attorney thereunto authorized by a power of attorney duly executed and filed with the Secretary of the Corporation or a transfer agent for such stock, and if such shares are represented by a certificate, upon surrender of the certificate or certificates for such shares

properly endorsed or accompanied by a duly executed stock transfer power and the payment of any taxes thereon; provided, however, that the Corporation shall be entitled to recognize and enforce any lawful restriction on transfer. Transfers may also be made in any manner authorized by the Corporation (or its authorized transfer agent) and permitted by Section 224 of the DGCL.

Section 7.4 Lost Certificates. The Corporation may issue a new share certificate or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate or the owner's legal representative to give the Corporation a bond (or other adequate security) sufficient to indemnify it against any claim that may be made against it (including any expense or liability) on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares. The Board of Directors may adopt such other provisions and restrictions with reference to lost certificates, not inconsistent with applicable law, as it shall in its discretion deem appropriate.

Section 7.5 Registered Stockholders. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise required by law.

Section 7.6 Record Date for Determining Stockholders.

(a) In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjourned meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, unless otherwise required by law, not be more than 60 nor less than 10 days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjourned meeting; provided, however, that the Board of Directors may fix a new record date for the determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of

Directors, and which record date shall not be more than 60 days prior to such action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

(c) Unless otherwise restricted by the Certificate of Incorporation (including any Preferred Stock Designation), in order that the Corporation may determine the stockholders entitled to express consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action of the Board of Directors is required by law, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken was delivered to the Corporation in accordance with Section 2.11. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, if prior action by the Board of Directors is required by law, shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

Section 7.7 Regulations. To the extent permitted by applicable law, the Board of Directors may make such additional rules and regulations as it may deem expedient concerning the issue, transfer and registration of shares of stock of the Corporation.

Section 7.8 Waiver of Notice. Whenever notice is required to be given under any provision of the DGCL or the Certificate of Incorporation or these Bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, the Board of Directors or a committee of the Board of Directors need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the Certificate of Incorporation or these Bylaws.

## ARTICLE VIII
## GENERAL MATTERS

Section 8.1 Fiscal Year. The fiscal year of the Corporation shall begin on the first day of January of each year and end on the last day of December of the same year, or shall extend for such other 12 consecutive months as the Board of Directors may designate.

Section 8.2 Corporate Seal. The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary of the Corporation. If and when so directed by the Board of Directors or a committee thereof,

duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 8.3 Reliance Upon Books, Reports and Records. Each director and each member of any committee designated by the Board of Directors shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 8.4 Subject to Law and Certificate of Incorporation. All powers, duties and responsibilities provided for in these Bylaws, whether or not explicitly so qualified, are qualified by the Certificate of Incorporation (including any Preferred Stock Designation) and applicable law.

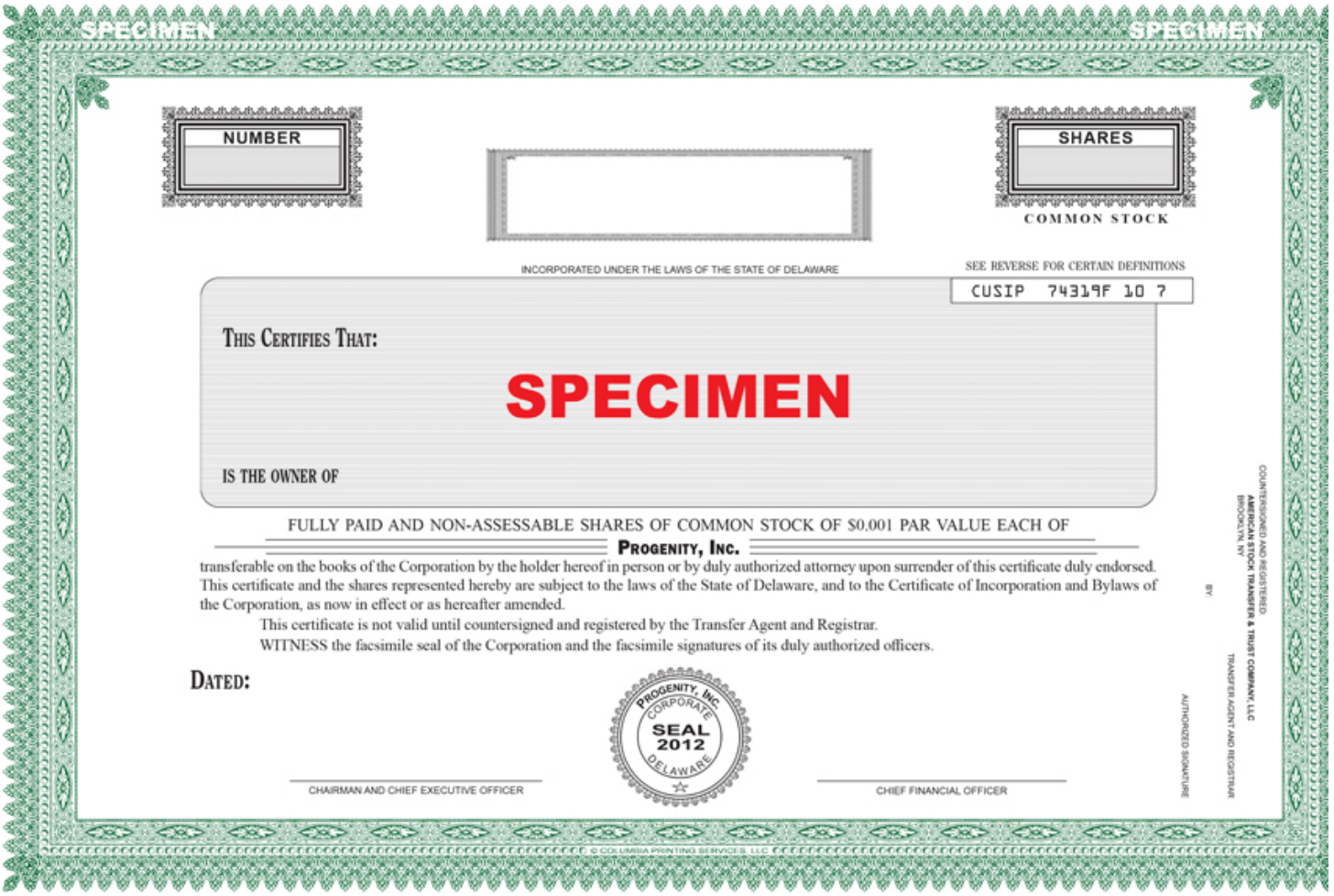
Section 8.5 Electronic Signatures, etc. Except as otherwise required by the Certificate of Incorporation (including as otherwise required by any Preferred Stock Designation) or these Bylaws (including, without limitation, as otherwise required by Section 2.14), any document, including, without limitation, any consent, agreement, certificate or instrument, required by the DGCL, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws to be executed by any officer, director, stockholder, employee or agent of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. All other contracts, agreements, certificates or instruments to be executed on behalf of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. The terms "electronic mail," "electronic mail address," "electronic signature" and "electronic transmission" as used herein shall have the meanings ascribed thereto in the DGCL.

## ARTICLE IX
## AMENDMENTS

Section 9.1 Amendments. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, the Board of Directors is expressly authorized to adopt, amend or repeal these Bylaws. Except as otherwise provided in the Certificate of Incorporation (including the terms of any Preferred Stock Designation that provides for a greater or lesser vote) or these Bylaws, and in addition to any other vote required by law, the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal, or adopt any provision inconsistent with, any provision of these Bylaws.

The foregoing Bylaws were adopted by the Board of Directors on June 9, 2020, subject to and effective immediately prior to the completion of the Corporation's initial public offering.

**Exhibit 4.1**


SPECIMEN
SPECIMEN
NUMBER
SHARES
COMMON STOCK
INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE
SEE REVERSE FOR CERTAIN DEFINITIONS
CUSIP 74319F 10 7
THIS CERTIFIES THAT:
SPECIMEN
IS THE OWNER OF
FULLY PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF $0.001 PAR VALUE EACH OF
PROGENITY, INC.
transferable on the books of the Corporation by the holder hereof in person or by duly authorized attorney upon surrender of this certificate duly endorsed. This certificate and the shares represented hereby are subject to the laws of the State of Delaware, and to the Certificate of Incorporation and Bylaws of the Corporation, as now in effect or as hereafter amended.
This certificate is not valid until countersigned and registered by the Transfer Agent and Registrar.
WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.
DATED:
PROGENITY, INC. CORPORATE SEAL 2012 DELAWARE
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
CHIEF FINANCIAL OFFICER
COUNTERSIGNED AND REGISTERED
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
BROOKLYN, NY
BY:
TRANSFER AGENT AND REGISTRAR
AUTHORIZED SIGNATURE
© COLUMBIA PRINTING SERVICES, LLC

THE CORPORATION WILL FURNISH TO ANY STOCKHOLDER, UPON REQUEST AND WITHOUT CHARGE, A FULL STATEMENT OF THE DESIGNATIONS, RELATIVE RIGHTS, PREFERENCES AND LIMITATIONS OF THE SHARES OF EACH CLASS AND SERIES AUTHORIZED TO BE ISSUED, SO FAR AS THE SAME HAVE BEEN DETERMINED, AND OF THE AUTHORITY, IF ANY, OF THE BOARD TO DIVIDE THE SHARES INTO CLASSES OR SERIES AND TO DETERMINE AND CHANGE THE RELATIVE RIGHTS, PREFERENCES AND LIMITATIONS OF ANY CLASS OR SERIES. SUCH REQUEST MAY BE MADE TO THE SECRETARY OF THE CORPORATION OR TO THE TRANSFER AGENT NAMED ON THIS CERTIFICATE.

*The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:*

| | | | |
|---|---|---|---|
| *TEN COM* | *– as tenants in common* | *UNIF GIFT MIN ACT –* | _____*Custodian*_____ |
| *TEN ENT* | *– as tenants by the entireties* | | *(Cust)* *(Minor)* |
| *JT TEN* | *– as joint tenants with right of survivorship and not as tenants in common* | | *under Uniform Gifts to Minors* |
| | | | *Act* _____ |
| | | | *(State)* |

*Additional abbreviations may also be used though not in the above list.*

*For Value Received,*_____ *hereby sell, assign and transfer unto*

PLEASE INSERT SOCIAL SECURITY OR OTHER
IDENTIFYING NUMBER OF ASSIGNEE

| |
|---|
| |

_____

*(*PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

_____

_____

_____

_____ *Shares*
*of the stock represented by the within Certificate, and do hereby irrevocably constitute and appoint*

_____

_____ *Attorney*
*to transfer the said stock on the books of the within named Corporation with full power of substitution in the premises.*

*Dated* _____

_____

**NOTICE:** THE SIGNATURE(S) TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME(S) AS WRITTEN UPON THE FACE OF THE CERTIFICATE, IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

**Signature(s) Guaranteed**

**By** _____

The Signature(s) must be guaranteed by an eligible guarantor institution (Banks, Stockbrokers, Savings and Loan Associations and Credit Unions with membership in an approved Signature Guarantee Medallion Program), pursuant to SEC Rule 17Ad-15.

_____

**Exhibit 4.2**

*Execution Version*

THIS WARRANT AND THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT, OR ANY STATE SECURITIES OR BLUE SKY LAWS. NO SALE, DISTRIBUTION OR OTHER TRANSFER MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR, IF REQUESTED BY THE COMPANY, AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OR ANY SUCH STATE SECURITIES OR BLUE SKY LAWS.

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Warrant No. 1
Date of Issuance: October 27, 2017

Number of Shares: 1,416,431
(subject to adjustment)

**PROGENITY, INC.**

**Series B Preferred Stock Purchase Warrant**

Progenity, Inc., a Delaware corporation (the "**Company**"), for value received, hereby certifies that ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, or its registered assigns (the "**Registered Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at any time after the date hereof and on or before the Expiration Date (as defined below), up to 1,416,431 shares of Series B Preferred Stock, par value $0.001, of the Company (the "**Series B Preferred Stock**"), at an initial purchase price of $3.53 per share (the "**Initial Purchase Price**"). The shares issuable upon exercise of this Warrant and the exercise price per share, as adjusted from time to time pursuant to the provisions of this Warrant, are sometimes hereinafter referred to as the "**Warrant Stock**" and the "**Exercise Price**," respectively. This Series B Preferred Stock Purchase Warrant (this "**Warrant**") is issued under and pursuant to that certain Credit and Security Agreement, dated as of the Issuance Date, by and among the Company, as borrower, the lenders party thereto, and Athyrium Opportunities III Co-Invest 1 LP, as collateral agent (as amended, modified, restated, refinanced, replaced or supplemented from time to time, the "**Credit Agreement**").

1. **Exercise.**

(a) **Payment.** This Warrant may be exercised by the Registered Holder, in whole or in part, by (i) surrendering this Warrant, with the purchase/exercise form appended hereto as Exhibit A (the "**Notice of Exercise**") duly executed by such Registered Holder or by such Registered Holder's duly authorized representative, at the principal office of the Company, or at such other office or agency as the Company may designate from time to time (the "**Registrar's Office**"), and (ii) making payment in full of the aggregate Exercise Price payable in respect of the number of shares of Warrant Stock set forth in the Notice of Exercise by wire transfer of immediately available funds to the account designated by the Company from time to time.

(b) **Net Issue Exercise.** In lieu of exercising this Warrant in the manner provided in Section 1(a), the Registered Holder may exercise this Warrant, in whole or in part, by electing a net issue exercise for this Warrant (or the portion thereof being exercised) by surrendering this Warrant at the Registrar's Office, together with the Notice of Exercise duly executed by the

Registered Holder or such Registered Holder's duly authorized representative, electing the "Net Issue Exercise" in the Notice of Exercise, in which event the Company shall issue to the Registered Holder a number of shares of Warrant Stock computed using the following formula:

$$X = \frac{Y (A - B)}{A}$$

Where X = The number of shares of Warrant Stock to be issued to the Registered Holder.

Y = The number of shares of Warrant Stock purchasable under this Warrant or, if only a portion of the Warrant is being exercised, the portion of the Warrant being cancelled (at the date of such calculation).

A = The Fair Market Value of one share of Warrant Stock (as adjusted to the date of such calculation).

B = The Exercise Price (as adjusted to the date of such calculation).

All references herein to an "exercise" of the Warrant in this Warrant, shall include, as the context requires, an exercise pursuant to this Section 1(b).

(c) **Effective Time of Exercise.** Each exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company and the other delivery requirements of the Registered Holder have been completed as set forth in Sections 1(a) and 1(b) above. At such time, the Person or Persons in whose name or names any certificates for Warrant Stock shall be issuable upon such exercise as provided in Section 1(d) below shall be deemed to have become the holder or holders of record of the Warrant Stock to be represented by such certificates.

(d) **Delivery to Registered Holder.** As soon as practicable after the exercise of this Warrant in whole or in part, and in any event within ten Business Days thereafter, the Company at its expense will cause to be issued in the name of, and delivered to, the Registered Holder, or as such Registered Holder (upon payment by such Registered Holder of any applicable transfer taxes) may direct:

(i) a certificate or certificates for the number of shares of Warrant Stock to which such Registered Holder shall be entitled, and

(ii) in case such exercise is in part only, a new warrant or warrants (dated the Issuance Date) of like tenor, calling in the aggregate on the face or faces thereof for the number of shares of Warrant Stock equal (without giving effect to any adjustment thereof) to the number of such shares called for on the face of this Warrant minus the number of such shares cancelled upon exercise of this Warrant as provided in this Section 1 (without giving effect to any adjustment thereof) and otherwise on terms identical to this Warrant.

(e) **Warrant Stock; Exercise Price**.

(i) **Warrant Stock**. This Warrant shall be exercisable for shares of Series B Preferred Stock, provided that in the event of (A) consummation of a Qualified IPO, this Warrant shall thereafter become exercisable for the number of shares of Common Stock equal to the number of shares of Common Stock that would be issuable upon conversion of the shares of Series B Preferred Stock subject to purchase pursuant to this Warrant as of the date of consummation of such Qualified IPO; and (B) any reclassification or change described in Section 2(b), this Warrant shall thereafter be exercisable for the stock or other securities or property as set forth therein.

(ii) **Exercise Price**. The Exercise Price shall initially be the Initial Purchase Price per share and may be adjusted pursuant to Section 2; provided that in the event of a Qualified IPO, the exercise price for each share of Common Stock issuable upon exercise of this Warrant under Section 1(e)(i)(A), shall be the lesser of (A) (x) the Exercise Price divided by (y) the number of shares of Common Stock that would be issuable upon conversion of each share of Series B Preferred Stock as of the date of consummation of such Qualified IPO; and (B) the "Price to Public" per share of Common Stock specified in the final prospectus with respect to such Qualified IPO.

2. **Adjustments.**

(a) **Stock Splits and Dividends.** If outstanding shares of the Warrant Stock shall be subdivided into a greater number of shares or a dividend in Warrant Stock shall be paid in respect of the Warrant Stock, the Exercise Price in effect immediately prior to such subdivision or at the record date of such dividend shall simultaneously with the effectiveness of such subdivision or immediately after the record date of such dividend be proportionately reduced. If outstanding shares of Warrant Stock shall be combined into a smaller number of shares, the Exercise Price in effect immediately prior to such combination shall, simultaneously with the effectiveness of such combination, be proportionately increased. When any adjustment is required to be made in the Exercise Price under this Section 2(a), the number of shares of Warrant Stock purchasable upon the exercise of this Warrant shall be changed to the number determined by dividing (i) an amount equal to the number of shares issuable upon the exercise of this Warrant immediately prior to such adjustment, multiplied by the Exercise Price in effect immediately prior to such adjustment, by (ii) the Exercise Price in effect immediately after such adjustment.

(b) **Reclassification, Etc.** In case of any reclassification or change in the outstanding shares of Warrant Stock or any similar corporate reorganization on or after the date hereof, then, in each such case the holder of this Warrant, upon the exercise hereof at any time after the consummation of such reclassification or change, shall be entitled to receive, in lieu of the Warrant Stock receivable upon the exercise hereof prior to such consummation, the stock or other securities or property to which such holder would have been entitled upon such consummation if such holder had exercised this Warrant immediately prior thereto, all subject to further adjustment as provided in Section 2(a); and in each such case, the terms of this Section 2(b) shall be applicable to the shares of stock or other securities properly receivable upon the exercise of this Warrant after such consummation.

(c) **Diluting Issuances**. The parties hereto acknowledge that in the event of a dilutive issuance as described in Article IV(B)(4)(d)(i) of the Certificate (such provision, the "**Provision**") by the Company after the Issuance Date, without any action by the Company or the Registered Holder hereunder, the number of shares of Common Stock issuable upon conversion of the Series B Preferred Stock (including the Series B Preferred Stock issuable upon the exercise of this Warrant as set forth herein) shall be adjusted in accordance with the Provision. Under no circumstances shall the number of shares of Warrant Stock issuable or the Exercise Price payable by the Registered Holder upon exercise of the Warrant increase or decrease as a result of any adjustment arising under the Provision.

(d) **Adjustment Certificate.** When any adjustment is required to be made in the Warrant Stock or the Exercise Price pursuant to Section 2(a) or (b), the Company shall promptly mail to the Registered Holder a certificate setting forth (i) a brief statement of the facts requiring such adjustment, (ii) the Exercise Price after such adjustment and (iii) the kind and amount of stock or other securities or property into which this Warrant shall be exercisable after such adjustment.

3. **Transfers.**

(a) **Unregistered Security.** Each holder of this Warrant acknowledges that the issuance and sale of this Warrant and the Warrant Stock have not been registered under the Securities Act, and agrees not to sell, pledge, distribute, offer for sale, transfer or otherwise dispose of this Warrant or any Warrant Stock issued upon its exercise in the absence of (i) an effective registration statement under the Securities Act as to this Warrant or such Warrant Stock and registration or qualification of this Warrant or such Warrant Stock under any applicable U.S. federal or state securities law then in effect or (ii) an exemption from such registration and qualification requirements, supported by an opinion of counsel reasonably acceptable to the Company, if requested by the Company. Each certificate or other instrument for Warrant Stock issued upon the exercise of this Warrant shall bear a legend substantially to the foregoing effect. Notwithstanding the foregoing, the Company shall not require the Registered Holder to provide an opinion of counsel in connection with such sale, transfer or disposition if the transfer, sale or disposition is to an Affiliate of the Registered Holder; provided, that (x) any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Securities Act, (y) such transferee complies in all respects with the transfer procedures set forth in this Section 3, as applicable, and (z) the Registered Holder provides the Company with documentation reasonably acceptable to the Company evidencing such transferee's status as an Affiliate of the Registered Holder and its compliance with this Section 3 as may be reasonably requested.

(b) **Transferability.** Subject to the other terms hereof, the Registered Holder may freely transfer this Warrant and the Warrant Stock in whole or in part to any Person at any time and from time to time; provided that in no event shall this Warrant or any Warrant Stock be assigned to a competitor of the Company, as determined in good faith by the Board of Directors of the Company (the "**Board**"); and provided further that the Registered Holder shall not partially transfer its right to acquire Warrant Stock hereunder unless it transfers the right to acquire at least 150,000 shares of Warrant Stock (subject to adjustment as set forth in Section 2). In the event of such a permitted transfer, transfer of this Warrant shall be effective upon surrender of this Warrant with a properly executed assignment (in the form of Exhibit B hereto) at the Registrar's Office,

and the Company or its transfer agent will issue and deliver, at the Company's expense, a new Warrant or Warrants of like tenor and otherwise on identical terms with this Warrant, in the name of such Registered Holder or as such Registered Holder (upon payment by such Registered Holder of any applicable transfer taxes) may direct, calling in the aggregate on the face or faces thereof for the number of shares of Warrant Stock called for on the face or faces of the Warrant or Warrants so surrendered.

(c) **Warrant Register.** The Company will maintain a register containing the names and addresses of the Registered Holders of this Warrant, and will promptly update such register to reflect any transfers in compliance with the terms hereof. Until any transfer of this Warrant is made in the warrant register, the Company may treat the Registered Holder of this Warrant as the absolute owner hereof for all purposes; provided, however, that if this Warrant is properly assigned in blank, the Company may (but shall not be required to) treat the bearer hereof as the absolute owner hereof for all purposes, notwithstanding any notice to the contrary. Any Registered Holder may change such Registered Holder's address as shown on the warrant register by written notice to the Secretary of the Company requesting such change.

4. **No Impairment.** The Company will not, by amendment of the Certificate or through reorganization, consolidation, merger, dissolution, sale of assets or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times, in good faith, carry out all such terms. This provision shall not restrict the Company's right to amend the Certificate with the requisite stockholder consent.

5. **Market Stand-Off**. In the event of the consummation of an IPO, the Registered Holder agrees, if so requested by the Company and the representative of the underwriters of the Common Stock (or other securities) of the Company, that the Registered Holder shall not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale with respect to, this Warrant or any Warrant Stock held by such Registered Holder (other than those included in the registration) during the 210-day period following the effective date of the IPO; provided, however, that all officers and directors of the Company and holders of at least one percent (1%) of the Company's voting securities are bound and have entered into similar agreements.

6. **Representations and Warranties of the Registered Holder**. The Registered Holder hereby represents and warrants to the Company, that:

(a) **Authorization**. The Registered Holder has full power and authority to enter into this Warrant. The Warrant, when executed and delivered by the Registered Holder, will constitute a valid and legally binding obligation of the Registered Holder, enforceable in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

(b) **Purchase Entirely for Own Account**. This Warrant is issued to the Registered Holder in reliance upon the Registered Holder's representation to the Company, which by the Registered Holder's acceptance of this Warrant, the Registered Holder hereby

confirms, that this Warrant and the Warrant Stock (collectively, the "**Securities**") are and will be acquired for investment purposes, for the Registered Holder's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that the Registered Holder has no present intention of selling, granting any participation in, or otherwise distributing the same. By accepting this Warrant, the Registered Holder further represents that the Registered Holder does not presently have any contract, undertaking, agreement or arrangement with any Person to sell, transfer or grant participations to such Person or to any third Person, with respect to any of the Securities. The Registered Holder has not been formed for the specific purpose of acquiring the Securities.

(c) **Restricted Securities**. The Registered Holder understands that the Securities have not been, and will not be, registered under the Securities Act, by reason of a specific exemption from the registration provisions of the Securities Act which depends upon, among other things, the bona fide nature of the investment intent and the accuracy of the Registered Holder's representations as expressed herein. The Registered Holder understands that the Securities are "restricted securities" under applicable U.S. federal and state securities laws and that, pursuant to these laws, the Registered Holder must hold the Securities indefinitely unless they are registered with the Commission and qualified by state authorities, or an exemption from such registration and qualification requirements is available. The Registered Holder acknowledges that the Company has no obligation to register or qualify the Securities for resale. The Registered Holder further acknowledges that if an exemption from registration or qualification is available, it may be conditioned on various requirements including, but not limited to, the time and manner of sale, the holding period for the Securities, and on requirements relating to the Company which are outside of the Registered Holder's control, and which the Company is under no obligation and may not be able to satisfy.

(d) **No Public Market**. The Registered Holder understands that no public market now exists for any securities of the Company, and that the Company has made no assurances that a public market will ever exist for the Securities.

(e) **Accredited Investor; Not a Bad Actor**. The Registered Holder is an "accredited investor" within the meaning of Regulation D, Rule 501(a), promulgated by the Commission under the Securities Act, and shall submit to the Company such further assurances of such status as may be reasonably requested by the Company. Neither the Registered Holder nor any affiliate of the Registered Holder who could stand as beneficial owner of this Warrant or the Warrant Stock is subject to any of the "Bad Actor" disqualifications described in Securities Act Rule 506(d)(1) subsections (i) through (viii).

7. **Termination.** This Warrant shall be exercisable, in whole or in part, during the period commencing on the Issuance Date and ending on the seventh anniversary of the Issuance Date (the "**Final Expiration Date**"); provided that if, prior to the Final Expiration Date the Company consummates a Qualified IPO, this Warrant shall no longer be exercisable upon the later of (i) the closing and settlement of the Qualified IPO and (ii) the fifth anniversary of the Issuance Date (the Final Expiration Date, or such earlier termination date set forth in clauses (i) or (ii), the "**Expiration Date**"). This Warrant shall be no longer exercisable and shall become null and void at 5:00 p.m. Pacific Time on the Expiration Date.

8. **Notices of Certain Transactions.** In the event:

(a) that the Company shall set a record date for the holders of Warrant Stock for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right, or

(b) of any capital reorganization of the Company, any reclassification of the capital stock of the Company, or any transfer of all or substantially all of the assets of the Company, or

(c) a Sale Transaction, or

(d) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company,

then, and in each such case, the Company will mail or cause to be mailed to the Registered Holder of this Warrant a notice specifying, as the case may be, (i) the record date for the purpose of such dividend, distribution or right, and stating the amount and character of such dividend, distribution or right, or (ii) the effective date on which such Sale Transaction, reorganization, reclassification, transfer, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of shares of the Warrant Stock are to be determined. Such notice shall be mailed at least ten Business Days prior to the record date or effective date for the event specified in such notice.

9. **Treatment upon Sale Transaction**.

(a) In the event of a Sale Transaction (other than an Asset Sale) in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "**Cash/Public Sale Transaction**") and if this Warrant is outstanding immediately prior to such Cash/Public Sale Transaction, then: (i) if the Fair Market Value per share of Warrant Stock is greater than the then applicable Exercise Price, this Warrant shall be automatically exchanged, without exercise, for (1) the same amount and kind of cash and/or Marketable Securities (including any contingent consideration) as it would have been entitled to receive upon the occurrence of such Cash/Public Sale Transaction if it had been, immediately prior to such Cash/Public Sale Transaction, a holder of the number of shares of Warrant Stock then issuable upon exercise in full of this Warrant (without regard to Section 18) minus (2) the applicable aggregate Exercise Price payable upon the exercise of this Warrant in full; and (ii) if the Fair Market Value per share of Warrant Stock is less than or equal to the then applicable Exercise Price, this Warrant shall be deemed to have expired immediately prior to the consummation of such Cash/Public Sale Transaction. In the event of a Cash/Public Sale Transaction as set forth in Section 9(a)(i), the Company shall pay or deliver to the Registered Holder the consideration contemplated in Section 9(a)(i) promptly following the consummation of the Cash/Public Sale Transaction.

(b) If, at any time while this Warrant is outstanding, the Company consummates a Sale Transaction (other than an Asset Sale) that is not a Cash/Public Sale Transaction, then the

Registered Holder shall have the right thereafter to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property (including contingent consideration) as it would have been entitled to receive upon the occurrence of such Sale Transaction if it had been, immediately prior to such Sale Transaction, a holder of the number of shares of Warrant Stock then issuable upon exercise in full of this Warrant (without regard to Section 18) (the "**Alternate Consideration**"). The Company shall not affect any such Sale Transaction in which the Company is not the surviving corporation, unless prior to or simultaneously with the consummation thereof, any successor to the Company shall assume (i) the obligation to deliver to the Registered Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Registered Holder may be entitled to acquire pursuant to the exercise of this Warrant, and (ii) the other obligations of the Company under this Warrant.

(c) In the event of a Sale Transaction as set forth in Article IV(B)(2)(f)(i)(1) of the Certificate (an "**Asset Sale**"), the Registered Holder shall be entitled to receive, without exercise of this Warrant, (1) the amount and kind of securities, cash or property (including contingent consideration), that the Registered Holder would have been entitled to receive upon any distributions by the Company to its stockholders of all or a portion of the proceeds received by the Company pursuant to such Asset Sale, as if it had been, immediately prior to such Asset Sale, a holder of the number of shares of Warrant Stock then issuable upon exercise in full of this Warrant (without regard to Section 18) minus (2) the applicable aggregate Exercise Price payable upon the exercise of this Warrant in full.

10. **Reservation of Stock.** The Company will at all times reserve and keep available, solely for the issuance and delivery upon the exercise of this Warrant, such shares of Warrant Stock and other stock, securities and property, as from time to time shall be issuable upon the exercise of this Warrant and the conversion of the Warrant Stock.

11. **Replacement of Warrants.** Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and (in the case of loss, theft or destruction) upon delivery of an indemnity agreement in an amount reasonably satisfactory to the Company, or (in the case of mutilation) upon surrender and cancellation of this Warrant, the Company will issue, in lieu thereof, a new Warrant of like tenor and otherwise on terms identical to this Warrant.

12. **No Rights as Stockholder.** Until the exercise of this Warrant, the Registered Holder of this Warrant shall not have or exercise any rights by virtue hereof as a stockholder of the Company. The Registered Holder further acknowledges and agrees that upon the exercise of the Warrant, it shall execute the applicable joinder to, and be bound by and entitled to certain rights pursuant to, the terms of (i) that certain Third Amended and Restated Investors' Rights Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto; (ii) that certain Third Amended and Restated Co-Sale Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto; and (iii) that certain Third Amended and Restated Voting Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto, in each case, as amended after the date hereof (collectively, the "**Stockholder Agreements**").

13. **No Fractional Shares.** The Company is not required to issue any fractional shares of Warrant Stock in connection with any exercise hereunder. In lieu of any fractional shares which would otherwise be issuable, the Company may pay cash equal to the product of such fraction multiplied by the Fair Market Value of one share of such Warrant Stock on the date of exercise.

14. **Legends**. The certificates evidencing the Warrant Stock may bear one or all of the following legends.

(a) "THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY STATE SECURITIES LAWS, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR, IF REQUESTED BY THE COMPANY, AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933 OR APPLICABLE STATE SECURITIES LAWS."

(b) Any legend set forth in, or required by, the Stockholder Agreements.

(c) Any legend required by the blue sky laws of any state to the extent such laws are applicable to the Warrant Stock.

15. **Amendment or Waiver.** Any term of this Warrant may be amended or waived only by an instrument in writing signed by the party against which enforcement of the amendment or waiver is sought.

16. **Headings.** The headings in this Warrant are used for convenience only and are not to be considered in construing or interpreting any provision of this Warrant.

17. **Definitions.**

"**Affiliate**" has the meaning provided in the Credit Agreement.

"**Asset Sale**" has the meaning provided in Section 9(c).

"**Beneficial Ownership Threshold**" means 4.9%, provided that the Registered Holder may, upon not less than 61 calendar days' irrevocable notice to the Company, increase such percentage to 9.9%.

"**Business Day**" has the meaning provided in the Credit Agreement.

"**Certificate**" means the Company's Third Amended and Restated Certificate of Incorporation, as the same may be amended from time to time.

"**Commission**" means the United States Securities and Exchange Commission.

"**Common Stock**" means Company's common stock, par value $0.001 per share (or any security into which such shares are convertible).

"**Credit Agreement**" has the meaning provided in the introductory paragraph hereto.

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Exercise Price**" has the meaning provided in the introductory paragraph hereto.

"**Fair Market Value**" of a share of Warrant Stock as of a particular date shall mean:

(i) if shares of the Warrant Stock are traded on one or more securities exchanges, the average of the closing or last reported sale prices of the shares of Warrant Stock on the Principal Trading Market over the five day period ending five trading days prior to the applicable determination date;

(ii) if the shares of Warrant Stock are not so traded, but the shares of the Company into which the shares of Warrant Stock are convertible are so traded, then the Fair Market Value of the shares of Warrant Stock shall be deemed to be the fair market value of such shares as defined in clause (i), multiplied by the number of such shares into which each share of Warrant Stock is then convertible;

(iii) if the shares of Warrant Stock and shares of the Company into which the shares of Warrant Stock are convertible are not traded on a securities exchange, but are otherwise traded on an over-the-counter market or other similar market, the fair market value shall be deemed to be the average of the closing ask prices of such shares on the Principal Trading Market over the ten day period ending five trading days prior to the applicable determination date, as set forth in clause (i) or (ii) above, as applicable; and

(iv) if there is no public market for the shares of Warrant Stock or the shares into which the Warrant Stock are convertible, then fair market value shall be determined in good faith by the Board.

Notwithstanding the forgoing if the determination of Fair Market Value is in connection with (A) a Sale Transaction, then the Fair Market Value per share shall be the value per share of Warrant Stock to be realized in such pending transaction (including any contingent consideration receivable in connection therewith) or (B) an IPO, and if the Company's Registration Statement reflecting such public offering has been declared effective by the Commission, then the Fair Market Value shall be the initial "Price to Public" per share specified in the final prospectus with respect to the offering.

"**Initial Purchase Price**" has the meaning provided in the introductory paragraph hereto.

"**IPO**" means a firm commitment underwritten public offering of the Common Stock. For the avoidance of doubt an "IPO" shall not include a registration relating solely to employee benefit plans on Form S-1 or Form S-8 or similar forms that may be promulgated by the

Commission in the future, or a registration relating solely to a transaction of Form S-4 or similar forms that may be promulgated in the future.

"**Issuance Date**" means October 27, 2017.

"**Marketable Securities**" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Exchange Act, and is then current in its filing of all reports and other information required under the Securities Act and the Exchange Act; (ii) the class and series of shares or other securities of the issuer that would be received by the Registered Holder in connection with the Sale Transaction if the Registered Holder exercised this Warrant on or prior to the closing thereof is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market, and (iii) following the closing of such Sale Transaction, the Registered Holder would not be restricted from publicly re-selling all of the issuer's shares and/or other securities that would be received by the Registered Holder in such Sale Transaction if the Registered Holder exercised this Warrant in full on or prior to the closing of such Sale Transaction, except to the extent that any such restriction (x) arises solely under federal or state securities laws, rules or regulations or (y) relates to the Registered Holder's status as an affiliate of such issuer.

"**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

"**Principal Trading Market**" means the national securities exchange or other trading market on which the stock is primarily listed on and quoted for trading (which, in the event the stock is sold on more than one such market, the market with the highest average daily trading volume of such stock over the 20 trading day period prior to the applicable date of determination).

"**Registered Holder**" has the meaning provided in the introductory paragraph hereto.

"**Qualified IPO**" has the meaning provided in the Certificate.

"**Registrar's Office**" has the meaning provided in Section 1(a).

"**Sale Transaction**" means a transaction contemplated by Article IV(B)(2)(f)(i) of the Certificate, disregarding the first and third exceptions set forth in the proviso of Article IV(B)(2)(f)(i)(2).

"**Securities Act**" means the Securities Act of 1933, as amended.

"**Securities Exchange Act**" means Securities Exchange Act of 1934, as amended.

"**Series B Preferred Stock**" has the meaning provided in the introductory paragraph hereto.

"**Stockholder Agreements**" has the meaning provided in Section 12.

"**Warrant Stock**" has the meaning provided in the introductory paragraph hereto.

18. **Blocker Provisions**. At any time following (i) an IPO or (ii) the time that the Company (or its successor) has a class of securities registered under Section 12 of the Securities Exchange Act or which is subject to Section 15(d) of the Securities Exchange Act (and solely during such period), the Registered Holder shall not have the right to receive shares of Warrant Stock upon exercise of this Warrant to the extent that, following such conversion, either (a) such Registered Holder's or its beneficial owner's (together with such Registered Holder's or such beneficial owner's Affiliates and such other persons or parties acting as a group together with the Registered Holder or any of the Registered Holder's Affiliates) aggregate voting power on a matter being voted on by holders of the Common Stock would exceed the Beneficial Ownership Threshold of the maximum voting power of the Common Stock or (b) such Registered Holder or such beneficial owner (together with such Registered Holder's or such beneficial owner's Affiliates and such other persons or parties acting as a group together with the Registered Holder or any of the Registered Holder's Affiliates) would beneficially own more than the Beneficial Ownership Threshold of the then outstanding Common Stock; provided, however, that such conversion restriction shall not apply in connection with, and subject to completion of, a third party tender offer for the Common Stock issuable thereupon or other Sale Transaction; and provided further that if such Registered Holder or beneficial owner is so prevented from receiving any Warrant Stock to which it would otherwise be entitled, the Company's obligation to deliver such Warrant Stock shall not be extinguished, and the Company shall deliver such Warrant Stock (or any designated portion thereof) within three Business Days following exercise of this Warrant and notice from the Registered Holder that receipt of such shares (or any designated portion thereof) would not be prohibited by this Section 18. Except as set forth in the foregoing sentence, for purposes of this Section 18, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 18 applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Registered Holder together with any Affiliates) and of which amount of this Warrant is exercisable shall be in the sole discretion of the Registered Holder, and the submission of a Notice of Exercise shall be deemed to be the Registered Holder's determination of whether this Warrant may be exercised (in relation to other securities owned by the Registered Holder together with any Affiliates) and which portion of this Warrant is exercisable, in each case subject to the limitation in this Section 18. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Securities Exchange Act and the rules and regulations promulgated thereunder.

19. **Governing Law.** This Warrant shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

20. **Dispute Resolution.**

(a) Each of the parties to this Warrant irrevocably agrees that any legal action, suit or proceeding arising out of or relating to this Warrant, the transactions contemplated hereby or the Warrant Stock, brought by any party against any other party shall be brought and determined in the Court of Chancery of the State of Delaware; provided that if jurisdiction is not then available in the Court of Chancery of the State of Delaware, then any such legal action, suit or proceeding

may be brought in any federal court located in the State of Delaware or any other Delaware state court. Each of the parties to this Warrant hereby irrevocably submits to the jurisdiction of the aforesaid courts for itself and with respect to its property, generally and unconditionally, with regard to any such action, suit or proceeding arising out of or relating to this Warrant and the transactions contemplated hereby. Each of the parties agrees not to commence any action, suit or proceeding relating thereto, except in the courts described above in Delaware, other than actions, suits or proceedings in any court of competent jurisdiction to enforce any judgment, decree or award rendered by any such court in Delaware as described herein. Each of the parties further agrees that notice as provided herein shall constitute sufficient service of process for any such action, suit or proceeding and the parties further waive any argument that such service is insufficient. Each of the parties hereby irrevocably and unconditionally waives, and agrees not to assert, by way of motion or as a defense, counterclaim or otherwise, in any action, suit or proceeding arising out of or relating to this Warrant or the transactions contemplated hereby, (i) any claim that it is not personally subject to the jurisdiction of the courts in Delaware as described herein for any reason, (ii) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) or (iii) that (A) the suit, action or proceeding in any such court is brought in an inconvenient forum, (B) the venue of such suit, action or proceeding is improper or (C) this Warrant, or the subject matter hereof, may not be enforced in or by such courts.

(b) EACH PARTY TO THIS WARRANT HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION ARISING OUT OF OR RELATING TO THIS WARRANT, OR THE TRANSACTIONS CONTEMPLATED HEREBY, INCLUDING THE WARRANT STOCK. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT ARISE OUT OF OR RELATE TO THE SUBJECT MATTER OF THIS WARRANT, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

21. **Survival of Representations**. Unless otherwise set forth in this Warrant, the warranties, representations and covenants of the Company and the Registered Holder contained in or made pursuant to this Warrant shall survive the execution and delivery of this Warrant and exercise of this Warrant.

22. **Successors and Assigns.** This Warrant shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns, provided that (i) the Registered Holder may only assign its rights, or delegate its obligations, hereunder in compliance with the provisions of Section 3(b), and (ii) except as set forth in Section 9, the Company shall

have no right to assign its rights, or to delegate its obligations, hereunder without the prior written consent of the Registered Holder.

23. **Counterparts.** This Warrant may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

24. **Severability.** If one or more provisions of this Warrant are held to be unenforceable under applicable law, to the maximum extent permitted by law, such provision shall be excluded from this Warrant, the balance of this Warrant shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

25. **Delays or Omissions.** No delay or omission to exercise any right, power or remedy accruing to any party under this Warrant, upon any breach or default of any other party under this Warrant, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Warrant, or any waiver on the part of any party of any provisions or conditions of this Warrant, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Warrant or by law or otherwise afforded to any party, shall be cumulative and not alternative.

26. **Notices.** Unless otherwise provided herein, any notice required or permitted by this Warrant shall be in writing and shall be deemed effective upon delivery, when delivered personally or by overnight courier and sent by facsimile or electronic mail, or 48 hours after being deposited in the U.S. mail, as certified or registered mail, with postage prepaid, addressed to the party to be notified at such party's address as set forth on the signature page, or as subsequently modified by written notice.

(signature page follows)

The Company and the Registered Holder have executed this Warrant as of the date stated on the first page.

**PROGENITY, INC.**

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Treasurer

Address:
4330 La Jolla Village Drive, Suite 200
San Diego, CA 92122

**AGREED AND ACKNOWLEDGED,**

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP

By: Athyrium Opportunities Associates Co-Invest LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**Buyer Contact Information:**

c/o Athyrium Capital Management, LP
530 Fifth Avenue, Floor 25
New York, NY 10036
Attention: Andrew C. Hyman and Sam Helfaer

With a copy to:

Moore & Van Allen PLLC
100 North Tryon Street, Suite 4700
Charlotte, NC 28202
Attention: Tripp Monroe

EXHIBIT A

**PURCHASE/EXERCISE FORM**

To: Progenity, Inc. Dated:

The undersigned hereby irrevocably elects to exercise the right of purchase represented by Warrant No. __ for, and to purchase thereunder, the securities of _____ as provided for therein, and (check the applicable box(es)):

☐ Tenders herewith payment of the Exercise Price in the form of a wire in same-day funds, in the amount of $_____ for _____ shares of Warrant Stock.

☐ Elects a Net Issue Exercise pursuant to Section 1(b) of the Warrant and accordingly requests delivery of a net of _____ shares of Warrant Stock, calculated as follows:

$$X = \frac{Y\,(A-B)}{A} \qquad (\quad) = (\_\_\_\_\_)\,\left[\frac{(\_\_\_\_\_) - (\_\_\_\_\_)}{(\_\_\_\_\_)}\right]$$

X = the number of shares of Warrant Stock to be issued to the Registered Holder.
Y = The number of shares of Warrant Stock purchasable under the Warrant or, if only a portion of the Warrant is being exercised, the portion of the Warrant being cancelled.
A = the Fair Market Value of one share of Warrant Stock
B = Exercise Price (as adjusted to the date of such calculation)

The undersigned confirms, acknowledges and represents to the Company that each of the representations set forth in Section 6 of the Warrant, as to the undersigned, are true and correct as of the date hereof.

The undersigned further acknowledges that it has reviewed (i) that certain Third Amended and Restated Investors' Rights Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto; (ii) that certain Third Amended and Restated Co-Sale Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto; and (iii) that certain Third Amended and Restated Voting Agreement, dated as of October 27, 2017, among the Company and the stockholders of the Company party thereto, each as further amended, and agrees to execute the applicable joinders thereto and be bound by the terms therein.

Signature: _____

Name (print): _____

Title (if applic.): _____

Company (if applic.): _____

EXHIBIT B

**ASSIGNMENT FORM**

FOR VALUE RECEIVED, _____ hereby sells, assigns and transfers all of the rights of the undersigned under the attached Warrant with respect to the number of shares of Warrant Stock covered thereby set forth below, to:

| **Name of Assignee** | **Address/Fax Number** | **No. of Shares*** |
|---|---|---|

1. **Obligations of Assignee.** Assignee agrees to take and hold the Warrant and any shares of Warrant Stock issued upon its exercise (the "**Securities**") subject to, and to be bound by, the terms and conditions set forth in the Warrant to the same extent as if Assignee were the original holder thereof.

2. **Investment Intent.** Assignee represents and warrants that the Securities are being acquired for investment for its own account, not as a nominee or agent, and not with a view to, or for resale in connection with, the distribution thereof, and that Assignee has no present intention of selling, granting any participation in, or otherwise distributing the Securities, nor does it have any contract, undertaking, agreement or arrangement for the same.

3. **Accredited Investor.** Assignee represents and warrants that he, she or it: (i) is an "accredited investor" within the meaning of Regulation D, Rule 501(a), promulgated by the Commission under the Securities Act, (ii) shall submit to the Company such further assurances of such status as may be reasonably requested by the Company, and (iii) is not, and no affiliate of Assignee who could stand as beneficial owner of the Warrant or the Warrant Stock is, subject to any of the "Bad Actor" disqualifications described in Securities Act Rule 506(d)(1) subsections (i) through (viii).

Dated: _____ Signature: _____

* Not to be less than 150,000 shares, as adjusted.

**Exhibit 4.3**

*Execution Version*

**FIRST AMENDMENT TO**
**SERIES B PREFERRED STOCK PURCHASE WARRANT**

**PROGENITY, INC.**

This FIRST AMENDMENT TO SERIES B PREFERRED STOCK PURCHASE WARRANT (this "**Amendment**"), is made effective dated as of August 27, 2019, by and between PROGENITY, INC., a Delaware corporation (the "**Company**"), and ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, a Delaware limited partnership (the "**Registered Holder**").

**RECITALS**

A. The Company and the Registered Holder are party to that certain Series B Preferred Stock Purchase Warrant (Warrant No. 1) to purchase securities of the Company, dated as of October 27, 2017 (the "**Warrant**").

B. Section 15 of the Warrant provides that the Warrant may be amended pursuant to a written instrument executed by the party against which enforcement of the amendment is sought.

C. The Company and the Registered Holder are the parties in interest to the Warrant as of the date hereof.

D. The Company and a fund affiliated with the Registered Holder (the "**Initial Purchaser**"), intend to enter into that certain Series B Preferred Stock Purchase Agreement, dated as of even date herewith (the "**Purchase Agreement**").

E. To induce the Initial Purchaser to enter into the Purchase Agreement and consummate the Initial Closing (as defined in the Purchase Agreement), the parties desire to enter into this Amendment to amend the Warrant as set forth herein.

**AGREEMENT**

NOW, THEREFORE, in consideration of the foregoing recitals and for other good and valuable consideration, the receipt and adequacy of which the parties acknowledge, the parties hereby agree as follows:

1. **Definitions**. Capitalized terms used in this Amendment but not defined in this Amendment shall have the meanings ascribed to them in the Warrant.

2. **Effectiveness**. This Amendment is contingent upon, and will become effective concurrent with the closing of the Initial Closing (the "**Effective Time**"). This Amendment will terminate if the Purchase Agreement is terminated prior to the Initial Closing.

3. **Amendments to Warrant**. At the Effective Time, the Preamble of the Warrant shall be amended and restated in its entirety as follows:

> Progenity, Inc., a Delaware corporation (the "**Company**"), for value received, hereby certifies that ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, or its registered assigns (the "**Registered Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at any time after the date hereof and on or before the Expiration Date (as defined below), up to 1,818,182 shares of Series B Preferred Stock, par value $0.001, of the Company (the "**Series B Preferred Stock**"), at an initial purchase price of $2.75 per share (the "**Initial Purchase Price**"). The shares issuable upon exercise of this Warrant and the exercise price per share, as adjusted from time to time pursuant to the provisions of this Warrant, are sometimes hereinafter referred to as the "**Warrant Stock**" and the "**Exercise Price**," respectively. This Series B Preferred Stock Purchase Warrant (this "**Warrant**") is issued under and pursuant to that certain Credit and Security Agreement, dated as of the Issuance Date, by and among the Company, as borrower, the lenders party thereto, and Athyrium Opportunities III Co-Invest 1 LP, as collateral agent (as amended, modified, restated, refinanced, replaced or supplemented from time to time, the "**Credit Agreement**").

4. **No Further Adjustment for Share Split**. The Company and the Registered Holder agree that the adjustment to the terms of the Warrant herein are to take account of the share split of the Series B Preferred Stock, which share split became effective upon filing of the Fifth Amended and Restated Certificate of Incorporation on the date hereof and immediately prior to entry into this Amendment, and no further adjustment in the terms of the Warrant shall occur as a result of such filing.

5. **No Further Amendments**. Except as expressly amended by this Amendment, the Warrant shall remain in full force and effect in accordance with its terms.

6. **Representations of the Registered Holder**. The Registered Holder represents and warrants to the Company that as of the date hereof, the Registered Holder is the sole beneficial owner and record holder of the Warrant, and has full authority to enter into this Amendment.

7. **Amendment or Waiver.** Any term of this Amendment may be amended or waived only by an instrument in writing signed by the party against which enforcement of the amendment or waiver is sought.

8. **Headings.** The headings in this Amendment are used for convenience only and are not to be considered in construing or interpreting any provision of this Amendment.

9. **Entire Agreement**. This Amendment supersedes all prior discussions and agreements between the parties with respect to the subject matter hereof. The Warrant, as amended by this Amendment, contain the sole and entire agreement between the parties with respect to the subject matter hereof.

10. **Survival**. The warranties, representations and covenants of the Company and the Registered Holder contained in or made pursuant to this Amendment shall survive the execution and delivery of this Amendment.

11. **Governing Law.** This Amendment shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law. Section 20 of the Warrant is incorporated herein by reference.

12. **Severability**. If one or more provisions of this Amendment are held to be unenforceable under applicable law, to the maximum extent permitted by law, such provision shall be excluded from this Amendment, the balance of this Amendment shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

13. **Counterparts**. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

[*Signature Pages Follow*]

**IN WITNESS WHEREOF**, each of the undersigned has duly executed this First Amendment to Series B Preferred Stock Purchase Warrant as of the date first written above.

**COMPANY:**

**PROGENITY, INC.**

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

**REGISTERED HOLDER**:

**ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP**

By: Athyrium Opportunities Associates III Co-Invest LLC, its general partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**Exhibit 4.4**

**SECOND AMENDMENT TO**
**SERIES B PREFERRED STOCK PURCHASE WARRANT**

**PROGENITY, INC.**

This SECOND AMENDMENT TO SERIES B PREFERRED STOCK PURCHASE WARRANT (this "**Amendment**"), is dated as of May 8, 2020, by and between PROGENITY, INC., a Delaware corporation (the "**Company**"), and ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, a Delaware limited partnership (the "**Registered Holder**").

**RECITALS**

A. The Company and the Registered Holder are party to that certain Series B Preferred Stock Purchase Warrant (Warrant No. 1) to purchase securities of the Company, dated as of October 27, 2017, as amended by the First Amendment to Series B Preferred Stock Purchase Warrant, dated as of August 27, 2019 (as further amended, modified, supplemented or restated, the "**Warrant**").

B. Section 15 of the Warrant provides that the Warrant may be amended pursuant to a written instrument executed by the party against which enforcement of the amendment is sought.

C. The Company and the Registered Holder are the parties in interest to the Warrant as of the date hereof.

D. The Company and a fund affiliated with the Registered Holder (the "**Purchaser**"), intend to enter into that certain Note Purchase Agreement, dated as of even date herewith (the "**Note Purchase Agreement**").

E. To induce the Purchaser to enter into the Note Purchase Agreement and consummate the Closing (as defined in the Note Purchase Agreement), the parties desire to enter into this Amendment to amend the Warrant as set forth herein.

**AGREEMENT**

NOW, THEREFORE, in consideration of the foregoing recitals and for other good and valuable consideration, the receipt and adequacy of which the parties acknowledge, the parties hereby agree as follows:

1. **Definitions**. Capitalized terms used in this Amendment but not defined in this Amendment shall have the meanings ascribed to them in the Warrant.

2. **Effectiveness**. This Amendment will become effective upon the due execution and delivery of this Amendment by the Company and the Registered Holder.

3. **Amendments to Warrant**. The Warrant shall be amended as follows:

a. The Warrant is hereby amended by deleting the defined terms "Beneficial Ownership Threshold" and "Securities Exchange Act" from Section 17 thereof.

b. The Warrant is hereby amended by deleting Section 18 thereof in its entirety and inserting "18. **[Reserved]**." in lieu thereof, and any and all references thereto contained in the Warrant are hereby deleted from the Warrant, and such Section and all related references shall be of no further effect.

4. **No Further Amendments**. Except as expressly amended by this Amendment, the Warrant shall remain in full force and effect in accordance with its terms.

5. **Representations of the Registered Holder**. The Registered Holder represents and warrants to the Company that as of the date hereof, the Registered Holder is the sole beneficial owner and record holder of the Warrant, and has full authority to enter into this Amendment.

6. **Amendment or Waiver.** Any term of this Amendment may be amended or waived only by an instrument in writing signed by the party against which enforcement of the amendment or waiver is sought.

7. **Headings.** The headings in this Amendment are used for convenience only and are not to be considered in construing or interpreting any provision of this Amendment.

8. **Entire Agreement**. This Amendment supersedes all prior discussions and agreements between the parties with respect to the subject matter hereof. The Warrant, as amended by this Amendment, contains the sole and entire agreement between the parties with respect to the subject matter hereof.

9. **Survival**. The warranties, representations and covenants of the Company and the Registered Holder contained in or made pursuant to this Amendment shall survive the execution and delivery of this Amendment.

10. **Governing Law.** This Amendment shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law. Section 20 of the Warrant is incorporated herein by reference.

11. **Severability**. If one or more provisions of this Amendment are held to be unenforceable under applicable law, to the maximum extent permitted by law, such provision shall be excluded from this Amendment, the balance of this Amendment shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

12. **Counterparts**. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

[*Signature Pages Follow*]

**IN WITNESS WHEREOF**, each of the undersigned has duly executed this Amendment to the Warrant as of the date first written above.

**COMPANY:**

**PROGENITY, INC.**

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

**REGISTERED HOLDER:**

**ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP**

By: Athyrium Opportunities Associates Co-Invest LLC, its general partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**Exhibit 4.5**

*Execution Version*

**PROGENITY, INC.**

**FOURTH AMENDED AND RESTATED**
**INVESTORS' RIGHTS AGREEMENT**

**August 27, 2019**

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**PROGENITY, INC.**

**FOURTH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT**

This Fourth Amended and Restated Investors' Rights Agreement (this "**Agreement**") is made and entered into as of the 27th day of August, 2019, by and among Progenity, Inc., a Delaware corporation (the "**Company**"), the holders of common stock, par value $0.001 per share, of the Company (the "**Common Stock**"), Series A Preferred Stock, par value $0.001 per share, of the Company (the "**Series A Preferred Stock**"), Series A-1 Preferred Stock, par value $0.001 per share, of the Company (the "**Series A-1 Preferred Stock**"), Series B Preferred Stock, par value $0.001 per share, of the Company (the "**Series B Preferred Stock**" and, together with the Series A Preferred Stock and the Series A-1 Preferred Stock, the "**Preferred Stock**") listed on Exhibit A to this Agreement (each, an "**Investor**" and collectively, the "**Investors**"), and the holders of Common Stock listed on Exhibit B to this Agreement (each a "**Founder**" and collectively, the "**Founders**", and, together with the Investors, the "**Stockholders**").

**RECITALS**

**WHEREAS**, the Company and certain of the Stockholders (the "**Existing Stockholders**") have previously entered into that certain Investors' Rights Agreement, dated as of January 18, 2012, which was subsequently amended and restated as of June 12, 2013, August 8, 2016, and October 27, 2017 (as amended, the "**Prior Agreement**");

**WHEREAS**, the Prior Agreement may be amended, and any provision therein waived, with the written consent of the Company and the holders of at least a majority of the outstanding Registrable Securities (as defined in the Prior Agreement);

**WHEREAS**, the Company and the Investors listed on Annex A of the Purchase Agreement (as defined below) (the "**Purchasers**"), have entered into that certain Series B Preferred Stock Purchase Agreement of even date herewith (the "**Purchase Agreement**"), which provides that as a condition to the closing of the purchase by the Purchasers of shares of Series B Preferred Stock, this Agreement must be executed and delivered by certain other Stockholders and the Company;

**WHEREAS**, a condition to the Company's obligation to consummate the transactions contemplated by the Purchase Agreement, is that holders of the Series A-1 Preferred Stock shall have been offered the opportunity to exchange their 1,250,000 shares of Series A-1 Preferred Stock for shares of Series B Preferred Stock pursuant to an Exchange Agreement, in the form attached thereto (the "**Series A-1 Exchange**"); and

**WHEREAS**, the Company and the Existing Stockholders set forth below desire to induce the Purchasers to purchase shares of Series B Preferred Stock pursuant to the Purchase Agreement by agreeing to the terms and conditions set forth below.

**AGREEMENT**

**NOW, THEREFORE**, in consideration of the mutual promises and covenants set forth herein, the Company and the Existing Stockholders hereby agree that the Prior Agreement shall

be superseded and replaced in its entirety by this Agreement, and the Stockholders further agree as follows:

**1. Defined Terms.**

(a) For purposes of this Agreement:

(i) "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such specified Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

(ii) "**Athyrium Stockholder**" means each of Athyrium Opportunities Fund (A) LP, Athyrium Opportunities Fund (B) LP, Athyrium Opportunities III Co-Invest 1 LP, Athyrium Opportunities III Acquisition LP, and any of their respective Affiliates.

(iii) "**BCI**" means Beaver Creek Intermediate Fund, Ltd.

(iv) "**Board**" means the Board of Directors of the Company.

(v) "**Certificate**" means the Company's Fifth Amended and Restated Certificate of Incorporation, as amended from time-to-time.

(vi) "**Damages**" means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) any omission or alleged omission to state in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

(vii) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended (and any successor thereto) and the rules and regulations promulgated thereunder.

(viii) "**Form S-3**" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

(ix) "**GAAP**" means generally accepted accounting principles, as in effect from time to time in the United States.

(x) "**Holder**" means any holder of Registrable Securities who is party to this Agreement or any assignee thereof in accordance with Section 2.11 of this Agreement.

(xi) "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

(xii) "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

(xiii) "**Qualified IPO**" means a firm commitment underwritten public offering by the Company of shares of Common Stock pursuant to a registration statement under the Securities Act, the "Price to Public" per share of Common Stock specified in the final prospectus of which is not less than $2.75 per share (appropriately adjusted for any stock split, stock dividend, stock combination or other recapitalization after the date hereof) and which results in aggregate cash proceeds to the Company of at least $50,000,000 (net of underwriting discounts and commissions).

(xiv) "**register**," "**registered**," and "**registration**" refer to a registration effected by preparing and filing a registration statement with the SEC or similar document in compliance with the Securities Act, and the declaration or ordering of effectiveness by the SEC of such registration statement or document.

(xv) "**Registrable Securities**" means (i) the shares of Common Stock issuable or issued upon conversion of the Preferred Stock, including any shares of Common Stock issued on or before the date hereof, upon conversion of preferred stock of the Company outstanding at any time, other than shares for which registration rights have terminated pursuant to Section 2.15 hereof, (ii) the shares of Common Stock issued pursuant to the Common Stock Purchase Agreement, dated as of August 8, 2016, by and between the Company and BCI, other than shares for which registration rights have terminated pursuant to Section 2.15 hereof, (iii) the shares of Common Stock issuable or issued upon conversion of the Warrant Shares (or, following a Qualified IPO, issuable upon exercise of the Warrant), other than shares for which registration rights have terminated pursuant to Section 2.15 hereof; and (iv) any other shares of Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares listed in clauses (i) through (iii); provided, however, that the foregoing definition shall exclude in all cases any Registrable Securities sold by a Person in a transaction in which such Person's rights under this Agreement are not assigned. Notwithstanding the foregoing, such shares of Common Stock shall only be treated as Registrable Securities if and so long as (A) they have not been sold to or through a broker or dealer or underwriter in a public distribution or a public securities transaction, (B) they have not been sold in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act under Section 4(a)(1) or Rule 144 thereof so that all transfer restrictions, and restrictive legends with respect thereto, if any, are removed upon the consummation of such sale,

or (C) the Holder thereof is entitled to exercise any right provided in Section 2 in accordance with Section 2.15 below.

(xvi) The number of shares of "**Registrable Securities then outstanding**" shall be determined by adding the number of shares of Common Stock outstanding which are, and the number of shares of Common Stock issuable pursuant to then exercisable or convertible securities which are, Registrable Securities. For the avoidance of doubt, the Warrant Shares shall not be deemed outstanding until issued upon exercise of the Warrant.

(xvii) "**Restricted Securities**" means the securities of the Company required to bear the legend set forth in Section 2.14(b) hereof.

(xviii) "**Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

(xix) "**Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

(xx) "**SEC**" means the Securities and Exchange Commission.

(xxi) "**Securities Act**" means the Securities Act of 1933, as amended (and any successor thereto) and the rules and regulations promulgated thereunder.

(xxii) "**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

(xxiii) "**Warrant**" means the Series B Preferred Stock Purchase Warrant No. 1 issued by the Company to Athyrium Opportunities III Co-Invest 1 LP, dated as of October 27, 2017, to purchase up to 1,416,431 shares of Series B Preferred Stock, as amended from time to time, including by the Warrant Amendment (as defined below).

(xxiv) "**Warrant Amendment**" means an amendment to the Warrant to provide that 1,818,182 shares of Series B Preferred Stock shall be issuable thereunder, at an exercise price of $2.75 per share of Series B Preferred Stock (subject to adjustment as set forth in the Warrant).

(xxv) "**Warrant Shares**" means the shares of Series B Preferred Stock issuable upon the exercise of the Warrant (or, following a Qualified IPO, shares of Common Stock issuable upon exercise of the Warrant).

(b) The following terms have the meaning set forth in the Sections referenced below:

| Definition | Location |
|---|---|
| Affiliated Fund | 2.11(iii) |
| Agreement | Preamble |
| Common Stock | Preamble |
| Company | Preamble |
| Existing Stockholders | Recitals |
| Family Trust | 2.11(v) |
| Founder | Preamble |
| Fully-Exercising Investor | 3.3(b) |
| Immediate Family Member | 2.11(iv) |
| Investor | Preamble |
| Joinder | 2.11 |
| Notice | 3.3(a) |
| Preferred Stock | Preamble |
| Prior Agreement | Recitals |
| Purchase Agreement | Recitals |
| Purchasers | Recitals |
| Selling Holder Counsel | 2.6 |
| Series A Preferred Stock | Preamble |
| Series A-1 Exchange | Recitals |
| Series A-1 Preferred Stock | Preamble |
| Series B Preferred Stock | Preamble |
| Shares | 3.3 |
| Stockholders | Preamble |

(c) The word "including" and words of similar import when used in this Agreement will mean "including, without limitation," unless otherwise specified. Unless the context clearly otherwise requires, the word "or" shall not be exclusive and shall mean "and/or".

2. **Registration Rights**. The Company and the Investors covenant and agree as follows:

2.1 **Request for Registration**.

(a) If the Company shall receive at any time after the date that is 210 days after the effective date of the first registration statement for a public offering of Common Stock (other than a registration statement relating either to the sale of securities to employees, directors or consultants of the Company pursuant to a stock option, stock purchase or similar plan or transaction covered by Rule 145), a written request from the Holders of a majority of the Registrable Securities then outstanding that the Company file a registration statement under the Securities Act covering the registration of Registrable Securities with an anticipated aggregate offering price, net of underwriting discounts and commissions, of at least $20,000,000, then the Company shall, within 10 days after receipt thereof, give written notice of such request to all Holders and shall, subject to the limitations of Section 2.1(b), use its commercially reasonable efforts to effect as soon as practicable the registration under the Securities Act of all Registrable Securities that the Holders request in accordance with Section 4.5 to be registered within 20 days after the mailing of such notice by the Company, including within 90 days after the receipt of such request file a registration statement covering all such Registrable Securities.

(b) If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 2.1 and the Company shall include such information in the written notice referred to in Section 2.1(a). The underwriter(s) will be selected by a majority in interest of the Initiating Holders and shall be reasonably acceptable to the Company. In such event, the right of any Holder to include its Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting (unless otherwise mutually agreed by a majority in interest of the Initiating Holders and such Holder) to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting. Each Holder participating in such underwriting shall also perform its obligations under such an agreement. Notwithstanding any other provision of this Section 2.1, if the underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation of the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that would otherwise be underwritten pursuant hereto, and the number of shares of Registrable Securities that may be included in the underwriting shall be allocated among all participating Holders thereof, including the Initiating Holders, in proportion (as nearly as practicable) to the amount of Registrable Securities of the Company owned by each participating Holder; provided, however, that the number of shares of Registrable Securities to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration statement pursuant to this Section 2.1, a certificate signed by the Chief Executive Officer of the Company stating that in the good faith judgment of the Board, it would be seriously detrimental to the Company and its stockholders for such registration statement to be filed, become effective or remain effective and it is therefore essential to defer the filing of such registration statement, the Company shall have the right to defer such filing for a period of not more than 120 days after receipt of the request of the Initiating Holders; provided, however, that the Company may not utilize this right more than once in any twelve-month period.

(d) In addition, the Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to this Section 2.1:

(i) After the Company has effected two registrations pursuant to this Section 2.1 and such registrations have been declared or ordered effective;

(ii) During the period starting with the date 90 days prior to the Company's good faith estimate of the date of filing of, and ending on a date 90 days after the effective date of, a registration subject to Section 2.2 hereof, unless such offering is the initial public offering of the Company's securities, in which case, ending on a date 210 days after the effective date of such registration subject to Section 2.2 hereof; provided that the Company is actively employing in good faith all commercially reasonable efforts to cause any such registration statement to become effective; or

(iii) If the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.3 below.

2.2 **Company Registration**. If (but without any obligation to do so) the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its Common Stock under the Securities Act in connection with the public offering of such securities solely for cash (other than a registration relating solely to the sale of securities to participants in a Company stock plan or a transaction covered by Rule 145, a registration in which the only stock being registered is Common Stock issuable upon conversion of debt securities which are also being registered, or any registration on any form which does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities), the Company shall, at such time, promptly give each Holder written notice of such registration. Upon the written request of each Holder given within 20 days after mailing of such notice by the Company in accordance with Section 4.5, the Company shall, subject to the provisions of Section 2.7, cause to be registered under the Securities Act all of the Registrable Securities that each such Holder has requested to be registered in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration.

2.3 **Form S-3 Registration**. In case the Company shall receive from any Holder or Holders of a majority of the Registrable Securities then outstanding a written request or requests that the Company effect a registration on Form S-3 and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company will:

(a) promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders; and

(b) as soon as practicable, effect such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holder's or Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holder or Holders joining in such request as are specified in a written request given within 15 days after receipt of such written notice from the Company; provided, however, that the Company shall not be obligated to effect any such registration, qualification or compliance, pursuant to this Section 2.3:

(i) if Form S-3 is not available for such offering by the Holders;

(ii) if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public (net of any underwriters' discounts or commissions) of less than $10,000,000;

(iii) if the Company shall furnish to the Holders a certificate signed by the President of the Company stating that in the good faith judgment of the Board, it would be seriously detrimental to the Company and its stockholders for such Form S-3 Registration to be filed, become effective or remain effective at such time, in which event the Company shall have the right to defer the filing of the Form S-3 registration statement for a period of not more than 120 days after receipt of the request of the Holder or Holders under this Section 2.3; provided, however, that the Company shall not utilize this right more than once in any 12-month period;

(iv) if the Company has, within the 12-month period preceding the date of such request, already effected two registrations on Form S-3 for the Holders pursuant to this Section 2.3;

(v) in any particular jurisdiction in which the Company would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance, unless the Company is already subject to service in such jurisdiction; or

(vi) during the period ending 180 days after the effective date of a registration statement subject to Section 2.1 or Section 2.2.

(c) Subject to the foregoing, the Company shall file a registration statement covering the Registrable Securities and other securities so requested to be registered as soon as practicable after receipt of the request or requests of the Holders. Registrations effected pursuant to this Section 2.3 shall not be counted as demands for registration or registrations effected pursuant to Sections 2.1.

2.4 **Obligations of the Company**. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as soon as practicable:

(a) Prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective, and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for up to 120 days or, if earlier, until the distribution described in such registration statement is completed. The Company shall not be required to file, cause to become effective or maintain the effectiveness of any registration statement that contemplates a distribution of securities on a delayed or continuous basis pursuant to Rule 415 under the Securities Act.

(b) Prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement for up to 120 days or until the distribution described in such registration statement is completed, if earlier.

(c) Furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Securities Act, and such other documents as the Holders may reasonably request in order to

facilitate the disposition of Registrable Securities owned by them pursuant to such registration statement.

(d) Use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or Blue Sky laws of such U.S. jurisdictions as shall be reasonably requested by the selling Holders, provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction.

(e) In the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering.

(f) Notify each Holder of Registrable Securities covered by such registration statement at any time when a prospectus relating thereto is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing, such obligation to continue for 120 days.

(g) Use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed.

(h) Provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration.

(i) Use its commercially reasonable efforts to furnish, at the request of any Holder requesting registration of Registrable Securities pursuant to this Section 2, on the date that such Registrable Securities are delivered to the underwriters for sale in connection with a registration pursuant to this Section 2, if such securities are being sold through underwriters, or if such securities are not being sold through underwriters, on the date that the registration statement with respect to such securities becomes effective:

(i) an opinion, dated such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering, addressed to the underwriters or, if none, to the Holders requesting registration of Registrable Securities; and

(ii) a letter dated such date, from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering and reasonably satisfactory to the underwriters, and addressed to the underwriters, if any, or, if none, to the Holders requesting registration of Registrable Securities.

2.5 **Furnish Information**. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities. The Company shall have no obligation with respect to any registration requested pursuant to Section 2.1 or Section 2.3 of this Agreement if, as a result of the application of the preceding sentence, the number of shares or the anticipated aggregate offering price of the Registrable Securities to be included in the registration does not equal or exceed the number of shares or the anticipated aggregate offering price required to originally trigger the Company's obligation to initiate such registration as specified in Section 2.1(a) or Section 2.3(b)(ii), whichever is applicable.

2.6 **Expenses of Registration**. All expenses (other than Selling Expenses) incurred in connection with registrations, filings or qualifications pursuant to this Section 2, including all registration, filing and qualification fees, printers' and accounting fees, fees and disbursements of counsel for the Company, and the reasonable fees and disbursements of one counsel for the selling Holders ("**Selling Holder Counsel**") selected by them with the approval of the Company, which approval shall not be unreasonably withheld and which fees and disbursements shall not exceed $30,000 in the aggregate, shall be borne by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one demand registration pursuant to Section 2.1; provided further, however, that if, at the time of such withdrawal, the Holders (i) have learned of a material adverse change in the condition, business, or prospects of the Company that was not known to the Holders at the time of their request and (ii) have withdrawn the request with reasonable promptness following learning of such material adverse change, then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one demand registration pursuant to Section 2.1. All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 **Underwriting Requirements**. In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required under Section 2.2 to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and the underwriters selected by it (or by other Persons entitled to select the underwriters), and then only in such quantity as the underwriters determine in their sole discretion will not jeopardize the success of the offering by the Company. If the total amount of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the amount of securities sold (other than by the Company) that the underwriters determine in their sole discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities,

including Registrable Securities, which the underwriters and the Company determine in their sole discretion will not jeopardize the success of the offering (the securities so included to be apportioned pro rata among the selling Holders according to the total amount of securities entitled to be included therein owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders) but in no event shall the amount of securities of the selling Holders included in the offering be reduced below 15% of the total amount of securities included in such offering, unless (i) such offering is the initial public offering of the Company's securities, or (ii) all other securities, other than securities sold by the Company, are entirely excluded from the offering; in which case, the selling Holders may be excluded if the underwriters make the determination described above. For purposes of the preceding parenthetical concerning apportionment, for any selling Holder that is a holder of Registrable Securities and a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders and Affiliates of such holder, or the estates and family members of any such partners, retired partners, members and retired members and any trusts for the benefit of any of the foregoing Persons shall be deemed to be a single "selling Holder," and any pro-rata reduction with respect to such "selling Holder" shall be based upon the aggregate amount of shares carrying registration rights owned by all entities and individuals included in such "selling Holder," as defined in this sentence.

2.8 **Delay of Registration**.

(a) Notwithstanding anything contained herein to the contrary, if the filing, initial effectiveness or continued use of a registration statement would require the Company to make a public disclosure of material non-public information, which disclosure in the good faith judgment of the Board (i) would be required to be made in any registration statement so that such registration statement would not be materially misleading, (ii) would not be required to be made at such time but for the filing, effectiveness or continued use of such registration statement, and (iii) would in the good faith judgment of the Board (A) reasonably be expected to adversely affect the Company or its business if made at such time, or (B) reasonably be excepted to interfere with the Company's ability to effect a planned or proposed acquisition, disposition, financing, reorganization, recapitalization or similar transaction or (C) otherwise require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential, then the Company may upon giving prompt written notice of such determination of the Board to the selling Holders in such registration (each of whom hereby agrees to maintain the confidentiality of all information disclosed to such Holders, provided that the Company shall not be required to disclose the nature of the delay or other confidential information) delay the filing or initial effectiveness of, or suspend use of, such registration statement; provided, that the Company shall not be permitted to do so (x) for more than sixty (60) days for a given occurrence of such a circumstance or (y) more than two (2) times during any twelve-month period. In the event the Company exercises its rights under the preceding sentence, the Holders agree to suspend, promptly upon their receipt of the notice referred to above, their use of any prospectus relating to such registration in connection with any sale or offer to sell Registrable Securities. If the Company so postpones the filing of a prospectus or the effectiveness of a registration statement, the Initiating Holders will be entitled to withdraw such request and, if such request is promptly withdrawn, such registration request will not count for the purposes of the limitation set forth in Section 2.1 or Section 2.3. The

Company will pay all registration expenses incurred in connection with any such aborted registration or prospectus.

(b) No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.9 **Indemnification**. In the event any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, any underwriter (as defined in the Securities Act) for each such Holder and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages arising from or in connection with such registration, and the Company will pay to each such Holder, underwriter, or controlling Person, as incurred, any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding for such Damages; provided, however, that the indemnity agreement contained in this Section 2.9(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable to any Holder, underwriter or controlling Person, for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter or controlling Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement and any controlling Person of any such underwriter or other Holder, against any Damages, in each case to the extent (and only to the extent) that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay, as incurred, to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result; provided, however, that the indemnity agreement contained in this Section 2.9(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; provided, further, that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under this Section 2.9(b) exceed the net proceeds from the offering received by such Holder, except in the case of willful misconduct or fraud by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.9 of notice of the commencement of any action (including any governmental action)

for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.9, deliver to the indemnifying party a written notice of the commencement thereof and the indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party similarly noticed, to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties which may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the reasonable fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action, if prejudicial to its ability to defend such action, shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.9, but the omission so to deliver written notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.9.

(d) If the indemnification provided for in this Section 2.9 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any Damages referred to herein, then the indemnifying party, in lieu of indemnifying such indemnified party hereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such Damages in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such Damages as well as any other relevant equitable considerations; provided that in no event (i) shall any contribution by a Holder under this Section 2.9(d) exceed the net proceeds from the offering received by such Holder, except in the case of willful misconduct or fraud by such Holder, and (ii) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who is not guilty of such fraudulent misrepresentation. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) The obligations of the Company and Holders under this Section 2.9 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.10 **Reports Under the Exchange Act**. With a view to making available to the Holders the benefits of Rule 144 and any other rule or regulation of the SEC that may at any

time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company agrees to:

(a) make and keep available adequate public information, as those terms are understood and defined in Rule 144, at all times after 90 days after the effective date of the first registration statement filed by the Company for the offering of its Common Stock to the general public so long as the Company remains subject to the periodic reporting requirements under Sections 13 or 15(d) of the Exchange Act;

(b) take such action, including the voluntary registration of its Common Stock under Section 12 of the Exchange Act, as is necessary to enable the Holders to utilize Form S-3 for the sale of their Registrable Securities, such action to be taken as soon as practicable after the end of the fiscal year in which the first registration statement filed by the Company for the offering of its Common Stock to the general public is declared effective;

(c) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(d) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request:

(i) to the extent accurate, a written statement by the Company that it has made adequate current public information as understood under Rule 144 (at any time after 90 days after the effective date of the first registration statement filed by the Company as described in clause (a) above), complied with the reporting requirements of the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies);

(ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents, in each case, so filed by the Company under the Exchange Act; and

(iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC which permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.11 **Assignment of Registration Rights**. The rights to cause the Company to register Registrable Securities pursuant to this Section 2 may be assigned (but only with all related obligations) by a Holder to a transferee or assignee:

(i) of at least 1,000,000 shares of such Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassification or the like);

(ii) that is an Affiliate, subsidiary, parent, partner, limited partner, retired partner, member, retired member or stockholder of a Holder;

(iii) that is an affiliated fund or entity of the Holder, which means with respect to a limited liability company or a limited liability partnership, a fund or entity managed by the same manager or managing member or general partner or management company or by an entity controlling, controlled by, or under common control with such manager or managing member or general partner or management company (such a fund or entity, an "**Affiliated Fund**");

(iv) who is a Holder's child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law (or any further transfers between such Persons) (such a relation, a Holder's "**Immediate Family Member**", which term shall include adoptive relationships); or

(v) any custodian or trustee of any trust, partnership or limited liability company for the benefit of, or the ownership interests of which are owned wholly by, such Holder or any Immediate Family Member of such Holder (such an entity, a Holder's "**Family Trust**") or any further transfers between such Persons;

provided, that in each case, the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned; and provided, further, that such assignment shall be effective only if the transferee agrees to be bound by this Agreement by executing a joinder in the form attached hereto as Exhibit C (the "**Joinder**"), and immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Securities Act. For the purposes of determining the number of shares of Registrable Securities held by a transferee or assignee, the holdings of transferees and assignees of (A) (x) a partnership who are partners or retired partners of such partnership, or (y) a limited liability company who are members or retired members of such limited liability company (including Immediate Family Members of such partners or members who acquire Registrable Securities by gift, will or intestate succession) shall be aggregated together and with the partnership or limited liability company, and (B) a Holder's Immediate Family Members and Family Trust, shall be aggregated together and with such Holder; provided that all assignees and transferees who do not hold at least 1,000,000 shares of Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassification or the like) shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices or taking any action under this Section 2.

2.12 **Limitations on Subsequent Registration Rights**. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of a majority of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company which would allow such holder or prospective holder (a) to include such securities in any registration filed under Section 2.1 hereof, unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will

not reduce the amount of the Registrable Securities of the Holders which is included; or (b) to make a demand registration which could result in such registration statement being declared effective (i) prior to the date a registration statement is required to be effective under Section 2.1(a) or (ii) within 120 days of the effective date of any registration effected pursuant to Section 2.1.

2.13 **Lock-Up Agreement**.

(a) **Lock-Up Period; Agreement**. In connection with the initial public offering of the Company's equity securities and upon request of the Company or the underwriters managing such offering of the Company's equity securities, each Holder agrees not to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any securities of the Company (or interests therein), however or whenever acquired (other than those included in the registration) without the prior written consent of the Company or such underwriters, as the case may be, for such period of time (not to exceed 210 days) from the effective date of such registration as may be requested by the Company or such managing underwriters and to execute an agreement in customary form reflecting the foregoing as may be requested by the underwriters at the time of the Company's initial public offering. In addition, upon request of the Company or the underwriters managing a public offering of the Company's securities (other than the initial public offering), the Holder agrees to be bound by similar restrictions, and to sign a similar agreement, in connection with no more than one additional registration statement filed within 12 months after the closing date of the initial public offering, provided that the duration of the lock-up period with respect to such additional registration shall not exceed 90 days from the effective date of such additional registration statement.

(b) **Limitations**. The obligations described in Section 2.13(a) shall apply only if all officers and directors of the Company, all one-percent securityholders, and all other Persons with registration rights (whether or not pursuant to this Agreement) enter into similar agreements, and shall not apply to a registration relating solely to employee benefit plans, or to a registration relating solely to a transaction pursuant to Rule 145.

(c) **Stop-Transfer Instructions**. In order to enforce the foregoing covenants, the Company may impose stop-transfer instructions with respect to the securities of each Holder (and the securities of every other Person subject to the restrictions in Section 2.13(a)).

(d) **Transferees Bound**. Each Holder agrees that it will not transfer securities of the Company unless each transferee agrees in writing to be bound by all of the provisions of this Section 2.13, provided that this Section 2.13(d) shall not apply to transfers pursuant to a registration statement or transfers after the 12-month anniversary of the effective date of the Company's initial registration statement subject to this Section 2.13.

2.14 **Restrictions on Transfer**.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer,

except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b) Each certificate or instrument representing (i) the Preferred Stock, (ii) the Registrable Securities and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Section 2.14(c)) bear a legend substantially in the following form:

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 OR ANY STATE SECURITIES LAWS, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR, IF REQUESTED BY THE COMPANY, AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933 OR APPLICABLE STATE SECURITIES LAWS.

THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN INVESTORS' RIGHTS AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.14.

(c) The holder of each certificate representing Restricted Securities, by acceptance thereof, agrees to comply in all respects with the provisions of this Section 2.14. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any

other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with Rule 144 or (y) in any transaction in which such Holder distributes Restricted Securities to (A) an Affiliate of such Holder or (B) any Immediate Family Member of such Holder or any Family Trust of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Section 2.14. Each certificate or instrument evidencing the Restricted Securities transferred as above provided shall bear, except if such transfer is made pursuant to Rule 144, the appropriate restrictive legend set forth in Section 2.14(b), except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

(d) Each Holder agrees that the Preferred Stock and the Registrable Securities may not be sold, pledged, or otherwise transferred to any proposed purchaser, pledgee, or transferee reasonably determined by the Board to be a competitor of the Company, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer (provided that, for purposes of this Section 2.14(d), the Athyrium Stockholders shall be deemed not to be a competitor of the Company).

(e) None of the terms of this Agreement shall be construed to require the consent or approval of the Company or the Holders in order to effectuate the sale, pledge or other transfer of the Preferred Stock or the Registrable Securities by a Holder to an Affiliate of such Holder that otherwise complies with the provisions of Section 2.13(d) and this Section 2.14.

2.15 **Termination of Registration Rights**. No Holder shall be entitled to exercise any right provided for in this Section 2 after the earlier of (i) five years following the consummation of a Qualified IPO, (ii) such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's Registrable Securities without limitation during a three-month period without registration, or (iii) upon termination of this Agreement, as provided in Section 4.1.

## 3. Covenants of the Company.

3.1 **Delivery of Financial Statements**. The Company shall deliver to (i) each Holder of at least 10,000,000 shares of Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassifications or the like), other than a Holder reasonably determined by the Board to be a competitor of the Company (provided that, for purposes of this Section 3.1(i), the Athyrium Stockholders shall be deemed not to be a competitor of the Company); and (ii) BCI, so long as it holds at least 5,000,000 shares of Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassifications or the like) and has not been reasonably determined by the Board to be a competitor of the Company:

(a) as soon as available, but in any event within 120 days after the end of each fiscal year of the Company, (i) a consolidated balance sheet as of the end of such year

and (ii) consolidated statements of operations, stockholders' equity and cash flows for such year, all such financial statements audited and certified by independent public accountants of recognized standing selected by the Company;

(b) as soon as available, but in any event within 45 days after the end of each of the first three quarters of each fiscal year of the Company, unaudited consolidated statements of operations and cash flows for such fiscal quarter, and an unaudited consolidated balance sheet as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP); and

(c) as soon as available, but in any event not later than 45 days after the beginning of each fiscal year, a budget for such fiscal year, approved by the Board of Directors and prepared on a monthly basis.

Each such Holder agrees that any information obtained by such Holder pursuant to this Section 3.1, which is reasonably perceived to be proprietary to the Company or otherwise confidential, will not (i) be used, except in connection with monitoring its investment in the Company and (ii) be disclosed without the prior written consent of the Company (with any such consent to the disclosure to a prospective purchaser of Registrable Securities not to be unreasonably withheld, conditioned or delayed), unless such Holder can demonstrate that such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.1 by such Holder or its Affiliates), (b) is or has been independently developed or conceived by such Holder without use of the Company's confidential information, or (c) is or has been made known or disclosed to such Holder by a third party without a breach of any obligation of confidentiality such third party may have to the Company or other third party; provided, however, that any Holder may disclose confidential information (i) to its attorneys, accountants, advisors, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any Affiliate, partner (or prospective partner), member, stockholder, or wholly owned subsidiary of such Holder in the ordinary course of business, provided that, such Holder informs such Person that such information is confidential and such Person agrees to maintain the confidentiality of such information and to not use such information except as permitted in clause (i) above; or (iii) as may otherwise be required by law, including as requested in connection with an audit conducted by any regulatory authority, provided that, such Holder promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure; provided, further, that, except as approved in advance by the Board, each Holder acknowledges and agrees that it will not, and shall cause each of its directors, managers, officers, partners, employees, agents and members not to, during or after the term of this Agreement, disclose such confidential information to any other Person, including any portfolio company, that is directly competitive with the Company (it being acknowledged and agreed that a Person shall not be deemed competitive with the Company solely by reason of its ownership of a Person that may be competitive with the Company) for any reason or purpose whatsoever. In the event any Holder violates the foregoing agreement of confidentiality, without limitation to any other remedy the Company may have with respect to such breach, the covenants of the Company set forth in this Section 3 shall terminate as to such Holder and its Affiliates and such Holder and its Affiliates shall no longer have any rights to receive any financial statements or

other confidential information of the Company. Notwithstanding anything contained herein to the contrary, each Holder (x) shall be responsible and liable for any breach of this Agreement by any of the Persons to whom such Holder discloses confidential or proprietary information of the Company, whether or not such disclosure is permitted hereunder, and (y) agrees to take all reasonable measures (including, but not limited to, court proceedings) to restrain such Persons from prohibited disclosure or improper use of such confidential or proprietary information of the Company.

3.2 **Inspection**. The Company shall permit (i) each Founder (for so long as such Founder is an employee of the Company and holds any shares of Common Stock or securities exercisable for or convertible into Common Stock), (ii) each Investor that holds at least 10,000,000 shares of Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassifications or the like), other than a Stockholder reasonably determined by the Board to be a competitor of the Company, and (iii) BCI, so long as it holds at least 5,000,000 shares of Registrable Securities (subject to adjustment for stock splits, stock dividends, reclassifications or the like) and has not been reasonably determined by the Board to be a competitor of the Company, at such Stockholder's expense, to visit and inspect the Company's properties, to examine its books of account and records and to discuss the Company's affairs, finances and accounts with its officers, all at such reasonable times as may be requested by such Stockholder; provided that, for purposes of this Section 3.2, the Athyrium Stockholders shall be deemed not to be a competitor of the Company; and provided further that, the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information which (i) it reasonably considers to be a trade secret or similar confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 **Right of First Offer**. Subject to the terms and conditions specified in this Section 3.3, the Company hereby grants to each Stockholder a right of first offer with respect to future sales by the Company of its Shares (as hereinafter defined). A Stockholder who chooses to exercise the right of first offer may designate as purchasers under such right itself or its partners or Affiliates, including Affiliated Funds, or Family Trusts, in such proportions as it deems appropriate.

Each time the Company proposes to offer any shares of its capital stock or securities convertible into or exercisable for any shares of any class of its capital stock ("**Shares**"), the Company shall first make an offering of such Shares to each Stockholder in accordance with the following provisions:

(a) The Company shall deliver a notice in accordance with Section 4.5 ("**Notice**") to the Stockholders stating (i) its bona fide intention to offer such Shares, (ii) the number of such Shares to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such Shares.

(b) Within 15 calendar days after delivery of the Notice, each Stockholder, by written notice to the Company, may elect to purchase or obtain, at the price and on the terms specified in the Notice, up to that portion of such Shares which equals the

proportion that the number of shares of Common Stock issued and held, or issuable upon conversion of all convertible securities then held, by such Stockholder bears to the total number of shares of Common Stock then outstanding (assuming full conversion of all convertible securities). Such purchase shall be completed at the same closing as that of any third party purchasers or at an additional closing thereunder, as determined by the Company, in is reasonable discretion. The Company shall promptly, in writing, inform each Stockholder that purchases all the shares available to it (each, a "**Fully-Exercising Investor**") of any other Stockholder's failure to do likewise. During the 10-day period commencing after receipt of such information, each Fully-Exercising Investor shall be entitled to elect to purchase or obtain, by written notice to the Company, that portion of the Shares for which Stockholders were entitled to subscribe but which were not subscribed for by the Stockholders that is equal to the proportion that the number of shares of Common Stock issued and held, or issuable upon conversion of all convertible securities then held, by such Fully-Exercising Investor bears to the total number of shares of Common Stock then outstanding (assuming full conversion of all convertible securities) and held by all Fully-Exercising Investors. Any Shares that remain unsubscribed for shall be re-offered to the Fully-Exercising Investors which elected to purchase their full allocation of unsubscribed Shares in the same manner until (i) all Shares have been subscribed for or (ii) no Fully-Exercising Investor elects to purchase any additional Shares.

(c) The Company may, during the 45-day period following the expiration of the period provided in Section 3.3(b) hereof, offer the remaining unsubscribed portion of the Shares, if any, to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Notice. If the Company does not enter into an agreement for the sale of the Shares within such period, or if such agreement is not consummated within 60 days of the execution thereof, the right provided hereunder shall be deemed to be revived and such Shares shall not be offered unless first reoffered to the Stockholders in accordance herewith.

(d) The right of first offer in this Section 3.3 shall not be applicable to (i) the issuance of securities in connection with stock dividends, stock splits or similar transactions; (ii) the issuance or sale of Common Stock (or options therefor) to employees, consultants and directors of the Company, directly or pursuant to a stock option plan, restricted stock unit plan, restricted stock purchase plan or other stock plan approved by the Board; (iii) the issuance of securities (or options, restricted stock units or warrants therefor) to financial institutions, equipment lessors, brokers or similar Persons in connection with commercial credit arrangements, equipment financings, commercial property lease transactions or similar transactions; (iv) the issuance of securities pursuant to the conversion or exercise of convertible or exercisable securities outstanding as of the date of this Agreement, including without limitation, warrants (including the Warrant), notes, restricted stock units or options; (v) the issuance of securities in connection with bona fide acquisitions, mergers or similar transactions, the terms of which are approved by the Board; (vi) the issuance of Common Stock issuable upon conversion of the Preferred Stock; (vii) the issuance of Common Stock in a public offering prior to or in connection with which all outstanding shares of the Preferred Stock will be converted to Common Stock; (viii) the issuance of securities (or options, restricted stock units or warrants therefor) to any Person as a component of any business relationship with such Person involving a material marketing, distribution, product development, supply or technology licensing arrangement or any other arrangements involving corporate partners that are primarily for

purposes other than raising capital, the terms of which business relationship with such Person are approved by the Board; (ix) the issuance of securities with the affirmative vote of the holders of a majority of the then outstanding shares of each of: (A) the Series A Preferred Stock, voting as a separate class, and (B) Series A-1 Preferred Stock and Series B Preferred Stock, voting together as a separate class on an as converted to Common Stock basis; or (x) that, with unanimous approval of the Board, are not offered to any existing stockholder of the Company. In addition to the foregoing, the right of first offer in this Section 3.3 shall not be applicable with respect to any Stockholder and any subsequent securities issuance, if (i) at the time of such subsequent securities issuance, such Stockholder is not an "accredited investor," as that term is then defined in Rule 501(a) under the Securities Act, and (ii) such subsequent securities issuance is otherwise being offered only to accredited investors.

3.4 **Additional Covenants of the Company**.

(a) The Company hereby agrees that it will not, without approval of the Board, which approval must include the affirmative vote of a majority of the directors of the Company that the holders of the Preferred Stock are entitled to elect pursuant to the Certificate, in each case to the extent that the holders of the Preferred Stock have elected to exercise such right:

(i) increase, decrease or alter the share capital of the Company;

(ii) sell all or substantially all of the Company's assets;

(iii) acquire or dispose of real property;

(iv) modify the Company's bylaws;

(v) effect a (A) dissolution or liquidation of the Company, (B) merger of the Company with any other Person, or (C) reorganization of the Company;

(vi) create any subsidiary of the Company;

(vii) cause the Company to file a petition under any bankruptcy or insolvency laws or to effect an assignment for the benefit of the Company's creditors; or

(viii) change the principal business of the Company.

(b) The Company hereby further agrees that it will not, without approval of the Board, which approval shall include the affirmative vote of a majority of the directors (or the sole director, if only one) that the holders of the Series A-1 Preferred Stock and Series B Preferred Stock elect pursuant to the Certificate, in each case to the extent that the holders of Series A-1 Preferred Stock and Series B Preferred Stock have elected to exercise such right:

(i) declare any dividends on any class of the Company's capital stock in excess of two-thirds of the Company's net income in any calendar year;

(ii) increase the number of shares of Common Stock available for issuance pursuant to the Company's 2018 Equity Stock Plan, as amended, or any successor plan thereto, in excess of 10,850,000 shares (subject to adjustment for stock splits, stock dividends, reclassifications or the like); or

(iii) effect any issuances of any options, warrants or other equity securities to (A) Harry Stylli, (B) any Affiliate or Immediate Family Member of Harry Stylli, or (C) any other Person with respect to which Harry Stylli, or any Affiliate or Immediate Family Member of Harry Stylli, beneficially owns directly or indirectly, (1) in the aggregate more than 35% of the economic interests, or (2) the power to elect or appoint more than 35% of the members of the board of directors (or equivalent governing body).

3.5 **Termination of Covenants**.

(a) The covenants set forth in Sections 3.1, 3.2, 3.3 and 3.4(a) shall terminate as to each Stockholder and be of no further force or effect, at the earlier of: (i) immediately prior to the consummation of a Qualified IPO, (ii) upon termination of this Agreement, as provided in Section 4.1, and (iii) the Company first becoming subject to the periodic reporting requirements of Sections 13 or 15(d) of the Exchange Act.

(b) The covenants set forth in Section 3.4(b) shall terminate and be of no further force and effect as of any date when the Investors holding the Series A-1 Preferred Stock as of the date of this Agreement or their Affiliated Funds and the Investors holding the Series B Preferred Stock as of the date of this Agreement or their Affiliated Funds cease to own, in the aggregate, a majority of the outstanding shares of Series A-1 Preferred Stock and the Series B Preferred Stock entitled to appoint a director under Article IV(B)(5)(b)(ii) of the Certificate. For purposes of this Section 3.5, any holders of Series B Preferred Stock as a result of participating in the Series A-1 Exchange, shall be deemed a holder of Series B Preferred Stock as of the date of this Agreement, and will not be considered a holder of Series A-1 Preferred Stock as of the date of this Agreement.

(c) The covenants set forth in this Section 3 shall terminate and be of no further force and effect as of any date that a Founder is no longer employed by the Company or its Affiliates, with respect to such Founder.

**4. Miscellaneous.**

4.1 **Termination**. This Agreement shall terminate, and have no further force and effect, when the Company shall consummate a transaction or series of related transactions deemed to be a liquidation, dissolution or winding up of the Company pursuant to which a distribution is made in accordance the Certificate. Each Founder acknowledges and agrees that any rights such Founder has under this Agreement, in such capacity, shall terminate and be of no further force and effect upon any termination of such Founder's employment with the Company; provided that all obligations of such Founder hereunder shall continue.

4.2 **Entire Agreement**. This Agreement constitutes the entire agreement between and among the parties hereto pertaining to the subject matter hereof, and any and all other written or oral agreements relating to the subject matter hereof existing between or among

the parties hereto are expressly canceled and superseded. Upon the effectiveness of this Agreement, the Prior Agreement shall be deemed amended and restated and superseded and replaced in its entirety by this Agreement, and shall be of no further force or effect.

4.3 **Successors and Assigns**. Except as otherwise provided in this Agreement, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective permitted successors and assigns of the parties (including transferees of any of the Preferred Stock or any Common Stock issued upon conversion thereof). Notwithstanding the foregoing, no assignee shall have any rights hereunder, unless such transferee executes the Joinder, agreeing to be bound by all of the terms and provisions of this Agreement. Nothing in this Agreement, express or implied, is intended to confer upon any Person other than the parties hereto or their respective permitted successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

4.4 **Amendments and Waivers**. Any term of this Agreement may be amended or waived only with the written consent of the Company and the holders of a majority of the Registrable Securities then outstanding; provided that, any amendment that adversely and disproportionately affects the rights of the Investors holding shares of Series A-1 Preferred Stock or Series B Preferred Stock relative to the rights of the other parties hereto shall also require the written consent of the holders of a majority of the Series A-1 Preferred Stock or Series B Preferred Stock, then outstanding, voting as a separate class, as applicable; provided, however, that any amendment to or waiver of the application of Sections 3.2, 3.3, 3.4 and 3.5 shall also require the written consent of the holders of a majority of each of (a) the shares of Series A Preferred Stock then outstanding, voting as a separate class, and (b) the shares of Series A-1 Preferred Stock then outstanding and the shares of Series B Preferred Stock then outstanding, voting together as a class on an as converted to Common Stock basis. Notwithstanding the foregoing, this Agreement may be amended with only the written consent of the Company for the sole purpose of including additional purchasers of Preferred Stock as "Investors" and "Holders." Any amendment or waiver effected in accordance with this Section 4.4 shall be binding upon each party to this Agreement, whether or not such party has signed such amendment or waiver, each future holder of all such Registrable Securities, and the Company.

4.5 **Notices**. Unless otherwise provided, any notice required or permitted by this Agreement shall be in writing and shall be deemed effective upon delivery, when delivered personally or by overnight courier or sent by facsimile, or 48 hours after being deposited in the U.S. mail, as certified or registered mail, with postage prepaid, or by email (with a copy thereof promptly delivered by one other method specified herein) and addressed to the party to be notified at such party's address, fax number or email address as set forth on the signature page or on Exhibit A or Exhibit B hereto, if to the Company, with an email copy to legaldeptcontractnotices@progenity.com and a copy to Gibson, Dunn & Crutcher LLP, 3161 Michelson Drive, Suite 1200, Irvine, California 92612, Attention: Michelle Hodges, or as subsequently modified by written notice pursuant to this Section 4.5.

4.6 **Severability**. If one or more provisions of this Agreement are held to be unenforceable under applicable law, the parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for

such provision, then, to the maximum extent permitted by law, (a) such provision shall be excluded from this Agreement, (b) the balance of this Agreement shall be interpreted as if such provision were so excluded and (c) the balance of this Agreement shall be enforceable in accordance with its terms.

4.7 **Governing Law**. This Agreement and the rights and obligations of the parties hereunder shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

4.8 **Dispute Resolution**.

(a) Each of the parties irrevocably agrees that any legal action, suit or proceeding arising out of or relating to this Agreement brought by any party against any other party shall be brought and determined in the Court of Chancery of the State of Delaware, provided that if jurisdiction is not then available in the Court of Chancery of the State of Delaware, then any such legal action, suit or proceeding may be brought in any federal court located in the State of Delaware or any other Delaware state court. Each of the parties hereby irrevocably submits to the jurisdiction of the aforesaid courts for itself and with respect to its property, generally and unconditionally, with regard to any such action, suit or proceeding arising out of or relating to this Agreement. Each of the parties agrees not to commence any action, suit or proceeding relating thereto except in the courts described above in Delaware, other than actions, suits or proceedings in any court of competent jurisdiction to enforce any judgment, decree or award rendered by any such court in Delaware as described herein. Each of the parties further agrees that notice as provided herein shall constitute sufficient service of process in any such action, suit or proceeding and the parties further waive any argument that such service is insufficient. Each of the parties hereby irrevocably and unconditionally waives, and agrees not to assert, by way of motion or as a defense, counterclaim or otherwise, in any action, suit or proceeding arising out of or relating to this Agreement, (i) any claim that it is not personally subject to the jurisdiction of the courts in Delaware as described herein for any reason, (ii) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and (iii) that (A) the suit, action or proceeding in any such court is brought in an inconvenient forum, (B) the venue of such suit, action or proceeding is improper or (C) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

(b) Notwithstanding the foregoing, if any legal action, suit or proceeding arising out of or relating to this Agreement arises at the same time and relates to the same or similar facts, claims or events as any legal action, suit or proceeding arising out of or relating to (i) that certain Fourth Amended and Restated Voting Agreement, dated as of the date hereof, between the Company and the stockholders of the Company party thereto, as amended from time to time, or (ii) that certain Fourth Amended and Restated Co-Sale Agreement, dated as of the date hereof, among the Company and the stockholders of the Company party thereto, to the extent sought by any party thereto, including the Company, such legal action, suit or proceeding shall, to the extent practicable, be combined in one legal action, suit or proceeding.

(c) EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION ARISING OUT OF OR RELATING TO THIS AGREEMENT. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT ARISE OUT OF OR RELATE TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

4.9 **Counterparts**. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

4.10 **Titles and Subtitles**. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

4.11 **Aggregation of Stock**. All shares of the Preferred Stock held by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

[Signature Pages Follow]

The parties have executed this Fourth Amended and Restated Investors' Rights Agreement as of the date first above written.

**COMPANY:**

**PROGENITY, INC.**

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

Address:
4330 La Jolla Village Drive
Suite 200
San Diego, CA 92122

The parties have executed this Fourth Amended and Restated Investors' Rights Agreement as of the date first above written.

**INVESTOR/FOUNDER:**

/s/ Harry Stylli
Harry Stylli

[SIGNATURE PAGE TO FOURTH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT]

The parties have executed this Fourth Amended and Restated Investors' Rights Agreement as of the date first above written.

**INVESTOR:**

ATHYRIUM OPPORTUNITIES FUND (A) LP, a Delaware limited partnership

By: ATHYRIUM OPPORTUNITIES ASSOCIATES LP, its General Partner

By: ATHYRIUM OPPORTUNITIES ASSOCIATES GP LLC, the General Partner of Athyrium Opportunities Associates LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**INVESTOR:**

ATHYRIUM OPPORTUNITIES FUND (B) LP, a Delaware limited partnership

By: ATHYRIUM OPPORTUNITIES ASSOCIATES LP, its General Partner

By: ATHYRIUM OPPORTUNITIES ASSOCIATES GP LLC, the General Partner of Athyrium Opportunities Associates LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**INVESTOR:**

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP

By: ATHYRIUM OPPORTUNITIES ASSOCIATES CO-INVEST LLC, its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**INVESTOR:**

ATHYRIUM OPPORTUNITIES III ACQUISITION LP, a Delaware limited partnership

By: ATHYRIUM OPPORTUNITIES ASSOCIATES III LP, its General Partner

By: ATHYRIUM OPPORTUNITIES ASSOCIATES III GP LLC, its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

The parties have executed this Fourth Amended and Restated Investors' Rights Agreement as of the date first above written.

**FOUNDER:**

/s/ Chris Lowe
Chris Lowe

The parties have executed this Fourth Amended and Restated Investors' Rights Agreement as of the date first above written.

**FOUNDER:**

/s/ Howard Slutsky
Howard Slutsky

**EXHIBIT A**
**INVESTORS**

| Name/Address/Email/Fax No. | No. of Preferred Shares | No. of Common Shares |
|---|---|---|
| Harry Stylli<br>2452 Paseo Dorado<br>La Jolla, CA 92037 | 4,120,000 shares of Series A Preferred Stock | 4,733,767 |
| Athyrium Opportunities Fund (A) LP<br>c/o Athyrium Capital Management, LP<br>505 Fifth Avenue, Floor 18<br>New York, NY 10017<br>Attention: Andrew C. Hyman and Sam Helfaer<br><br>With copies to:<br><br>Neuberger Berman<br>1290 Avenue of the Americas, 42nd Floor<br>New York, NY 10104<br>Attn: Samuel Porat<br><br>and<br><br>Moore & Van Allen PLLC<br>100 North Tryon Street, Suite 4700<br>Charlotte, NC 28202<br>Attention: Tripp Monroe<br>Fax: 704-378-1942 | 19,137,693 shares of Series B Preferred Stock | 0 |

| | | |
|---|---|---|
| Athyrium Opportunities Fund (B) LP<br>c/o Athyrium Capital Management, LP<br>505 Fifth Avenue, Floor 18<br>New York, NY 10017<br>Attention: Andrew C. Hyman and Sam Helfaer<br><br>With copies to:<br><br>Neuberger Berman<br>1290 Avenue of the Americas, 42nd Floor<br>New York, NY 10104<br>Attn: Samuel Porat<br><br>and<br><br>Moore & Van Allen PLLC<br>100 North Tryon Street, Suite 4700<br>Charlotte, NC 28202<br>Attention: Tripp Monroe<br>Fax: 704-378-1942 | 10,582,508 shares of Series B Preferred Stock | 0 |
| ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP<br>c/o Athyrium Capital Management, LP<br>505 Fifth Avenue, Floor 18<br>New York, NY 10017<br>Attention: Andrew C. Hyman and Sam Helfaer<br><br>With a copy to:<br><br>Moore & Van Allen PLLC<br>100 North Tryon Street, Suite 4700<br>Charlotte, NC 28202<br>Attention: Tripp Monroe<br>Fax: 704-378-1942 | 18,181,818 shares of Series B Preferred Stock | 0 |
| Beaver Creek Intermediate Fund, Ltd.<br>c/o Savitr Capital<br>600 Montgomery Street, 47th floor<br>San Francisco, CA 94111 | 2,641,793 shares of Series B Preferred Stock | 4,472,605 |
| MAK Capital Management, LLC<br>4643 Owls Wood Lane<br>Durham, NC 27705 | 2,641,793 shares of Series B Preferred Stock | 0 |

| | | |
|---|---|---|
| The Moses Trust<br>c/o Savitr Capital<br>1 Market Plaza, Steuart Tower, Suite 1400<br>San Francisco, CA 94105 | 660,454 shares of Series B Preferred Stock | 0 |
| ATHYRIUM OPPORTUNITIES III ACQUISITION LP<br>c/o Athyrium Capital Management, LP<br>505 Fifth Avenue, Floor 18<br>New York, NY 10017<br>Attention: Andrew C. Hyman and Sam Helfaer<br><br>With a copy to:<br><br>Moore & Van Allen PLLC<br>100 North Tryon Street, Suite 4700<br>Charlotte, NC 28202<br>Attention: Tripp Monroe<br>Fax: 704-378-1942 | 9,090,910 shares of Series B Preferred Stock | |
| **TOTAL** | **67,056,969** | **9,206,372** |

**EXHIBIT B**

**FOUNDERS**

| Name/Address/Email/Fax No. | No. of Shares of Common Stock / Options to Purchase Shares of Common Stock/Restricted Stock Units |
|---|---|
| Harry Stylli<br>2452 Paseo Dorado<br>La Jolla, CA 92037<br>Fax: 858-459-1441 | 4,733,767/none/none |
| Alan Mack<br>3470 Riverside Drive<br>Saugatuck, MI 49453 | 2,625,000/none/none |
| Howard Slutsky<br>c/o Progenity, Inc.<br>4330 La Jolla Village Drive<br>Suite 200<br>San Diego, CA 92122 | 6,583,485/1,185,000/20,000 |
| Chris Lowe<br>c/o Progenity, Inc.<br>4330 La Jolla Village Drive<br>Suite 200<br>San Diego, CA 92122 | 3,082,903/1,710,000/20,000 |

**EXHIBIT C**

**FORM OF JOINDER TO**
**INVESTORS' RIGHTS AGREEMENT**

This JOINDER (this "**Joinder**") to the Fourth Amended and Restated Investors' Rights Agreement, dated as of August 27, 2019 (as amended from time-to-time, the "**Agreement**"), by and among Progenity, Inc., a Delaware corporation (the "**Company**"), and the Stockholders listed therein, is made and entered into by the undersigned ("**Assignee**") as of the date set forth below. Capitalized terms used herein but not otherwise defined shall have the meanings set forth in the Agreement.

WHEREAS, Assignee is the assignee of certain rights set forth on Exhibit A hereto (the "**Assigned Interests**") of the assignor set forth on such exhibit ("**Assignor**") under the Agreement;

WHEREAS, to the extent set forth in the Agreement, Assignee desires to assume the rights and obligations of Assignor under the Agreement with respect to the Assigned Interests; and

WHEREAS, the Agreement provides that an assignee of rights under the Agreement must execute this Joinder in order to be assigned rights pursuant to the Agreement.

NOW, THEREFORE, in consideration of the covenants contained in the Agreement and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignee hereby agree as follows:

1. Agreement to be Bound. Assignee has received a copy of the Agreement and has read and understands the Agreement. By executing this Joinder, Assignee shall become a party to the Agreement, and be subject to and bound by all of the terms and conditions of the Agreement.

2. Successors and Assigns. This Joinder and the terms and conditions of the Agreement shall be binding upon, shall inure to the benefit of and shall be enforceable by the Company, the other Stockholders and each of their heirs, beneficiaries, successors in interest and assigns.

3. Third Party Beneficiaries. Each of the Company and each of the other Stockholders shall be a third party beneficiary hereof.

4. Governing Law. This Joinder and the rights and obligations of the parties hereunder shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

* * * * *

**IN WITNESS WHEREOF**, the undersigned has executed this Joinder to the Agreement as of the date set forth below.

**[ASSIGNEE]**

By: _____

Name:
Title (for entities):

Address: _____

_____

_____

Date: _____

**Exhibit A to Joinder**

**Assignor and Assigned Interests**

Assignor:

Assigned Interests:

Effective Date of Assignment:

**PROGENITY, INC.**

**AMENDMENT NO. 1 TO**
**FOURTH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT**

**November 10, 2020**

This Amendment No. 1 (this "**Amendment**") to that certain Fourth Amended and Restated Investors' Rights Agreement, dated as of August 27, 2019 (the "**Agreement**"), by and among Progenity, Inc., a Delaware corporation (the "**Company**"), the investors listed on Exhibit A thereto (each, an "**Investor**" and collectively, the "**Investors**"), and the holders of Common Stock listed on Exhibit B thereto. Capitalized terms used in this Amendment that are not otherwise defined herein shall have the respective meanings assigned to them in the Agreement.

**RECITALS**

**WHEREAS**, the Company and the Investors desire to amend the Agreement as set forth below;

**WHEREAS**, the undersigned Investors represent the holders of a majority of the Registrable Securities outstanding on the date of this Amendment and, as such, together with the Company, have the right, power and authority pursuant to Section 4.4 of the Agreement to execute and deliver this Amendment and amend the Agreement in the manner provided herein.

**NOW, THEREFORE**, in consideration of the mutual promises and covenants contained in this Amendment and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

**AGREEMENT**

1. Thefollowing defined term on Section 1(a)(xv) of the Agreement is hereby deleted in its entirety and replaced with the following:

"**Registrable Securities**" means (i) the shares of Common Stock issuable or issued upon conversion of the Preferred Stock, including any shares of Common Stock issued on or before the date hereof, upon conversion of preferred stock of the Company outstanding at any time, other than shares for which registration rights have terminated pursuant to Section 2.15 hereof, (ii) the shares of Common Stock issued pursuant to the Common Stock Purchase Agreement, dated as of August 8, 2016, by and between the Company and BCI, other than shares for which registration rights have terminated pursuant to Section 2.15 hereof, (iii) the shares of Common Stock issuable or issued upon conversion of the Warrant Shares (or, following a Qualified IPO, issuable upon exercise of the Warrant), other than shares for which registration rights have terminated pursuant to Section 2.15 hereof; (iv) any other shares of Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares listed in clauses (i) through (iii) and clause (v); and (v) shares of Common Stock issuable or issued upon the conversion of the Unsecured Convertible Promissory Note dated May 8, 2020, issued to Athyrium Opportunities 2020 LP; provided, however, that the foregoing definition shall

exclude in all cases any Registrable Securities sold by a Person in a transaction in which such Person's rights under this Agreement are not assigned. Notwithstanding the foregoing, such shares of Common Stock shall only be treated as Registrable Securities if and so long as (A) they have not been sold to or through a broker or dealer or underwriter in a public distribution or a public securities transaction, (B) they have not been sold in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act under Section 4(a)(1) or Rule 144 thereof so that all transfer restrictions, and restrictive legends with respect thereto, if any, are removed upon the consummation of such sale, and (C) the Holder thereof is entitled to exercise any right provided in Section 2 in accordance with Section 2.15 below.

2. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

3. This Amendment and the rights and obligations of the parties hereunder shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

4. Except as expressly provided in this Amendment, all terms and provisions of the Agreement shall remain unmodified and in full force and effect.

(*Signature Page Follows*)

IN WITNESS WHEREOF, the parties have executed this Amendment to the Agreement as of the date first written above

**COMPANY:**

**PROGENITY, INC.**

By: /s/ Harry Stylli
Name: Harry Stylli
Title: Chief Executive Officer

*(Signature Page to Amendment No. 1 to the Fourth Amended and Restated Investors' Rights Agreement)*

IN WITNESS WHEREOF, the parties have executed this Amendment to the Agreement as of the date first written above.

**INVESTORS:**

/s/ Harry Stylli
Name: Harry Stylli

*(Signature Page to Amendment No. 1 to the Fourth Amended and Restated Investors' Rights Agreement)*

IN WITNESS WHEREOF, the parties have executed this Amendment to the Agreement as of the date first written above.

**INVESTORS:**

**ATHYRIUM OPPORTUNITIES FUND (A) LP**

By: Athyrium Opportunities Associates LP,
its General Partner

By: Athyrium Opportunities Associates GP LLC,
the General Partner of Athyrium Opportunities
Association LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**ATHYRIUM OPPORTUNITIES FUND (B) LP**

By: Athyrium Opportunities Associates LP,
its General Partner

By: Athyrium Opportunities Associates GP LLC,
the General Partner of Athyrium Opportunities
Associated LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

*(Signature Page to Amendment No. 1 to the Fourth Amended and Restated Investors' Rights Agreement)*

**ATHYRIUM OPPORTUNITIES III ACQUISITION 2 LP**

By: Athyrium Opportunities Associates III LP,
its General Partner

By: Athyrium Opportunities Associates III GP LLC,
the General Partner of Athyrium
Opportunities Associates III LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP**

By: Athyrium Opportunities Associates Co-Invest LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

*(Signature Page to Amendment No. 1 to the Fourth Amended and Restated Investors' Rights Agreement)*

**ATHYRIUM OPPORTUNITIES 2020 LP**

By: Athyrium Opportunities Associates III LP,
its General Partner

By: Athyrium Opportunities Associates III GP LLC,
the General Partner of Athyrium Opportunities
Associates III LP

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

*(Signature Page to Amendment No. 1 to the Fourth Amended and Restated Investors' Rights Agreement)*

**Exhibit 10.1**

# INDEMNIFICATION AGREEMENT

This Indemnification Agreement (this "Agreement") is entered into as of _____ by and between Progenity, Inc., a Delaware corporation (the "Company"), and _____ (the "Indemnitee") and shall be deemed effective upon the earliest date that the Indemnitee is duly elected or appointed as a director or officer of the Company.

## RECITALS

WHEREAS, the Board of Directors has determined that the inability to attract and retain qualified persons as directors and officers is detrimental to the best interests of the Company's stockholders and that the Company should act to assure such persons that there shall be adequate certainty of protection through insurance and indemnification against risks of claims and actions against them arising out of their service to and activities on behalf of the Company;

WHEREAS, the Company has adopted provisions in its Restated Certificate of Incorporation and Bylaws providing for indemnification and advancement of expenses of its directors and officers to the fullest extent authorized by the General Corporation Law of the State of Delaware (the "DGCL"), and the Company wishes to clarify and enhance the rights and obligations of the Company and the Indemnitee with respect to indemnification and advancement of expenses;

WHEREAS, in order to induce and encourage highly experienced and capable persons such as the Indemnitee to serve and continue to serve as directors and officers of the Company and in any other capacity with respect to the Company as the Company may request, and to otherwise promote the desirable end that such persons shall resist what they consider unjustified lawsuits and claims made against them in connection with the good faith performance of their duties to the Company, with the knowledge that certain costs, judgments, penalties, fines, liabilities, and expenses incurred by them in their defense of such litigation are to be borne by the Company and they shall receive the maximum protection against such risks and liabilities as may be afforded by applicable law, the Board of Directors of the Company has determined that the following Agreement is reasonable and prudent to promote and ensure the best interests of the Company and its stockholders; and

WHEREAS, the Company desires to have the Indemnitee serve or continue to serve as a director or officer of the Company and in any other capacity with respect to the Company as the Company may request, as the case may be, free from undue concern for unpredictable, inappropriate, or unreasonable legal risks and personal liabilities by reason of the Indemnitee acting in good faith in the performance of the Indemnitee's duty to the Company; and the Indemnitee desires to continue so to serve the Company, provided, and on the express condition, that he or she is furnished with the protections set forth hereinafter.

## AGREEMENT

NOW, THEREFORE, in consideration of the Indemnitee's continued service as a director or officer of the Company, the parties hereto agree as follows:

1. Definitions. For purposes of this Agreement:

(a) A "Change in Control" will be deemed to have occurred if, with respect to any particular 24-month period, the individuals who, at the beginning of such 24-month period, constituted the Board of Directors of the Company (the "Incumbent Board") cease for any reason to constitute at least a majority of the Board of Directors; provided, however, that any individual becoming a director subsequent to the beginning of such 24-month period whose election, or nomination for election by the stockholders of the Company, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person other than the Board of Directors.

(b) "Disinterested Director" means a director of the Company who is not or was not a party to the Proceeding in respect of which indemnification is being sought by the Indemnitee.

(c) "Expenses" includes, without limitation, expenses incurred in connection with the defense or settlement of any action, suit, arbitration, alternative dispute resolution mechanism, inquiry, judicial, administrative, or legislative hearing, investigation, or any other threatened, pending, or completed proceeding, whether brought by or in the right of the Company or otherwise, including any and all appeals, whether of a civil, criminal, administrative, legislative, investigative, or other nature, attorneys' fees, witness fees and expenses, fees and expenses of accountants and other advisors, retainers and disbursements and advances thereon, the premium, security for, and other costs relating to any bond (including cost bonds, appraisal bonds, or their equivalents), and any expenses of establishing a right to indemnification or advancement under this Agreement, but shall not include the amount of judgments, fines, ERISA excise taxes, or penalties actually levied against the Indemnitee, or any amounts paid in settlement by or on behalf of the Indemnitee.

(d) "Independent Counsel" means a law firm or a member of a law firm that neither is presently nor in the past five years has been retained to represent (i) the Company or the Indemnitee in any matter material to either such party or (ii) any other party to the Proceeding giving rise to a request for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or the Indemnitee in an action to determine the Indemnitee's right to indemnification under this Agreement.

(e) "Proceeding" means any action, suit, arbitration, alternative dispute resolution mechanism, inquiry, judicial, administrative, or legislative hearing, investigation, or any other threatened, pending, or completed proceeding, whether brought by or in the right of the Company or otherwise, including any and all appeals, whether of a civil, criminal, administrative, legislative, investigative, or other nature, to which the Indemnitee was or is a party or is threatened to be made a party or is otherwise involved in by reason of the fact that the Indemnitee is or was a director, officer, employee, agent, or trustee of the Company or while a

director, officer, employee, agent, or trustee of the Company is or was serving at the request of the Company as a director, officer, employee, agent, or trustee of another corporation or of a partnership, joint venture, trust, or other enterprise, including service with respect to an employee benefit plan (such status, the Indemnitee's "Corporate Status"), or by reason of anything done or not done by the Indemnitee in any such capacity, whether or not the Indemnitee is serving in such capacity at the time any expense, liability, or loss is incurred for which indemnification or advancement can be provided under this Agreement.

2. Service by the Indemnitee. The Indemnitee shall serve and/or continue to serve as a director or officer of the Company faithfully and to the best of the Indemnitee's ability so long as the Indemnitee is duly elected or appointed and until such time as the Indemnitee's successor is elected and qualified or the Indemnitee is removed as permitted by applicable law or tenders a resignation in writing.

3. Indemnification and Advancement of Expenses. The Company shall indemnify and hold harmless the Indemnitee, and shall pay to the Indemnitee in advance of the final disposition of any Proceeding all Expenses incurred by the Indemnitee in defending any such Proceeding, to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, all on the terms and conditions set forth in this Agreement. Without diminishing the scope of the rights provided by this Section, the rights of the Indemnitee to indemnification and advancement of Expenses provided hereunder shall include but shall not be limited to those rights hereinafter set forth, except that no indemnification or advancement of Expenses shall be paid to the Indemnitee:

(a) to the extent expressly prohibited by applicable law or the Restated Certificate of Incorporation and Bylaws of the Company;

(b) for and to the extent that payment is actually made to the Indemnitee under a valid and collectible insurance policy or under a valid and enforceable indemnity clause, provision of the certificate of incorporation or bylaws, or agreement of the Company or any other company or other enterprise (and the Indemnitee shall reimburse the Company for any amounts paid by the Company and subsequently so recovered by the Indemnitee); or

(c) in connection with an action, suit, or proceeding, or part thereof initiated by the Indemnitee (including claims and counterclaims, whether such counterclaims are asserted by (i) the Indemnitee, or (ii) the Company in an action, suit, or proceeding initiated by the Indemnitee), except a judicial proceeding pursuant to Section 11 to enforce rights under this Agreement, unless (A) the action, suit, or proceeding, or part thereof, was authorized or ratified by the Board of Directors of the Company or (B) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

4. Action or Proceedings Other than an Action by or in the Right of the Company. Except as limited by Section 3 above, the Indemnitee shall be entitled to the indemnification rights provided in this Section if the Indemnitee was or is a party or is threatened to be made a party to, or was or is otherwise involved in, any Proceeding (other than an action by or in the right of the Company) by reason of the Indemnitee's Corporate Status, or by reason of anything done or not done by the Indemnitee in any such capacity. Pursuant to this Section, the

Indemnitee shall be indemnified against all expense, liability, and loss (including judgments, fines, ERISA excise taxes or penalties, amounts paid in settlement by or on behalf of the Indemnitee, and Expenses) actually and reasonably incurred by the Indemnitee, or on behalf of the Indemnitee, in connection with such Proceeding, if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and with respect to any criminal Proceeding, had no reasonable cause to believe his or her conduct was unlawful.

5. Indemnity in Proceedings by or in the Right of the Company. Except as limited by Section 3 above, the Indemnitee shall be entitled to the indemnification rights provided in this Section if the Indemnitee was or is a party or is threatened to be made a party to, or was or is otherwise involved in, any Proceeding brought by or in the right of the Company to procure a judgment in its favor by reason of the Indemnitee's Corporate Status, or by reason of anything done or not done by the Indemnitee in any such capacity. Pursuant to this Section, the Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee, or on behalf of the Indemnitee, in connection with such Proceeding if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company; provided, however, that no such indemnification shall be made in respect of any claim, issue, or matter as to which the DGCL expressly prohibits such indemnification by reason of any adjudication of liability of the Indemnitee to the Company, unless and only to the extent that the Court of Chancery of the State of Delaware or the court in which such Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, the Indemnitee is entitled to indemnification for such expense, liability, and loss as such court shall deem proper.

6. Indemnification for Costs, Charges, and Expenses of Successful Party. Notwithstanding any limitations of Sections 3(c), 4, and 5 above, to the extent that the Indemnitee has been successful, on the merits or otherwise, in whole or in part, in defense of any Proceeding, or in defense of any claim, issue, or matter therein, including, without limitation, the dismissal of any action without prejudice, or if it is ultimately determined, by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal, that the Indemnitee is otherwise entitled to be indemnified against Expenses, the Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee in connection therewith. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

7. Partial Indemnification. If the Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of the expense, liability, and loss (including judgments, fines, ERISA excise taxes or penalties, amounts paid in settlement by or on behalf of the Indemnitee, and Expenses) actually and reasonably incurred in connection with any Proceeding, or in connection with any judicial proceeding pursuant to Section 11 to enforce rights under this Agreement, but not, however, for all of the total amount thereof, the Company shall nevertheless indemnify the Indemnitee for the portion of such expense, liability, and loss actually and reasonably incurred to which the Indemnitee is entitled.

8. Indemnification for Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the maximum extent permitted by the DGCL, the Indemnitee shall be entitled to indemnification against all Expenses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf if the Indemnitee appears as a witness, responds to a discovery request or otherwise incurs legal expenses as a result of or related to the Indemnitee's service as a director or officer of the Company, in any threatened, pending, or completed action, suit, arbitration, alternative dispute resolution mechanism, inquiry, judicial, administrative, or legislative hearing, investigation, or any other threatened, pending, or completed proceeding, whether of a civil, criminal, administrative, legislative, investigative, or other nature, to which the Indemnitee neither is, nor is threatened to be made, a party.

9. Determination of Entitlement to Indemnification. To receive indemnification under this Agreement, the Indemnitee shall submit a written request to the Secretary of the Company. Such request shall include documentation or information that is necessary for such determination and is reasonably available to the Indemnitee. Notwithstanding the foregoing, any failure of the Indemnitee to provide such a request to the Company, or to provide such a request in a timely fashion, shall not relieve the Company of any liability that it may have to the Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company. Upon receipt by the Secretary of the Company of a written request by the Indemnitee for indemnification pursuant to this Agreement, the entitlement of the Indemnitee to indemnification, to the extent not provided pursuant to the terms of this Agreement, shall be determined by the following person or persons who shall be empowered to make such determination (as selected by the Board of Directors, except with respect to Section 9(e) below): (a) the Board of Directors by a majority vote of Disinterested Directors, whether or not such majority constitutes a quorum; (b) a committee of Disinterested Directors designated by a majority vote of such directors, whether or not such majority constitutes a quorum; (c) if there are no Disinterested Directors, or if the Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the Indemnitee; (d) the stockholders of the Company; or (e) in the event that a Change in Control has occurred, at the option of the Indemnitee, by Independent Counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the Indemnitee. Such Independent Counsel shall be selected by the Board of Directors and approved by the Indemnitee, except that in the event that a Change in Control has occurred, Independent Counsel shall be selected by the Indemnitee. Upon failure of the Board of Directors so to select such Independent Counsel or upon failure of the Indemnitee so to approve (or so to select, in the event a Change in Control has occurred), such Independent Counsel shall be selected upon application to a court of competent jurisdiction. The determination of entitlement to indemnification shall be made and, unless a contrary determination is made, such indemnification shall be paid in full by the Company not later than the earlier of (i) 60 calendar days after receipt by the Secretary of the Company of a written request for indemnification and (ii) 10 calendar days after determination has been made that the Indemnitee is entitled to indemnification pursuant to Section 10 of this Agreement. If the person making such determination shall determine that the Indemnitee is entitled to indemnification as to part (but not all) of the application for indemnification, such person shall reasonably prorate such partial indemnification among the claims, issues, or matters at issue at the time of the determination.

10. Presumptions and Effect of Certain Proceedings. The Secretary of the Company shall, promptly upon receipt of the Indemnitee's written request for indemnification, advise in writing the Board of Directors or such other person or persons empowered to make the determination as provided in Section 9 that the Indemnitee has made such request for indemnification. Upon making such request for indemnification, the Indemnitee shall be presumed to be entitled to indemnification hereunder and the Company shall have the burden of proof in making any determination contrary to such presumption. If the person or persons so empowered to make such determination shall have failed to make the requested determination with respect to indemnification within 60 calendar days after receipt by the Secretary of the Company of such request, a requisite determination of entitlement to indemnification shall be deemed to have been made and the Indemnitee shall be absolutely entitled to such indemnification, absent actual fraud in the request for indemnification. The termination of any Proceeding described in Sections 4 or 5 by judgment, order, settlement, or conviction, or upon a plea of *nolo contendere* or its equivalent, shall not, of itself (a) create a presumption that the Indemnitee did not act in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, or with respect to any criminal Proceeding, had reasonable cause to believe his or her conduct was unlawful or (b) otherwise adversely affect the rights of the Indemnitee to indemnification except as may be provided herein.

11. Remedies of the Indemnitee in Cases of Determination Not to Indemnify or to Advance Expenses; Right to Bring Suit. In the event that a determination is made that the Indemnitee is not entitled to indemnification hereunder or if payment is not timely made following a determination of entitlement to indemnification pursuant to Sections 9 and 10, or if an advancement of Expenses is not timely made pursuant to Section 16, the Indemnitee may at any time thereafter bring suit against the Company seeking an adjudication of entitlement to such indemnification or advancement of Expenses, and any such suit shall be brought in the Court of Chancery of the State of Delaware unless, if the Indemnitee is an employee of the Company, otherwise required by the law of the state in which the Indemnitee primarily resides and works. The Company shall not oppose the Indemnitee's right to seek any such adjudication. In any suit brought by the Indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the Indemnitee to enforce a right to an advancement of Expenses), it shall be a defense that the Indemnitee did not act in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and, with respect to any criminal Proceeding, had no reasonable cause to believe his or her conduct was unlawful. Further, in any suit brought by the Company to recover an advancement of Expenses pursuant to the terms of an undertaking, the Company shall be entitled to recover such Expenses upon a final judicial decision of a court of competent jurisdiction from which there is no further right to appeal that the Indemnitee has not met the standard of conduct described above. Neither the failure of the Company (including the Disinterested Directors, a committee of Disinterested Directors, Independent Counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the standard of conduct described above, nor an actual determination by the Company (including the Disinterested Directors, a committee of Disinterested Directors, Independent Counsel, or its stockholders) that the Indemnitee has not met the standard of conduct described above shall create a presumption that the Indemnitee has not met the standard of conduct described above, or, in the case of such a suit brought by the Indemnitee, be a defense to such suit. In any suit brought by the Indemnitee to enforce a right to

indemnification or to an advancement of Expenses hereunder, or brought by the Company to recover an advancement of Expenses pursuant to the terms of an undertaking, the burden of proving that the Indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Section 11 or otherwise shall be on the Company. If a determination is made or deemed to have been made pursuant to the terms of Section 9 or 10 that the Indemnitee is entitled to indemnification, the Company shall be bound by such determination and is precluded from asserting that such determination has not been made or that the procedure by which such determination was made is not valid, binding, and enforceable. The Company further agrees to stipulate in any court pursuant to this Section 11 that the Company is bound by all the provisions of this Agreement and is precluded from making any assertions to the contrary. If the court shall determine that the Indemnitee is entitled to any indemnification or advancement of Expenses hereunder, the Company shall pay all Expenses actually and reasonably incurred by the Indemnitee in connection with such adjudication (including, but not limited to, any appellate proceedings) to the fullest extent permitted by law, and in any suit brought by the Company to recover an advancement of Expenses pursuant to the terms of an undertaking, the Company shall pay all Expenses actually and reasonably incurred by the Indemnitee in connection with such suit to the extent the Indemnitee has been successful, on the merits or otherwise, in whole or in part, in defense of such suit, to the fullest extent permitted by law.

12. Non-Exclusivity of Rights; Survival of Rights; Insurance; Subrogation.

(a) The rights provided by this Agreement shall not be deemed exclusive of any other rights to which the Indemnitee may at any time be entitled under applicable law, the certificate of incorporation and the bylaws of the Company, any agreement, a vote of stockholders, a resolution of the Board or otherwise. No amendment, alteration or repeal of this Agreement or of any provision of this Agreement shall limit or restrict any right of the Indemnitee under this Agreement in respect of any action taken or omitted by the Indemnitee in his or her Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in the DGCL, whether by statute or judicial decision, permits greater indemnification than would be afforded currently under the certificate of incorporation, the bylaws of the Company and this Agreement, it is the intent of the parties hereto that the Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents or fiduciaries of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person serves at the request of the Company, the Company shall obtain coverage for the Indemnitee under such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any other director (if the Indemnitee is a director), or officer (if the Indemnitee is not a director but is an officer), of the Company under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms of this Agreement, the Company has director and officer liability insurance in effect, the

Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all commercially reasonable steps to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) In the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of the Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company effectively to bring suit to enforce such rights.

(d) The Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that the Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(e) The Company's obligation to indemnify or advance Expenses hereunder to the Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount the Indemnitee has actually received as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise.

13. Expenses to Enforce Agreement. In the event that the Indemnitee is subject to or intervenes in any action, suit, or proceeding in which the validity or enforceability of this Agreement is at issue or seeks an adjudication to enforce the Indemnitee's rights under, or to recover damages for breach of, this Agreement, the Indemnitee, if the Indemnitee prevails in whole or in part in such action, suit, or proceeding, shall be entitled to recover from the Company and shall be indemnified by the Company against any Expenses actually and reasonably incurred by the Indemnitee in connection therewith.

14. Continuation of Indemnity. All agreements and obligations of the Company contained herein shall continue during the period the Indemnitee is a director, officer, employee, agent, or trustee of the Company or while a director, officer, employee, agent, or trustee is serving at the request of the Company as a director, officer, employee, agent, or trustee of another corporation or of a partnership, joint venture, trust, or other enterprise, including service with respect to an employee benefit plan, and shall continue thereafter with respect to any possible claims based on the fact that the Indemnitee was a director, officer, employee, agent, or trustee of the Company or was serving at the request of the Company as a director, officer, employee, agent, or trustee of another corporation or of a partnership, joint venture, trust, or other enterprise, including service with respect to an employee benefit plan. This Agreement shall be binding upon all successors and assigns of the Company (including any transferee of all or substantially all of its assets and any successor by merger or operation of law) and shall inure to the benefit of the Indemnitee's heirs, executors, and administrators.

15. Notification and Defense of Proceeding. Promptly after receipt by the Indemnitee of notice of any Proceeding, the Indemnitee shall, if a request for indemnification or an advancement of Expenses in respect thereof is to be made against the Company under this Agreement, notify the Company in writing of the commencement thereof; but the omission so to notify the Company shall not relieve it from any liability that it may have to the Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company. Notwithstanding any other provision of this Agreement, with respect to any such Proceeding of which the Indemnitee notifies the Company:

(a) The Company shall be entitled to participate therein at its own expense;

(b) Except as otherwise provided in this Section 15(b), to the extent that it may wish, the Company, jointly with any other indemnifying party similarly notified, shall be entitled to assume the defense thereof, with counsel satisfactory to the Indemnitee. After notice from the Company to the Indemnitee of its election so to assume the defense thereof, the Company shall not be liable to the Indemnitee under this Agreement for any expenses of counsel subsequently incurred by the Indemnitee in connection with the defense thereof except as otherwise provided below. The Indemnitee shall have the right to employ the Indemnitee's own counsel in such Proceeding, but the fees and expenses of such counsel incurred after notice from the Company of its assumption of the defense thereof shall be at the expense of the Indemnitee unless (i) the employment of counsel by the Indemnitee has been authorized by the Company, (ii) the Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and the Indemnitee in the conduct of the defense of such Proceeding, or (iii) the Company shall not within 60 calendar days of receipt of notice from the Indemnitee in fact have employed counsel to assume the defense of the Proceeding, in each of which cases the fees and expenses of the Indemnitee's counsel shall be at the expense of the Company. The Company shall not be entitled to assume the defense of any Proceeding brought by or on behalf of the Company or as to which the Indemnitee shall have made the conclusion provided for in (ii) above; and

(c) Notwithstanding any other provision of this Agreement, the Company shall not be liable to indemnify the Indemnitee under this Agreement for any amounts paid in settlement of any Proceeding effected without the Company's written consent, or for any judicial or other award, if the Company was not given an opportunity, in accordance with this Section 15, to participate in the defense of such Proceeding. The Company shall not settle any Proceeding in any manner that would impose any penalty or limitation on or disclosure obligation with respect to the Indemnitee, or that would directly or indirectly constitute or impose any admission or acknowledgement of fault or culpability with respect to the Indemnitee, without the Indemnitee's written consent. Neither the Company nor the Indemnitee shall unreasonably withhold its consent to any proposed settlement.

16. Advancement of Expenses. All Expenses incurred by the Indemnitee in defending any Proceeding described in Section 4 or 5 shall be paid by the Company in advance of the final disposition of such Proceeding at the request of the Indemnitee. The Indemnitee's right to advancement shall not be subject to the satisfaction of any standard of conduct and advances shall be made without regard to the Indemnitee's ultimate entitlement to indemnification under the provisions of this Agreement or otherwise. To receive an

advancement of Expenses under this Agreement, the Indemnitee shall submit a written request to the Secretary of the Company. Such request shall reasonably evidence the Expenses incurred by the Indemnitee and shall include or be accompanied by an undertaking, by or on behalf of the Indemnitee, to repay all amounts so advanced if it shall ultimately be determined, by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal, that the Indemnitee is not entitled to be indemnified for such Expenses by the Company as provided by this Agreement or otherwise. The Indemnitee's undertaking to repay any such amounts is not required to be secured. Each such advancement of Expenses shall be made within 20 calendar days after the receipt by the Secretary of the Company of such written request. The Indemnitee's entitlement to Expenses under this Agreement shall include those incurred in connection with any action, suit, or proceeding by the Indemnitee seeking an adjudication pursuant to Section 11 of this Agreement (including the enforcement of this provision) to the extent the court shall determine that the Indemnitee is entitled to an advancement of Expenses hereunder.

17. Severability; Prior Indemnification Agreements. If any provision or provisions of this Agreement shall be held to be invalid, illegal, or unenforceable for any reason whatsoever, (a) the validity, legality, and enforceability of the remaining provisions of this Agreement (including, without limitation, all portions of any paragraphs of this Agreement containing any such provision held to be invalid, illegal, or unenforceable, that are not by themselves invalid, illegal, or unenforceable) shall not in any way be affected or impaired thereby, and (b) to the fullest extent possible, the provisions of this Agreement (including, without limitation, all portions of any paragraph of this Agreement containing any such provision held to be invalid, illegal, or unenforceable, that are not themselves invalid, illegal, or unenforceable) shall be construed so as to give effect to the intent of the parties that the Company provide protection to the Indemnitee to the fullest enforceable extent set forth in this Agreement. This Agreement shall supersede and replace any prior indemnification agreements entered into by and between the Company and the Indemnitee and any such prior agreements shall be terminated upon execution of this Agreement.

18. Headings; References; Pronouns. The headings of the sections of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof. References herein to section numbers are to sections of this Agreement. All pronouns and any variations thereof shall be deemed to refer to the singular or plural as appropriate.

19. Other Provisions.

(a) This Agreement and all disputes or controversies arising out of or related to this Agreement shall be governed by, and construed in accordance with, the internal laws of the State of Delaware, without regard to the laws of any other jurisdiction that might be applied because of conflicts of laws principles of the State of Delaware, unless, if the Indemnitee is an employee of the Company, otherwise required by the law of the state in which the Indemnitee primarily resides and works.

(b) This Agreement may be executed in two or more counterparts, all of which shall be considered one and the same instrument and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other party.

(c) This Agreement shall not be deemed an employment contract between the Company and any Indemnitee who is an officer of the Company, and, if the Indemnitee is an officer of the Company, the Indemnitee specifically acknowledges that the Indemnitee may be discharged at any time for any reason, with or without cause, and with or without severance compensation, except as may be otherwise provided in a separate written contract between the Indemnitee and the Company.

(d) This Agreement may not be amended, modified, or supplemented in any manner, whether by course of conduct or otherwise, except by an instrument in writing specifically designated as an amendment hereto, signed on behalf of each party. No failure or delay of either party in exercising any right or remedy hereunder shall operate as a waiver thereof, and no single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such right or power, or any course of conduct, shall preclude any other or further exercise thereof or the exercise of any other right or power.

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IN WITNESS WHEREOF, the Company and the Indemnitee have caused this Agreement to be executed as of the date first written above.

PROGENITY, INC.

By: _____
Name: Clarke Neumann
Title: General Counsel

_____
_____, Indemnitee

[SIGNATURE PAGE TO INDEMNIFICATION AGREEMENT]

Exhibit 10.2


**2011 STOCK INCENTIVE PLAN**

**Ascendant MDx, INC.**
**2011 INCENTIVE STOCK PLAN**

**1. Purpose of the Plan**. The purposes of this Incentive Stock Plan are to attract and retain the best available personnel, to provide additional incentive to the employees of Ascendant MDx, Inc. (the "Company") and to promote the success of the Company's business. Options granted hereunder may be either Incentive Stock Options or Nonstatutory Stock Options, at the discretion of the Board and as reflected in the terms of the written option agreement. The Board also has the discretion to grant Restricted Stock awards, Restricted Stock Unit awards and Stock Bonus awards.

**2. Definitions**.

(a) "Award" shall mean any right granted under the Plan, including an Option, a Restricted Stock award, Restricted Stock Unit award, and a Stock Bonus award.

(b) "Award Agreement" shall mean any written or electronic agreement, contract, or other instrument or document evidencing an Award.

(c) "Board" shall mean the Committee, if one has been appointed, or the Board of Directors of the Company, if no Committee is appointed.

(d) "Change in Control" has the meaning set forth in Section 15(c) of the Plan.

(e) "Code" shall mean the Internal Revenue Code of 1986, as amended.

(f) "Committee" shall mean the Committee appointed by the Board in accordance with Section 4(a) of the Plan, if one is appointed.

(g) "Common Stock" shall mean the common stock of the Company, par value $.001 per share.

(h) "Company" shall mean Ascendant MDx, Inc.

(i) "Consultant" shall mean any natural person who is engaged by the Company or any Parent or Subsidiary to render bona fide consulting services and is compensated for such consulting services, and any Director whether compensated for such services or not.

(j) "Continuous Status as an Employee or Consultant" shall mean the absence of any interruption or termination of service as an Employee or Consultant, as applicable. Continuous Status as an Employee or Consultant shall not be considered interrupted in the case of sick leave, military leave, or any other leave of absence approved by the Board; provided, that such leave is for a period of not more than ninety (90) days or reemployment upon the expiration of such leave is guaranteed by contract or statute.

(k) "Director" means a member of the Board of Directors of the Company.

(l) "Disability" means total and permanent disability (as defined in Section 22(e)(3) of the Code).

(m) "Employee" shall mean any persons, including officers and directors, employed by the Company or any Parent or Subsidiary of the Company. The payment of a director's fee by the Company shall not be sufficient to constitute "employment" by the Company.

(n) "Holder" shall mean a person who has been granted or awarded an Award pursuant to the Plan.

(o) "Incentive Stock Award" shall mean an Award intended to qualify as an incentive stock award within the meaning of Section 422 of the Code.

(p) "Nonstatutory Stock Award" shall mean an award not intended to qualify as an Incentive Stock Option.

(q) "Option" shall mean a stock option granted pursuant to the Plan. An Option may be either an Incentive Stock Option or a Nonstatutory Stock Option.

(r) "Award Agreement" shall mean any written or electronic agreement, contract, or other instrument or document evidencing an Award.

(s) "Optioned Stock" shall mean the Common Stock subject to an Option.

(t) "Optionee" shall mean an Employee or Consultant who receives an Option.

(u) "Outside Director" means a Director who is not an Employee.

(v) "Parent" shall mean a "parent corporation," whether now or hereafter existing, as defined in Section 424(e) of the Code.

(w) "Performance Award" shall mean an Award that vests based upon the achievement of performance goals related to one or more Performance Criteria.

(x) "Performance Criteria" shall mean the following business criteria with respect to the Company, any Subsidiary or any division or operating unit: (a) net income, (b) pre-tax income, (c) operating income, (d) cash flow, (e) earnings per share, (f) return on equity, (g) return on invested capital or assets, (h) cost reductions or savings, (i) funds from operations, (j) appreciation in the fair market value of Common Stock, and (k) earnings before any one or more of the following items: interest, taxes, depreciation or amortization; each as determined in accordance with generally accepted accounting principles or subject to such adjustments as may be specified by the Board.

(y) "Plan" shall mean this 2011 Incentive Stock Plan, as amended.

(z) "Restricted Stock" shall mean a right to purchase Common Stock pursuant to Section 11 of the Plan.

(aa) "Restricted Stock Unit" shall mean a right to receive a specified number of shares of Common Stock during specified time periods pursuant to Section 12 of the Plan.

(bb) "Retirement" has the meaning set forth in Section 9(d) of the Plan.

(cc) "Section 162(m) Participant" shall mean any key Employee designated by the Board as a key Employee whose compensation for the fiscal year in which the key Employee is so designated or a future fiscal year may be subject to the limit on deductible compensation imposed by Section-162(m) of the Code.

(dd) "Share" shall mean a share of the Common Stock, as adjusted in accordance with Section 15 of the Plan.

(ee) "Stock Bonus" shall mean the right to receive a bonus of Common Stock for past services pursuant to Section 13 of the Plan.

(ff) "Subsidiary" shall mean a "subsidiary corporation," whether now or hereafter existing, as defined in Section 424(f) of the Code.

**3. Stock Subject to the Plan**.

(a) Subject to the provisions of Section 15 of the Plan, the maximum aggregate number of shares available for issuance under the Plan is one million two hundred fifty thousand (1,250,000) shares of Common Stock. The Shares may be authorized but unissued or reacquired Common Stock. If an Award should expire or become unexercisable for any reason without having been exercised in full, then the unpurchased Shares which were subject thereto shall, unless the Plan shall have been terminated, become available for future grant or sale under the Plan. Notwithstanding any other provision of the Plan, shares issued under the Plan and later repurchased by the Company shall not become available for future grant or sale under the Plan.

(b) The following limitations shall apply to grants of Awards to Employees:

(i) No Employee shall be granted, in any fiscal year of the Company, pursuant to which more than an aggregate of two hundred and fifty thousand (250,000) Shares are issuable to such Employee, unless otherwise approved by the Board of Directors.

(ii) In connection with his or her initial employment, an Employee may be granted Awards to purchase and/or receive additional Shares as determined by the Board of Directors which shall not count against the limit set forth in subsection (i) above.

(iii) The foregoing limitations shall be adjusted proportionately in connection with any change in the Company's capitalization as described in Section 15.

(iv) If an Award is canceled in the same fiscal year of the Company in which it was granted (other than in connection with a transaction described in Section 15), the canceled Award shall be counted against the limit set forth in subsection (i) above.

(c) Shares Available. Subject to adjustment as provided in Section 15, the aggregate number of shares of Common Stock with respect to which awards of Restricted Stock, Restricted Stock Units, Stock Bonuses or a combination thereof shall be made under this Plan shall not exceed one hundred percent (100%) of the aggregate number of shares of Common Stock available under this Plan, as set forth in Section 3(a).

(d) Limited Exception to Minimum Vesting Restrictions. Up to seventy five percent (75%) of the total number of shares of Common Stock available for issuance under the Plan pursuant to Section 3(a) may in the aggregate be issued as awards of Restricted Stock, Restricted Stock Units, Stock Bonuses or a combination thereof that are not subject to the minimum vesting requirements set forth in Sections 11(d), 12(b) and 13(d) of the Plan.

**4. Administration of the Plan**.

(a) Procedure.

(i) Multiple Administrative Bodies. The Plan may be administered by different Committees with respect to different groups of Employees and Consultants.

(ii) Section 162(m). To the extent that the Board determines it to be desirable to qualify Awards granted hereunder as "performance-based compensation" within the meaning of Section 162(m) of the Code, the Plan shall be administered by a Committee of two or more directors within the meaning of Section 162(m) of the Code.

(iii) Rule 16b-3. To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder shall be structured to satisfy the requirements for exemption under Rule 16b-3.

(iv) Other Administration. Other than as provided above, the Plan shall be administered by (A) the Board or a Committee, which committee shall be constituted to satisfy applicable laws.

(b) Powers of the Board. Subject to the provisions of the Plan, the Board shall have the authority, in its discretion: (i) to grant Incentive Stock Options, Nonstatutory Stock Options, Restricted Stock awards, Restricted Stock Unit awards, or Stock Bonus awards; (ii) to determine, upon review of relevant information and in accordance with Section 7 of the Plan, the fair market value of the Common Stock; (iii) to determine the exercise price per share of each Award to be granted, if any, which exercise price shall be determined in accordance with Section 7 of the Plan; (iv) to determine the Employees or Consultants to whom, and the time or times at which, Awards shall be granted and, subject to the limitations of Section 3 above, the number of shares to be represented by each Award; (v) to interpret the Plan; (vi) to prescribe, amend and rescind rules and regulations relating to the Plan; (vii) to determine the terms and provisions of each Award granted (which need not be identical) and, with the consent of the holder thereof, modify or amend any provisions (including provisions relating to exercise price) of any Award; (viii) to accelerate or defer (with the consent of the Awardee) the exercise date of any Option, consistent with the provisions of Section 6 of the Plan; (ix) to authorize any person to execute on behalf of the Company any instrument required to effectuate the grant of an Award previously granted by the Board; (x) to allow Awardees to satisfy withholding tax obligations by electing to have the Company withhold from the Shares to be issued upon exercise of an Award that number of Shares having a fair market value equal to the statutory minimum amount required to be withheld (the fair market value of the Shares to be withheld shall be determined on the date that the amount of tax to be withheld is to be determined; and, all elections by an Award holder to have Shares withheld for this purpose shall be made in such form and under such conditions as the Board may deem necessary or advisable); and (xi) to make all other determinations deemed necessary or advisable for the administration of the Plan. Except to the extent prohibited by Sections 11(d), 12(b) and 13(d) of the Plan, the Board shall have the power to accelerate the time at which an Award may first be exercised or the time during which an Award or any part thereof will vest in accordance with the Plan, notwithstanding the provisions in the Award stating the time at which it may first be exercised or the time during which it will vest.

(c) Effect of Board's Decision. All decisions, determinations and interpretations of the Board shall be final and binding on all Holders of any Awards granted under the Plan.

(d) Provisions Applicable to Section 162(m) Participants.

(i) The Board, in its discretion, may determine whether an Award is to qualify as performance-based compensation as described in Section 162(m)(4)(C) of the Code.

(ii) Notwithstanding anything in the Plan to the contrary, the Board may grant any Award to a Section 162(m) Participant, including a Restricted Stock award, Restricted Stock Unit award, or Stock Bonus award the restrictions with respect to which lapse upon the attainment of performance goals which are related to one or more of the Performance Criteria.

(iii) To the extent necessary to comply with the performance-based compensation requirements of Section 162(m)(4)(C) of the Code, with respect to any Restricted Stock award, Restricted Stock Unit award, or Stock Bonus award granted under the Plan to one or more Section 162(m) Participants, no later than ninety (90) days following the commencement of any fiscal year in question or any other designated fiscal period or period of service (or such other time as may be required or permitted by Section 162(m) of the Code), the Board shall, in writing, (i) designate one or more Section 162(m) Participants, (ii) select the Performance Criteria applicable to the fiscal year or other designated fiscal period or period of service, (iii) establish the various performance targets, in terms of an objective formula or standard, and amounts of such Restricted Stock awards, Restricted Stock Unit awards, and Stock Bonus awards, as applicable, which may be earned for such fiscal year or other designated fiscal period or period of service, and (iv) specify the relationship between Performance Criteria and the performance targets and the amounts of such Restricted Stock awards, Restricted Stock Unit awards, and Stock Bonus awards, as applicable, to be earned by each Section 162(m) Participant for such fiscal year or other designated fiscal period or period of service. Following the completion of each fiscal year or other designated fiscal period or period of service, the Board shall certify in writing whether the applicable performance targets have been achieved for such fiscal year or other designated fiscal period or period of service. In determining the amount earned by a Section 162(m) Participant, the Board shall have the right to reduce (but not to increase) the amount payable at a given level of performance to take into account additional factors that the Board may deem relevant to the assessment of individual or corporate performance for the fiscal year or other designated fiscal period or period of service.

(iv) Furthermore, notwithstanding any other provision of the Plan, any Award which is granted to a Section 162(m) Participant and is intended to qualify as performance-based compensation as described in Section 162(m)(4)(C) of the Code shall be subject to any additional limitations set forth in Section 162(m) of the Code (including any amendment to Section 162(m) of the Code) or any regulations or rulings issued thereunder that are requirements for qualification as performance-based compensation as described in Section 162(m)(4)(C) of the Code, and the Plan shall be deemed amended to the extent necessary to conform to such requirements.

**5. Eligibility**.

(a) Awards may be granted to Employees and Consultants provided, that Incentive Stock Options may only be granted to Employees. An Employee or Consultant, who has been granted an Award

may, if such Employee or Consultant is otherwise eligible, is granted additional Awards. Each Outside Director shall be eligible to be automatically granted Options at the times and in the manner set forth in Section 10.

(b) Each Option shall be designated in the written Award Agreement as either an Incentive Stock Option or a Nonstatutory Stock Option. However, notwithstanding such designation, to the extent that the aggregate fair market value of the Shares with respect to which Options designated as Incentive Stock Options are exercisable for the first time by any Optionee during any calendar year (under all plans of the Company) exceeds one hundred thousand dollars ($100,000), such Options shall be treated as Nonstatutory Stock Options.

(c) For purposes of Section 5(b), Options shall be taken into account in the order in which they were granted, and the fair market value of the Shares shall be determined as of the time the Option with respect to such Shares is granted.

(d) The Plan shall not confer upon any Holder any right with respect to continuation of employment by or the rendition of consulting services to the Company, nor shall it interfere in any way with his or her right or the Company's right to terminate his or her employment or services at any time, with or without cause.

**6. Term of Plan**. The Plan shall become effective upon the earlier to occur of its adoption by the Board or its approval by vote of holders of a majority of the outstanding shares of the Company entitled to vote on the adoption of the Plan. It shall continue in effect until terminated under Section 17 of the Plan. Notwithstanding the foregoing, no Incentive Stock Option may be granted under this Plan after the first to occur of (a) the expiration of ten (10) years from the date the Plan is adopted by the Board or (b) the expiration of ten (10) years from the date the Plan is approved by the Company's stockholders under Section 21.

**7. Exercise Price and Consideration**.

(a) The per Share exercise price for the Shares to be issued pursuant to exercise of an Option shall be no less than one hundred percent (100%) of the fair market value per Share on the date of grant; provided, however, that in the case of an Incentive Stock Option granted to an Employee who, at the time of grant of such Incentive Stock Option, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per Share exercise price shall be no less than one hundred and ten percent (110%) of the fair market value per Share on the date of grant. Notwithstanding the foregoing, Options may be granted with a per Share exercise price of less than one hundred percent (100%) of the fair market value per Share on the date of grant pursuant to a merger or other corporate transaction.

(b) The fair market value shall be determined by the Board in its discretion; provided, however, that where there is a public market for the Common Stock, the fair market value per Share shall be the closing price per share (or the closing bid, if no sales were reported) of the Common Stock for the date of grant, as reported in the Wall Street Journal (or, if not so reported, as otherwise reported by the NASDAQ Stock Market) or, in the event the Common Stock is listed on another stock exchange, the fair market value per Share shall be the closing price per share (or the closing bid,

if no sales were reported) on such exchange on the date of grant, as reported in the Wall Street Journal (or if not so reported, as otherwise reported by such exchange).

(c) The consideration to be paid for the Shares to be issued upon exercise of an Award, including the method of payment, shall be determined by the Board (and in the case of an Incentive Stock Option, shall be determined at the time of grant) and to the extent permitted under applicable laws may consist entirely of cash, check, other Shares of Common Stock which (i) either have been owned by the Optionee for more than six (6) months on the date of surrender or were not acquired directly or indirectly, from the Company, and (ii) have a fair market value on the date of surrender equal to the aggregate exercise price of the Shares as to which said Award shall be exercised, or any combination of such methods of payment, or such other consideration and method of payment for the issuance of Shares to the extent permitted under applicable law.

**8. Term of Option**. The term of each Option shall be the term stated in the Option Agreement; provided, however, that the term shall be no more than seven (7) years from the date of grant thereof. In the case of an Incentive Stock Option granted to an Optionee who, at the time the Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the term of the Option shall be five (5) years from the date of grant thereof or such shorter term as may be provided in the Option Agreement.

**9. Exercise of Option**.

(a) Procedure for Exercise; Rights as a Stockholder.

(i) Any Option granted hereunder shall be exercisable at such times and under such conditions as determined by the Board, including performance criteria with respect to the Company and/or the Optionee, and as shall be permissible under the terms of the Plan.

(ii) An Option may not be exercised for a fraction of a Share.

(iii) An Option shall be deemed to be exercised when written notice of such exercise has been given to the Company in accordance with the terms of the Option by the person entitled to exercise the Option and full payment for the Shares with respect to which the Option is exercised has been received by the Company. Full payment may, as authorized by the Board, consist of any consideration and method of payment allowable under Section 7 of the Plan. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the stock certificate evidencing such Shares, no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the Optioned Stock, notwithstanding the exercise of the Option. Upon an Optionee's request, the Company shall issue (or cause to be issued) such stock certificate promptly upon exercise of the Option. To the extent an Option designated as an Incentive Stock Option at grant that is treated as the exercise of a Nonstatutory Stock Option pursuant to Section 5(b), the Company shall issue a separate stock certificate evidencing the Shares treated as acquired upon exercise of an Incentive Stock Option and a separate stock certificate evidencing the Shares treated as acquired upon exercise of a Nonstatutory Stock Option and shall identify each such certificate accordingly in its stock transfer

records. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in Section 15 of the Plan.

(iv) Exercise of an Option in any manner shall result in a decrease in the number of Shares which thereafter may be available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(b) Termination of Status as an Employee or Consultant. In the event of termination of an Optionee's Continuous Status as an Employee or Consultant (as the case may be), such Optionee may, but only within such period of time as is determined by the Board, with such determination in the case of an Incentive Stock Option not exceeding three (3)months and in the case of Nonstatutory Stock Option not exceeding six (6) months after the date of termination (provided, that such period shall be three (3) months in the case of an Option granted to an Outside Director pursuant to Section 10), with such determination in the case of an Incentive Stock Option being made at the time of grant of the Option, exercise the Option to the extent that such Employee or Consultant was entitled to exercise it at the date of such termination (but in no event later than the date of expiration of the term of such Option as set forth in the Option Agreement). To the extent that such Employee or Consultant was not entitled to exercise the Option at the date of such termination, or if such Employee or Consultant does not exercise such Option (which such Employee or Consultant was entitled to exercise) within the time specified herein, the Option shall terminate.

(c) Disability of Optionee. Notwithstanding the provisions of Section 9(b) above, in the event of termination of an Optionee's Continuous Status as an Employee or Consultant as a result of such Employee's or Consultant's Disability, such Employee or Consultant may, but only within six (6) months (twelve (12) months in the case of an Option granted to an Outside Director pursuant to Section 10) (or such other period of time not exceeding twelve (12) months as is determined by the Board, with such determination in the case of an Incentive Stock Option being made at the time of grant of the Option) from the date of such termination (but in no event later than the date of expiration of the term of such Option as set forth in the Option Agreement), exercise the Option to the extent the right to exercise would have accrued had the Optionee continued Continuous Status as an Employee or Consultant for a period of six (6) months following termination of Continuous Status as an Employee or Consultant by reason of Disability. To the extent that such Employee or Consultant was not entitled to exercise an Option in this period, or if such Employee or Consultant does not exercise such Option (which such Employee or Consultant was entitled to exercise) within the time specified herein, the Option shall terminate.

(d) Retirement of Employee. Notwithstanding the provisions of Section 9(b) above, in the event of termination of an Employee's Continuous Status as an Employee as a result of such Employee's retirement from the Company at age fifty-five (55) or greater after having Continuous Status as an Employee for (5) years or more ("Retirement"), all Awards held by such Employee shall vest and such Employee may, but only within three (3) years from the date of such termination (but in no event later than the date of expiration of the term of such Award), exercise the Award to the extent such Employee was entitled to exercise it at the date of such termination.

(e) Death of Optionee. In the event of the death of an Optionee:

(i) during the term of the Option who is at the time of his or her death an Employee or Consultant of the Company and who shall have been in Continuous Status as an Employee or Consultant since the date of grant of the Option, the Option may be exercised, at any time within six (6) months (twelve (12) months in the case of an Option granted to an Outside Director pursuant to Section 10) (or at such later time as may be determined by the Board but in no event later than the date of expiration of the term of such Option as set forth in the Option Agreement), by the Optionee's estate or by a person who acquired the right to exercise the Option by bequest or inheritance, but only to the extent that the right to exercise would have accrued had the Optionee continued living and remained in Continuous Status as an Employee or Consultant six (6) months (or such other period of time as is determined by the Board) after the date of death; or

(ii) within thirty (30) days (or such other period of time not exceeding three (3) months as is determined by the Board, with such determination in the case of an Incentive Stock Option being made at the time of grant of the Option) after the termination of Continuous Status as an Employee or Consultant, the Option may be exercised, at any time within six (6) months (twelve (12) months in the case of an Option granted to an Outside Director pursuant to Section 10) (or such other period of time as is determined by the Board at the time of grant of the Option) following the date of death (but in no event later than the date of expiration of the term of such Option as set forth in the Option Agreement), by the Optionee's estate or by a person who acquired the right to exercise the Option by bequest or inheritance, but only to the extent that the right to exercise that had accrued at the date of termination.

**10. Automatic Granting of Options to Outside Directors**.

(a) First Option Grants. Unless otherwise determined by the Board, each new Outside Director shall be automatically granted an Option to purchase ten thousand (10,000) Shares (a "First Option") on the date on which such person first becomes a Director, whether through election by the stockholders of the Company or appointment by the Board to fill a vacancy.

(b) Subsequent Option Grants. Unless otherwise determined by the Board, each Outside Director and the Chairman of the Board of Directors of the Company shall be automatically granted an annual Option (a "Subsequent Option") to purchase, in the case of an Outside Director, five thousand (5,000) Shares.

(c) Terms of Options Granted to Outside Directors. Options granted to Outside Directors pursuant to this Section 10 shall have a per Share exercise price of no less than one hundred percent (100%) of the fair market value per Share on the date of grant. Subject to Section 9, the term of each Option granted to an Outside Director pursuant to this Section 10 shall be seven (7) years from the date of grant thereof. First Options and Subsequent Options shall become exercisable in cumulative monthly installments of 1/12 of the Shares subject to such Option on each of the monthly anniversaries of the date of grant of the Option, commencing with the first such monthly anniversary, such that each such Option shall be one hundred percent (100%) vested on the first anniversary of its date of grant.

**11. Restricted Stock Awards**.

(a) Rights to Purchase. After the Board determines that it will offer an Employee or Consultant a Restricted Stock award, it shall deliver to the Offeree a stock purchase agreement setting forth the terms, conditions and restrictions relating to the offer. Such agreement shall further specify the number of Shares which such person shall be entitled to purchase, and the time within which such person must accept such offer, which shall in no event exceed six (6) months from the date upon which the Board made the determination to grant the Restricted Stock award. The offer shall be accepted by execution of a stock purchase agreement in the form determined by the Board.

(b) Purchase Price. The Board shall establish the purchase price, if any, and form of payment for each Restricted Stock award; provided; however, that such purchase price shall be no less than one hundred percent (100%) of the fair market value per Share on the date of grant; provided, further, however, that the purchase price per Share may be reduced on a dollar-for-dollar basis to the extent the Restricted Stock award is granted to the Holder in lieu of cash compensation otherwise payable to the Holder. In all cases, legal consideration shall be required for each issuance of a Restricted Stock award.

(c) Issuance of Shares. Forthwith after payment therefor, the Shares purchased shall be duly issued; provided, however, that the Board may require that the Holder make adequate provision for any Federal and State withholding obligations of the Company as a condition to the Holder purchasing such Shares.

(d) Vesting. Subject to the following minimum vesting requirements and the requirements of Section 4(d) of the Plan with respect to Restricted Stock awards granted to Section 162(m) Participants, at the time of the grant of a Restricted Stock award, the Board may impose such restrictions or conditions to the vesting of such Restricted Stock award as it, in its sole discretion, deems appropriate. No Restricted Stock award that is not a Performance Award shall vest at a rate more favorable to the Holder than in pro-rata installments over a three (3) year period measured from the date of grant. The vesting of all Restricted Stock Performance Awards shall be subject to the completion of at least one (1) year of Continuous Status as an Employee or Consultant measured from the date of the grant of the Award. Notwithstanding the foregoing minimum vesting requirements, vesting of Restricted Stock awards may occur earlier in the event of (A) death, (B) Disability, (C) Retirement, or (D) a Change in Control. Additionally, Restricted Stock awards granted pursuant to the exception set forth in Section 3(d) of the Plan are not subject to the foregoing minimum vesting requirements.

(e) Unvested Share Repurchase Option. The stock purchase agreement shall grant the Company an unvested share repurchase option exercisable upon the voluntary or involuntary termination of the Holder’s employment with the Company for any reason (including death or Disability). Subject to applicable laws, if the Board so determines, the purchase price for shares repurchased may be paid by cancellation of any indebtedness of the Holder to the Company.

(f) Other Provisions. The stock purchase agreement shall contain such other terms, provisions and conditions not inconsistent with the Plan as may be determined by the Board.

**12. Restricted Stock Unit Awards**.

(a) Grant of Restricted Stock Units. Any Employee or Consultant selected by the Board may be granted an Award of Restricted Stock Units in the manner determined from time to time by the Board.

(b) Vesting of Restricted Stock Units. Subject to the following minimum vesting requirements and the requirements of Section 4(d) with respect to Restricted Stock Unit awards granted to Section 162(m) Participants, at the time of the grant of a Restricted Stock Unit award, the Board may impose such restrictions or conditions to the vesting of such Restricted Stock Unit award as it, in its sole discretion, deems appropriate. No Restricted Stock Unit award that is not a Performance Award shall vest at a rate more favorable to the Holder than in pro-rata installments over a three (3) year period measured from the date of grant. The vesting of all Restricted Stock Unit Performance Awards shall be subject to the completion of at least one (1) year of Continuous Status as an Employee or Consultant measured from the date of the grant of the Award. Notwithstanding the foregoing minimum vesting requirements, vesting of Restricted Stock Unit awards may occur earlier in the event of (A) death, (B) Disability, (C) Retirement, or (D) a Change in Control. Additionally, Restricted Stock Unit awards granted pursuant to the exception set forth in Section 3(d) of the Plan are not subject to the foregoing minimum vesting requirements. Common Stock underlying a Restricted Stock Unit award will not be issued until the Restricted Stock Unit award has vested, pursuant to a vesting schedule or Performance Criteria set by the Board.

(c) No Rights as a Stockholder. Unless otherwise provided by the Board, a Holder awarded Restricted Stock Units shall have no rights as a Company stockholder with respect to such Restricted Stock Units until such time as the Restricted Stock Units have vested and the Common Stock underlying the Restricted Stock Units has been issued.

(d) Purchase Price. The Board shall establish the purchase price, if any, and form of payment for each Restricted Stock Unit award; provided, however, that such purchase price shall be no less than one hundred percent (100%) of the fair market value per Share on the date of grant; provided, further, however, that the purchase price per Share may be reduced on a dollar-for-dollar basis to the extent the Restricted Stock Unit award is granted to the Holder in lieu of cash compensation otherwise payable to the Holder. In all cases, legal consideration shall be required for each issuance of a Restricted Stock Unit award.

(e) Other Provisions. The restricted stock unit award agreements shall contain such other terms, provisions and conditions not inconsistent with the Plan as may be determined by the Board.

**13. Stock Bonus Awards**.

(a) Terms of Award. After the Board determines that it will offer an Employee or Consultant a Stock Bonus award, it shall deliver to the Offeree a stock bonus agreement setting forth the terms, conditions and restrictions relating to the offer and the number of shares to be awarded. The offer shall be accepted by execution of a stock bonus agreement in the form determined by the Board.

(b) Purchase Price. The Board shall establish the purchase price, if any, and form of payment for each Stock Bonus award; provided, however, that such purchase price shall be no less than one hundred percent (100%) of the fair market value per Share on the date of grant; provided, further, however, that the purchase price per Share may be reduced on a dollar-for-dollar basis to the extent the Stock Bonus award is granted to the Holder in lieu of cash compensation otherwise payable to the Holder.

(c) Issuance of Shares. Forthwith after payment therefor, the Shares purchased shall be duly issued; provided, however, that the Board may require that the Holder make adequate provision for any Federal and State withholding obligations of the Company as a condition to the Holder purchasing such Shares.

(d) Vesting. Subject to the following minimum vesting requirements and the requirements of Section 4(d) with respect to Stock Bonus awards granted to Section 162(m) Participants, at the time of the grant of a Stock Bonus award, the Board may impose such restrictions or conditions to the vesting of such Stock Bonus award as it, in its sole discretion, deems appropriate. No Stock Bonus award that is not a Performance Award shall vest at a rate more favorable to the Holder than in pro-rata installments over a three (3) year period measured from the date of grant. The vesting of all Stock Bonus Performance Awards shall be subject to the completion of at least one (1) year of Continuous Status as an Employee or Consultant measured from the date of the grant of the Award. Notwithstanding the foregoing minimum vesting requirements, vesting of Stock Bonus awards may occur earlier in the event of (A) death, (B) Disability, (C) Retirement, or (D) a Change in Control. Additionally, Stock Bonus awards granted pursuant to the exception set forth in Section 3(d) of the Plan are not subject to the foregoing minimum vesting requirements.

(e) Unvested Share Repurchase/Reacquisition Option. The Stock Bonus award agreement shall grant the Company an unvested share repurchase/reacquisition option exercisable upon the voluntary or involuntary termination of the Holder's employment with the Company for any reason (including death or Disability). Subject to applicable laws, if the Board so determines, the purchase price (if any) for shares repurchased may be paid by cancellation of any indebtedness of the Holder to the Company. If no purchase price was paid for the shares, the unvested shares may be reacquired by the Company for no consideration.

(f) Other Provisions. The stock bonus agreement shall contain such other terms, provisions and conditions not inconsistent with the Plan as may be determined by the Board.

**14. Non-Transferability of Awards**. Unless determined otherwise by the Board, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Holder, only by the Holder. If the Board makes an Award transferable, such Award shall contain such additional terms and conditions as the Board deems appropriate.

**15. Adjustments upon Changes in Capitalization or Merger**.

(a) Changes in Capitalization. Subject to any action by the Company required by applicable law or regulations or the requirements of the NASDAQ Stock Market or another established stock exchange on which the Company's securities may be traded, and subject to Section 15(d), the

number and kind of shares of Common Stock (or other securities or property) covered by each outstanding Award, and the number and kind of shares of Common Stock (or other securities or property) which have been authorized for issuance under the Plan but as to which no Awards have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Award, as well as the price per share of Common Stock (or other securities or property) covered by each such outstanding Award, shall be adjusted proportionately to the extent the Board determines that any increase, decrease or adjustment in the number or kind of issued shares of Common Stock (or other securities or property), dividend, distribution, stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, reorganization, merger, consolidation, split-up, repurchase, liquidation, dissolution, or sale, transfer, exchange or other disposition of all or substantially all of the assets of the Company, exchange of Common Stock or other securities of the Company, or other similar corporate transaction or event, in the Boards sole discretion, affects the Common Stock such that an adjustment is determined by the Board to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan or with respect to an Award. Such adjustment shall be made by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an Award.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Board shall notify the Holder at least fifteen (15) days prior to such proposed action. To the extent it has not been previously exercised, the Award shall terminate immediately prior to the consummation of such proposed action.

(c) Merger or Asset Sale. Unless otherwise provided in the Award Agreement, in the event of a merger, sale of all or substantially all of the assets of the Company, tender offer or other transaction or series of related transactions resulting in a change of ownership of more than fifty percent (50%) of the voting securities of the Company ("Change in Control") approved by the majority of the members of the Board on the Board prior to the commencement of such Change in Control, each outstanding Award shall be assumed or an equivalent award substituted by the successor corporation or a Parent or Subsidiary of the successor corporation; provided, however, in the event that within one year of the date of the completion of the Change in Control, the successor corporation or a Parent or Subsidiary of the successor corporation terminates the employment of a Holder that is an Employee without Cause (as defined below), such Holder shall fully vest in and, if applicable, have the right to exercise the award assumed or substituted for the Award as to all of the Shares subject to the Award, including Shares as to which it would not otherwise be exercisable. In the event that the successor corporation refuses to assume or substitute the Award, the Holder shall fully vest in and, if applicable, have the right to exercise the Award as to all of the Shares subject to the Award, including Shares as to which it would not otherwise be exercisable. If an Award becomes fully vested and exercisable in lieu of assumption or substitution in the event of a Change in Control, the Board shall notify the Holder in writing or electronically that the Award shall be fully vested and exercisable for a period of fifteen (15) days from the date of such notice, and the Award shall terminate upon the expiration of such period, if applicable.

For the purposes of this paragraph, the Award shall be considered assumed if, following the Change in Control, the Award confers the same acquisition rights for each Share subject to the Award immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control is not solely common stock of the successor corporation or its Parent, the Board may, with the consent of the successor corporation, provide for the consideration to be received pursuant to the Award, for each Share subject to the Award, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the Change in Control.

For purposes of this paragraph, termination shall be for "Cause" in the event of the occurrence of any of the following: (a) any intentional action or intentional failure to act by Employee which was performed in bad faith and to the material detriment of the successor corporation or its Parent or Subsidiary; (b) Employee neglects the duties of employment; or Employee is convicted of a felony crime involving moral turpitude; provided, that in the event that any of the foregoing events is capable of being cured, the successor corporation or its Parent or Subsidiary shall provide written notice to the Employee describing the nature of such event and the Employee shall thereafter have five (5) business days to cure such event.

In the event of a Change in Control which is not approved by the majority of the members of the Board on the Board prior to the commencement of a Change in Control, each Holder shall fully vest in and, if applicable, have the right to exercise all outstanding Awards as to all of the Shares subject to such Award, including Shares as to which it would not otherwise be exercisable.

(d) With respect to Awards which are granted to Section 162(m) Participants and are intended to qualify as performance-based compensation under Section 162(m)(4)(C), no adjustment or action described in this Section 15 or in any other provision of the Plan shall be authorized to the extent that such adjustment or action would cause such Award to fail to so qualify under Section 162(m)(4)(C), or any successor provisions thereto.

**16. Date of Granting Awards**. The date of grant of an Award shall, for all purposes, be the date on which the Board makes the determination granting such Award. Notice of the determination shall be given to each Employee or Consultant to whom an Award is so granted within a reasonable time after the date of such grant.

**17. Amendment and Termination of the Plan**.

(a) Amendment and Termination. The Board may at any time amend, alter, suspend or discontinue the Plan, but no amendment, alteration, suspension or discontinuation shall be made which would impair the rights of any Holder under any grant theretofore made, without his or her consent. In addition, to the extent necessary and desirable to comply with Section 422 of the Code (or any other applicable laws or regulation, the requirements of the NASDAQ Stock Market or another established stock exchange), the Company shall obtain stockholder approval of any Plan amendment in such a manner and to such a degree as required.

(b) Effect of Amendment or Termination. Any such amendment or termination of the Plan shall not affect Awards already granted, and such Awards shall remain in full force and effect as if this Plan had not been amended or terminated, unless mutually agreed otherwise between the Holder, as applicable, and the Board, which agreement must be in writing and signed by the Holder, as applicable, and the Company.

**18. Conditions upon Issuance of Shares**. Shares shall not be issued pursuant to the exercise of an Award unless the exercise of such Award and the issuance and delivery of such Shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, the rules and regulations promulgated thereunder, and/or the requirements of the NASDAQ Stock Market or any other stock exchange upon which the Shares may then be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance. As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required by any of the aforementioned relevant provisions of law.

**19. Reservation of Shares**. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan. The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

**20. Award Agreements**. Options shall be evidenced by written Option Agreements in such form, as the Board shall approve. Restricted Stock awards, Restricted Stock Unit awards, or Stock Bonus awards shall be evidenced by written restricted stock award agreements, restricted stock unit award agreements, or stock bonus agreements, respectively, in such form as the Board shall approve.

**21. Stockholder Approval**. Continuance of the Plan shall be subject to approval by the stockholders of the Company within twelve (12) months before or after the date the Plan is adopted. Such stockholder approval shall be obtained in the degree and manner required under applicable laws and the rules of the NASDAQ Stock Market or any other stock exchange upon which the Common Stock is listed.

**22. Section 409A of the Code**. In the event any provision of the Plan, or the application thereof, is or becomes inconsistent with Section 409A of the Code and any regulations promulgated thereunder, such provision shall be void or unenforceable or in the sole discretion of the Board shall be deemed amended to comply with Section 409A and any regulations promulgated thereunder. The other provisions of the Plan shall remain in full force and effect.

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Stock Option Agreement**

Unless otherwise defined herein, the terms defined in the 2010 Stock Option Plan as amended, (the "Plan") shall have the same defined meanings in this Option Agreement.

I. NOTICE OF STOCK OPTION GRANT

NAME

ADDRESS

CITY, STATE ZIP

You have been granted an option to purchase Common Stock of the Company, subject to the terms and conditions of the Plan and this Option Agreement, as follows:

Date of Grant:

Vesting Commencement Date

Exercise Price per Share:

Total Number of Shares Granted:

Total Exercise Price:

Type of Option:

NQ Nonstatutory Stock Option

Term/Expiration Date:

Vesting Schedule:

This Option may be exercised, in whole or in part, in accordance with the following schedule:

[25% of the Shares subject to the Option shall vest twelve months after the Vesting Commencement Date, and 1/48 of the Shares subject to the Option shall vest each month thereafter, subject to the Optionee continuing to be an Employee or Consultant on such dates.

or

One third (1/3) of the Shares subject to the Option shall vest annually beginning one year after the Vesting Commencement Date, subject to the Optionee continuing to be an Employee or Consultant on such dates.]

Termination Period:

This Option may be exercised for ninety (90) days (or such other period of time not exceeding six (6) months, as is determined by the Board) after Optionee's Continuous Status as an Employee or Consultant terminates. Upon the death or Disability of the Optionee, this Option may be exercised for six (6) months after Optionee's Continuum Status as an Employee or Consultant. In no event shall this Option be exercised later than the Term/Expiration Date as provided above.

II. AGREEMENT

1. Grant of Option. The Plan Administrator of the Company hereby grants to the Optionee named in the Notice of Grant attached as Part I of this Agreement (the "Optionee") an option (the "Option") to purchase the number of Shares,

as set forth in the Notice of Grant, at the exercise price per share set forth in the Notice of Grant (the "Exercise Price"), subject to the terms and conditions of the Plan, which is incorporated herein by reference. Subject to Section 13(b) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Option Agreement, the terms and conditions of the Plan shall prevail.

If designated in the Notice of Grant as an Incentive Stock Option ("ISO"), this Option is intended to qualify as an Incentive Stock Option under Section 422 of the Code. However, if this Option is intended to be an Incentive Stock Option, to the extent that it exceeds the $100,000 rule of Code Section 422(d) it shall be treated as a Nonstatutory Stock Option ("NSO").

2. Exercise of Option.

(a) Right to Exercise. This Option is exercisable during its term in accordance with the Vesting Schedule set out in the Notice of Grant and the applicable provisions of the Plan and this Option Agreement.

(b) Method of Exercise. This Option is exercisable by delivery of an exercise notice, in the form attached as Exhibit A (the "Exercise Notice"), which shall state the election to exercise the Option, the number of Shares in respect of which the Option is being exercised (the "Exercised Shares"), and such other representations and agreements as may be required by the Company pursuant to the provisions of the Plan. The Exercise Notice shall be completed by the Optionee and delivered to the President, the Chief Financial Officer or Secretary of the Company. The Exercise Notice shall be accompanied by payment of the aggregate Exercise Price as to all Exercised Shares. This Option shall be deemed to be exercised upon receipt by the Company of such fully executed Exercise Notice accompanied by such aggregate Exercise Price.

No Shares shall be issued pursuant to the exercise of this Option unless such issuance and exercise complies with Applicable Laws. Assuming such compliance, for income tax purposes the Exercised Shares shall be considered transferred to the Optionee on the date the Option is exercised with respect to such Exercised Shares.

3. Method of Payment. Payment of the aggregate Exercise Price shall be by any of the following, or a combination thereof, at the election of the Optionee:

(a) cash; or

(b) check; or

(c) consideration received by the Company under a cashless exercise program implemented by the Company in connection with the Plan; or

(d) surrender of other Shares which (i) in the case of Shares acquired upon exercise of an option, have been owned by the Optionee for more than six (6) months on the date of surrender, and (ii) have a Fair Market Value on the date of surrender equal to the aggregate Exercise Price of the Exercised Shares.

4. Non-Transferability of Option. This Option may not be transferred in any manner otherwise than by will or by the laws of descent or distribution and may be exercised during the lifetime of Optionee only by the Optionee. The terms of the Plan and this Option Agreement shall be binding upon the executors, administrators, heirs, successors and assigns of the Optionee.

5. Term of Option. This Option may be exercised only within the term set out in the Notice of Grant, and may be exercised during such term only in accordance with the Plan and the terms of this Option Agreement.

6. Tax Consequences. Some of the federal tax consequences relating to this Option, as of the date of this Option, are set forth below. THIS SUMMARY IS NECESSARILY INCOMPLETE, AND THE TAX LAWS AND REGULATIONS ARE SUBJECT TO CHANGE. THE OPTIONEE SHOULD CONSULT A TAX ADVISER BEFORE EXERCISING THIS OPTION OR DISPOSING OF THE SHARES.

(a) Exercising the Option.

(i) Nonstatutory Stock Option. The Optionee may incur regular federal income tax liability upon exercise of a NSO. The Optionee will be treated as having received compensation income (taxable at ordinary income tax rates) equal to the excess, if any, of the Fair Market Value of the Exercised Shares on the date of exercise over their aggregate Exercise Price. If the Optionee is an Employee or a former Employee, the Company will be required to withhold from his or her compensation or collect from Optionee and pay to the applicable taxing authorities an amount in cash equal to a percentage of this compensation income at the time of exercise, and may refuse to honor the exercise and refuse to deliver Shares if such withholding amounts are not delivered at the time of exercise.

(ii) Incentive Stock Option. If this Option qualifies as an ISO, the Optionee will have no regular federal income tax liability upon its exercise, although the excess, if any, of the Fair Market Value of the Exercised Shares on the date of exercise over their aggregate Exercise Price will be treated as an adjustment to alternative minimum taxable income for federal tax purposes and may subject the Optionee to alternative minimum tax in the year of exercise. In the event that the Optionee ceases to be an Employee but continues to provide services to the Company, any Incentive Stock Option of the Optionee that remains unexercised shall cease to qualify as an Incentive Stock Option and will be treated for tax purposes as a Nonstatutory Stock Option on the date three (3) months and one (1) day following such change of status.

(b) Disposition of Shares.

(i) NSO. If the Optionee holds NSO Shares for at least one year, any gain realized on disposition of the Shares will be treated as long-term capital gain for federal income tax purposes (holding the Shares for more than eighteen (18) months may lower the long-term capital gains rate).

(ii) ISO. If the Optionee holds ISO Shares for at least one year after exercise and two years after the grant date, any gain realized on disposition of the Shares will be treated as long-term capital gain for federal income tax purposes. If the Optionee disposes of ISO Shares within one year after exercise or two years after the grant date, any gain realized on such disposition will be treated as compensation income (taxable at ordinary income rates) to the extent of the excess, if any, of the lesser of (A) the difference between the Fair Market Value of the Shares acquired on the date of exercise and the aggregate Exercise Price, or (B) the difference between the sale price of such Shares and the aggregate Exercise Price. Any additional gain will be taxed as capital gain, short-term or long-term depending on the period that the ISO Shares were held.

(c) Notice of Disqualifying Disposition of ISO Shares. If the Optionee sells or otherwise disposes of any of the Shares acquired pursuant to an ISO on or before the later of (i) two years after the grant date, or (ii) one year after the exercise date, the Optionee shall immediately notify the Company in writing of such disposition. The Optionee agrees that he or she may be subject to income tax withholding by the Company on the compensation income recognized from such early disposition of ISO Shares by payment in cash or out of the current earnings paid to the Optionee.

7. Entire Agreement; Governing Law. The Plan is incorporated herein by reference. The Plan and this Option Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Optionee with respect to the subject matter hereof, and may not be modified adversely to the Optionee's interest except by means of a writing signed by the Company and Optionee. This agreement is governed by the internal substantive laws, but not the choice of law rules, of California.

8. NO GUARANTEE OF CONTINUED SERVICE. OPTIONEE ACKNOWLEDGES AND AGREES THAT THE VESTING OF SHARES PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS AN EMPLOYEE OR CONSULTANT AT THE WILL OF THE COMPANY (AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED AN OPTION OR PURCHASING SHARES HEREUNDER).

OPTIONEE FURTHER ACKNOWLEDGES AND AGREES THAT THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS AN EMPLOYEE

OR CONSULTANT FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND SHALL NOT INTERFERE WITH OPTIONEE'S RIGHT OR THE COMPANY'S RIGHT TO TERMINATE OPTIONEE'S RELATIONSHIP AS AN EMPLOYEE OR CONSULTANT AT ANY TIME, WITH OR WITHOUT CAUSE.

By your signature and the signature of the Company's representative below, you and the Company agree that this Option is granted under and governed by the terms and conditions of the Plan and this Option Agreement. Optionee has reviewed the Plan and this Option Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Option Agreement and fully understands all provisions of the Plan and Option Agreement. Optionee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Option Agreement. Optionee further agrees to notify the Company upon any change in the residence address indicated below.

| | |
|---|---|
| OPTIONEE: | Ascendant MDx, Inc. |
| Signature | Signature |
| Date | Date |
| NAME: | |
| ADDRESS: | |
| CITY, STATE ZIP: | |

CONSENT OF SPOUSE:

The undersigned spouse of Optionee has read and hereby approves the terms and conditions of the Plan and this Option Agreement In consideration of the Company's granting his or her spouse the right to purchase Shares as set forth in the Plan and this Option Agreement, the undersigned hereby agrees to be irrevocably bound by the terms and conditions of the Plan and this Option Agreement and further agrees that any community property interest shall be similarly bound. The undersigned hereby appoints the undersigned's spouse as attorney-in-fact for the undersigned with respect to any amendment or exercise of rights under the Plan or this Option Agreement.

_____

Spouse of Optionee

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Stock Option Agreement**

**EXHIBIT A**

**EXERCISE NOTICE**

Ascendant MDx, Inc.
2173 Salk Avenue
Carlsbad, CA 92008
Attention: Secretary

1. Exercise of Option. Effective as of today, _____, 20__, the undersigned ("Purchaser") hereby elects to purchase _____ shares (the "Shares") of the Common Stock of Ascendant MDx, Inc. (the "Company") under and pursuant to the 2003 Stock Option Plan as amended (the "Plan") and the Stock Option Agreement dated _____, 20__ (the "Option Agreement"). The purchase price for the Shares shall be $____, as required by the Option Agreement.

2. Delivery of Payment. Purchaser herewith delivers to the Company the full purchase price for the Shares.

3. Representations of Purchaser. Purchaser acknowledges that Purchaser has received, read and understood the Plan and the Option Agreement and agrees to abide by and be bound by their terms and conditions.

4. Rights as Shareholder. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the Shares, no right to vote or receive dividends or any other rights as a shareholder shall exist with respect to the Optioned Stock, notwithstanding the exercise of the Option. The Shares so acquired shall be issued to the Optionee as soon as practicable after exercise of the Option. No adjustment will be made for a dividend or other right for which the record date is prior to the date of issuance, except as provided in Section 11 of the Plan.

5. Tax Consultation. Purchaser understands that Purchaser may suffer adverse tax consequences as a result of Purchaser's purchase or disposition of the Shares. Purchaser represents that Purchaser has consulted with any tax consultants Purchaser deems advisable in connection with the purchase or disposition of the Shares and that Purchaser is not relying on the Company for any tax advice.

6. Entire Agreement; Governing Law. The Plan and Option Agreement are incorporated herein by reference. This Agreement, the Plan and the Option Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Purchaser with respect to the subject matter hereof, and may not be modified adversely to the Purchaser's interest except by means of a writing signed by the Company and Purchaser. This agreement is governed by the internal substantive laws, but not the choice of law rules, of California.

| | |
|---|---|
| Submitted by: | Accepted by: |
| PURCHASER: | Ascendant MDx, Inc. |
| _____ | _____ |
| Signature | Signature |
| _____ | _____ |
| Print Name | Print Name |
| | Date Received _____ |

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Restricted Option Grant Agreement**

**Grant Notice**

Ascendant MDx, Inc. (the "Company") hereby grants you, _____ (the "Employee"), an award of Restricted Stock Units ("RSUs") under the Company's 2010 Incentive Stock Plan, as amended (the "Plan"), the terms of which are hereby incorporated by reference. The date of this Restricted Stock Unit Agreement, which includes Appendix A attached hereto and incorporated herein (the "Agreement"), is _____ (the "Effective Date"). Subject to the remaining terms of this Agreement and of the Plan, the principal features of this award are as follows:

Number of RSUs: _____

Vesting of RSUs: The RSUs will vest according to the following schedule:

So long as you remain in Continuous Status as an Employee or Consultant through each such date, 1/3 of the RSUs shall vest on each of the thirteen (13), twenty-four (24) and thirty-six (36) month anniversaries of the Effective Date, so that the RSUs will become fully vested on the thirty-six (36) month anniversary of the Effective Date (the "Vesting Schedule"). The RSUs are also subject to the vesting conditions set forth in paragraph 4 of the attached Appendix A.

Unless otherwise defined herein or in Appendix A, capitalized terms herein or in Appendix A shall have the defined meanings ascribed to them in the Plan.

Your signature below indicates your agreement and understanding that this award is subject to all of the terms and conditions contained in this Agreement (including Appendix A) and the Plan. For example, important additional information on vesting and forfeiture of the RSUs is contained in Paragraphs 4 through 6 of Appendix A. PLEASE BE SURE TO READ ALL OF APPENDIX A, WHICH CONTAINS THE SPECIFIC TERMS AND CONDITIONS OF THIS AGREEMENT.

| Ascendant MDx, Inc. | Employee |
|---|---|
| _____ | _____ |
| President | Name |
| _____ | _____ |
| Date: | Address |

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Restricted Option Grant Agreement**

**APPENDIX A**

**TERMS AND CONDITIONS OF RESTRICTED STOCK UNITS**

1. Grant. The Company hereby grants to the Employee under the Plan an award of that number of RSUs set forth on the first page of this Agreement, subject to all of the terms and conditions in this Agreement and the Plan.

2. Plan Governs. The RSUs are issued pursuant to, and the terms of this Agreement are subject to, all terms and provisions of the Plan, including without limitation Section 15 of the Plan. Except as provided in paragraph 4(b) below, in the event of a conflict between one or more provisions of this Agreement and one or more provisions of the Plan, the provisions of the Plan will govern.

3. Company's Obligation to Pay. Each RSU has a value equal to the fair market value of a share of Common Stock on the date the shares subject thereto are distributed. Unless and until the RSUs will have vested in the manner set forth in paragraphs 4 and 5, the Employee will have no right to payment of any such RSUs. Prior to actual payment of any vested RSUs, such RSUs will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company. Nothing contained in this Agreement, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or fiduciary relationship between Employee and the Company or any other person.

4. Vesting.

(a) Subject to paragraph 5, the RSUs awarded by this Agreement will vest in the Employee according to the Vesting Schedule set forth on the first page of this Agreement, subject to the Employee's remaining in Continuous Status as an Employee or Consultant through such vesting periods or dates.

(b) Notwithstanding anything to the contrary set forth in the Plan, the vesting of the RSUs awarded by this Agreement shall not accelerate in accordance with Section 9(d) of the Plan in connection with a termination of Employee's Continuous Status as an Employee as a result of Employee's retirement from the Company.

(c) In the event of a Change in Control of the Company approved by the majority of the members of the Board on the Board prior to the commencement of such Change in Control, the RSUs shall be assumed or an equivalent award or right substituted by the successor corporation or a Parent or Subsidiary of the successor corporation; provided, however, in the event that within one year of the date of the completion of the Change in Control, the successor corporation or a Parent or Subsidiary of the successor corporation terminates the Employee without Cause, the RSUs shall become immediately fully vested. In the event that the successor corporation refuses to assume or substitute the RSUs, the RSUs shall become immediately fully vested and the shares subject to the RSUs shall be issued to Employee immediately prior to the Change in Control, provided that such transaction also qualifies as a change in the ownership or effective control of the Company, or in the ownership of a substantial portion of the assets of the Company, in each case for purposes of Section 409A(a)(2)(A)(v) of the Internal Revenue Code and the regulations and other guidance thereunder ("Section 409A Change of Control").

(d) In the event of a Change in Control which is not approved by the majority of the members of the Board on the Board prior to the commencement of a Change in Control, the RSUs shall immediately fully vest. In the event that the successor corporation refuses to assume or substitute the RSUs, the shares subject to the RSUs shall be issued to Employee immediately prior to the Change in Control, provided that such transaction also qualifies as a Section 409A Change of Control.

(e) The RSUs shall be considered assumed if, following the Change in Control, the RSUs confer the right to receive, for each Share of Common Stock subject to the RSUs immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by

holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control is not solely common stock of the successor corporation or its Parent, the Board may, with the consent of the successor corporation, provide for the consideration to be issued pursuant to the RSUs, for each Share of Common Stock subject to the RSUs, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the Change in Control.

5. Forfeiture upon Termination as Service Provider. Notwithstanding any contrary provision of this Agreement, if the Employee terminates Continuous Status as an Employee or Consultant for any or no reason, the then-unvested RSUs awarded by this Agreement will thereupon be forfeited at no cost to the Company and the Employee shall have no further rights thereunder. To the extent not already paid, RSUs that vest in accordance with the Vesting Schedule shall be paid following the Employee's termination of Continuous Status as an Employee or Consultant in accordance with paragraph 6 or 8 below, as applicable.

6. Issuance after Vesting. If Employee does not elect to defer his or her distribution of the shares subject to the RSUs in accordance with paragraph 8 below, shares of Common Stock subject to any RSUs that vest in accordance with the Vesting Schedule will be issued to the Employee (or in the event of the Employee's death, to his or her estate) in whole shares of Common Stock on each of the thirteen (13), twenty-four (24) and thirty-six (36) month anniversaries of the Effective Date (each a "Vesting Distribution Date"), in each case not later than ten (10) days following each Vesting Distribution Date, with respect to shares of Common Stock subject to those RSUs that have vested on each such date.

7. Tax Withholding. On or before the time Employee receives a distribution of shares of Common Stock pursuant to the RSUs, or at any time thereafter as requested by the Company, the Employee must make adequate provision, as determined by the Company, for any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or a Subsidiary, if any, which arise in connection with the vesting and/or issuance of the shares subject to the RSUs. Unless the tax withholding obligations of the Company and/or any Subsidiary are satisfied, the Company shall have no obligation to issue the shares of Common Stock subject to the RSU. If the Employee does not satisfy the tax withholding obligations of the Company and/or any Subsidiary within thirty (30) days following receipt of notice from the Company, then the RSU will automatically terminate and the Employee will not be issued any shares pursuant to the RSU.

8. Deferral Election.

(a) Election Whether to Defer Distribution of RSU Shares. Each Employee must elect whether to defer his or her distribution of the RSU shares to a date following the Vesting Distribution Date in accordance with paragraph 8(b). If an Employee does not make a valid, timely election pursuant to paragraph 8(b), the Employee will be deemed to have affirmatively elected not to defer his or her distribution of the RSU shares, and the shares will be delivered to Employee in accordance with paragraph 6.

(b) Deferral Election. Employees must make an election whether to defer receipt of the RSU shares pursuant to the terms and conditions of the Standard Deferral Election Agreement attached hereto as Exhibit A. Subject to a valid deferral election made within thirty (30) days following the Effective Date, the Employee may elect to defer the timing of the receipt of shares under this Agreement and have such shares issued at a later date pursuant to the terms and conditions of the Standard Deferral Election Agreement. Such deferral elections must also comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and the related Treasury Regulations or other guidance issued thereunder.

(c) Deferred Distribution Date. The date upon which the shares of Common Stock are scheduled to be delivered pursuant to any deferral election made under this paragraph 8 is the "Deferred Distribution Date." Shares of Common Stock subject to any RSUs that are subject to any deferral election made under this paragraph 8

will be issued to the Employee (or in the event of the Employee's death, to his or her estate) in whole shares of Common Stock in each case not later than ten (10) days following the Deferred Distribution Date.

9. Delay in Issuance of Shares. Notwithstanding anything to the contrary set forth herein, if the Company determines that the Employee's sale of shares of Common Stock on the date the shares subject to the RSUs are scheduled to be delivered, whether on the Vesting Distribution Date or a Deferred Distribution Date selected pursuant to paragraph 8 above (in either case, the "Original Distribution Date") would violate its policy regarding insider trading of the Company's stock, as determined by the Company in accordance with such policy, then such shares shall not be delivered on such Original Distribution Date and shall instead be delivered as soon as practicable on or after the earliest date on which the Employee could sell such shares pursuant to such policy; provided, however, that in no event shall the delivery of the shares be delayed pursuant to this provision beyond the later of: (1) December 31st of the same calendar year of the Original Distribution Date, or (2) the 15th day of the third calendar month following the Original Distribution Date.

10. Rights as Stockholder. Neither the Employee nor any person claiming under or through the Employee will have any of the rights or privileges of a stockholder of the Company in respect of any shares of Common Stock deliverable hereunder unless and until certificates representing such shares of Common Stock will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to the Employee.

11. No Effect on Employment. This Agreement is not an employment contract, and nothing herein shall be deemed to create in any way whatsoever any obligation on the Employee's part to continue in the employ of the Company, or of the Company to continue the Employee's employment with the Company. The Employee's employment with the Company is on an at will basis only. The Company will have the right, which is hereby expressly reserved, to terminate or change the terms of the employment of the Employee at any time for any reason whatsoever, with or without good cause.

12. Address for Notices. Any notice to be given to the Company under the terms of this Agreement will be addressed to the Company at its principal place of business (attention: President), or at such other address as the Company may hereafter designate in writing. Any notices provided for in this Agreement or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by the Company to the Employee, five (5) days after deposit in the United States mail, postage prepaid, addressed to the Employee at the address specified on the first page of this Agreement or at such other address as the Employee may hereafter designate by written notice to the Company.

13. Transferability. Unless determined otherwise by the Board, this grant and the rights and privileges conferred hereby, including without limitation the shares of Common Stock issuable following the vesting of the RSUs, will not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process until, with respect to whole shares of Common Stock issuable following the vesting of the RSUs, such shares are issued pursuant to paragraph 6 or 8 above. Upon any attempt to sell, pledge, assign, hypothecate, transfer, or dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

14. Binding Agreement. Subject to the limitations on the transferability of this grant contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

15. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration or qualification of the shares of Common Stock upon any securities exchange or under any state or federal law, or the consent or approval of any governmental regulatory authority, is necessary or desirable as a condition to the issuance of shares of Common Stock to the Employee (or his or her estate), such issuance will not occur unless and until such listing, registration, qualification, consent or approval will have been effected or obtained free of any conditions not acceptable to the Company. The Company will make all reasonable efforts to meet the

requirements of any such state or federal law or securities exchange and to obtain any such consent or approval of any such governmental authority.

16. Board Authority. The Board will have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan and this Agreement as are consistent therewith and to interpret or revoke any such rules. All actions taken and all interpretations and determinations made by the Board in good faith will be final and binding upon Employee, the Company and all other interested persons. No member of the Board will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement.

17. Captions. Caption provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

18. Agreement Severable. In the event that any provision in this Agreement will be held invalid or unenforceable, such provision will severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Agreement.

19. Amendment. The Committee may amend, terminate or revoke this Agreement in any respect to the extent determined necessary or desirable by the Committee in its discretion to comply with the requirements of Section 409A of the Code and the Treasury Regulations or other guidance issued thereunder. Employee expressly understands and agrees that no additional consent of Employee shall be required in connection with such amendment, termination or revocation.

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Restricted Option Grant Agreement**

**EXHIBIT A**

**Standard Deferral Election Agreement**

Please complete this Standard Deferral Election Agreement ("Election Agreement") and return a signed copy to President no later than the thirtieth (30th) day following the Effective Date as indicated on your Restricted Stock Unit Agreement.

I. Deferral Election (check one)

Election to Defer:

— Employee hereby irrevocably elects to defer receipt of the shares of Common Stock associated with the RSUs provided for in the Grant Notice and Appendix A thereto, to which this Exhibit A is attached, until the fifth anniversary of the Effective Date.

Decline:

— Employee hereby irrevocably elects not to defer receipt of the shares of Common Stock associated with the RSUs provided for in the Grant Notice and Appendix A thereto, to which this Exhibit A is attached (shares will be issued to Employee as the RSU award vests in accordance with the Restricted Stock Unit Agreement).

II. Terms and Conditions of Deferral Election

If Employee elects to defer receipt of the shares subject to the RSU pursuant to this Election Agreement, by signing this Election Agreement, Employee hereby acknowledges his or her understanding and acceptance of each of the following:

1. Acceleration of Issuance of Shares Upon Termination of Continuous Status as an Employee or Consultant. In the event of Employee's termination of Continuous Status as an Employee or Consultant prior to the fifth anniversary of the Effective Date that qualifies as a "separation from service" within the meaning of Code Section 409A(a)(2)(A)(i) and the regulations and other guidance promulgated thereunder, then any vested shares of Common Stock subject to the RSUs shall instead be delivered to Employee on the date of his or her termination of Continuous Status as an Employee or Consultant.

2. Acceleration of Issuance of Shares Upon Chance in Control. Notwithstanding Employee's deferral election pursuant to this Election Agreement, in the event that a successor corporation refuses to assume or substitute the RSUs in connection with a Change in Control, the shares subject to the RSUs shall instead be issued to Employee immediately prior to the Change in Control to the extent provided in paragraph 4 of the Appendix.

3. Delay in Distribution for Specified Employees. Notwithstanding anything to the contrary set forth herein, if at the time the shares of Common Stock would otherwise be issued to Employee as a result of termination of Continuous Status as an Employee or Consultant, Employee is subject to the distribution limitations contained in Section 409A of the Code applicable to "specified employees," share issuances resulting from a termination of Continuous Status as an Employee or Consultant shall not be made before the date which is six (6) months following the date of termination of Continuous Status as an Employee or Consultant, or, if earlier, the date of Employee's death that occurs within such six (6) month period.

4. Delay in Distribution for Insiders. Notwithstanding the foregoing election, as described in paragraph 9 of the Appendix to the RSU Agreement, the distribution of shares may be delayed if the Company determines that Employee's sale of the shares on such date would violate the Company's policy regarding insider trading of the Company's stock, as determined by the Company in accordance with such policy.

5. Effective Election. In order for the foregoing deferral election to become effective, this Election Agreement must be submitted by Employee to the President on or before thirty (30) days following the Effective Date of the RSUs.

6. Withholding. The Company shall require that Employee make adequate provision for any federal, state, or local tax required by law to be withheld prior to the issuance of the shares of Common Stock.

7. Nonassignable. Employee's rights and interests under this Election Agreement may not be assigned, pledged, or transferred.

8. Termination of this Election Agreement. The Company reserves the right to terminate this Election Agreement at any time. In such case, any vested shares of Common Stock granted to Employee pursuant to the Restricted Stock Unit Agreement may be issued to Employee immediately, to the extent permitted by Section 409A of the Code and the regulations and other guidance promulgated thereunder.

9. Bookkeeping Account. The Company will establish a bookkeeping account to reflect the number of shares of Common Stock that Employee may acquire pursuant to the RSUs and the fair market value of such shares of Common Stock that are subject to this Election Agreement.

10. Governing Law. This Election Agreement shall be construed and administered according to the internal laws of the State of California, without regard to its conflicts of laws principles.

III. Authorization and Signature

By completing and executing this Election Agreement, Employee authorizes the Company to defer or not defer, as applicable, the issuance of the shares subject to the RSU award. Employee acknowledges that the Company has not made any representations concerning future performance of the Company's Common Stock. Further, Employee has not relied upon advice from the Company in making Employee's election. By executing this Election Agreement, the Employee hereby acknowledges his or her understanding of an agreement with all the terms and provisions set forth herein.

Employee

_____

Date:

Ascendant MDx, Inc.

By: _____

Name: _____

Title: _____

Date:

**Ascendant MDx, Inc.**

**2011 Incentive Stock Plan**

**Restricted Option Grant Agreement**

**Exhibit B**

Beneficiary Designation

**Personal Information**

**Last _____ First _____ Middle Initial _____**

**Social Security Number**: _____

I hereby designate the following Beneficiary(ies) to receive any benefit payable under the Plan by reason of my death, as provided in the Plan document.

**Primary Beneficiary(ies)**:

| Name | Relationship | Social Security Number | Percentage |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Contingent Beneficiary(ies)**

| Name | Relationship | Social Security Number | Percentage |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Please Sign Below**

If no percentage is indicated, all beneficiaries will be deemed to have an equal interest in the benefits payable under the Plan.

_____ _____

Signature of Employee Date

**SECOND AMENDED AND RESTATED PROGENITY, INC.**
**2012 STOCK PLAN**

1. **ESTABLISHMENT, PURPOSE AND TERM OF PLAN.**

1.1 **Establishment.** The Progenity, Inc. (formerly Ascendant MDx, Inc.) 2012 Stock Plan was originally established effective as of January 1, 2012 (the "***Prior Plan***'). The Prior Plan was amended and restated effective as of June 12, 2013, the date upon which it was approved by the Board and stockholders, and was further amended and restated on August 21, 2013 to reflect the name change set forth above, such name change effective August 1, 2013, and to reflect an increased share reserve based upon a 10 for 1 stock split approved by the Board and stockholders on August 21, 2013, and is now in the form of the Second Amended and Restated Progenity, Inc. 2012 Stock Plan (the "***Plan***") set forth herein. Capitalized terms used in this Section 1 shall have the meanings set forth below in Section 2.1.

1.2 **Purpose.** The purpose of the Plan is to advance the interests of the Participating Company Group and its stockholders by providing an incentive to attract, retain and reward persons performing services for the Participating Company Group and by motivating such persons to contribute to the growth and profitability of the Participating Company Group. The Company intends that Awards granted pursuant to the Plan be exempt from or comply with Section 409A of the Code (including any amendments or replacements of such section), and the Plan shall be so construed.

1.3 **Term of Plan.** The Plan shall continue in effect until its termination by the Board; provided, however, that all Awards shall be granted, if at all, within ten (10) years from the earlier of the date the Plan is adopted by the Board or the date the Plan is duly approved by the stockholders of the Company.

2. **DEFINITIONS AND CONSTRUCTION.**

2.1 **Definitions.** Whenever used herein, the following terms shall have their respective meanings set forth below:

(a) "***Award***" means an Option, Restricted Stock Purchase Right or Restricted Stock Bonus granted under the Plan.

(b) "***Award Agreement***" means a written or electronic agreement between the Company and a Participant setting forth the terms, conditions and restrictions of the Award granted to the Participant.

(c) "***Board***" means the Board of Directors of the Company. If one or more Committees have been appointed by the Board to administer the Plan, "***Board***" also means such Committee(s).

(d) "***Cause***" means, unless such term or an equivalent term is otherwise defined with respect to an Award by the Participant's Award Agreement or written

contract of employment or service, any of the following: (i) the Participant's theft, dishonesty, willful misconduct, breach of fiduciary duty for personal profit, or falsification of any Participating Company documents or records; (ii) the Participant's material failure to abide by a Participating Company's code of conduct or other policies (including, without limitation, policies relating to confidentiality and reasonable workplace conduct); (iii) the Participant's unauthorized use, misappropriation, destruction or diversion of any tangible or intangible asset or corporate opportunity of a Participating Company (including, without limitation, the Participant's improper use or disclosure of a Participating Company's confidential or proprietary information); (iv) any intentional act by the Participant which has a material detrimental effect on a Participating Company's reputation or business; (v) the Participant's repeated failure or inability to perform any reasonable assigned duties after written notice from a Participating Company of, and a reasonable opportunity to cure, such failure or inability; (vi) any material breach by the Participant of any employment or service agreement between the Participant and a Participating Company, which breach is not cured pursuant to the terms of such agreement; or (vii) the Participant's conviction (including any plea of guilty or *nolo contendere*) of any criminal act involving fraud, dishonesty, misappropriation or moral turpitude, or which impairs the Participant's ability to perform his or her duties with a Participating Company.

(e) "***Change in Control***" means, unless such term or an equivalent term is otherwise defined with respect to an Award by the Participant's Award Agreement or written contract of employment or service, the occurrence of any of the following:

(i) an Ownership Change Event or a series of related Ownership Change Events (collectively, a "***Transaction***") in which the stockholders of the Company immediately before the Transaction do not retain immediately after the Transaction direct or indirect beneficial ownership of more than fifty percent (50%) of the total combined voting power of the outstanding securities entitled to vote generally in the election of Directors or, in the case of an Ownership Change Event described in Section 2.1(v)(iii), the entity to which the assets of the Company were transferred (the "***Transferee***"), as the case may be; or

(ii) the liquidation or dissolution of the Company.

For purposes of the preceding sentence, indirect beneficial ownership shall include, without limitation, an interest resulting from ownership of the voting securities of one or more corporations or other business entities which own the Company or the Transferee, as the case may be, either directly or through one or more subsidiary corporations or other business entities. The Board shall have the right to determine whether multiple sales or exchanges of the voting securities of the Company or multiple Ownership Change Events are related, and its determination shall be final, binding and conclusive.

(f) "***Code***" means the Internal Revenue Code of 1986, as amended, and any applicable regulations and administrative guidelines promulgated thereunder.

(g) "***Committee***" means the compensation committee or other committee or subcommittee of the Board duly appointed to administer the Plan and having such powers as shall be specified by the Board. Unless the powers of the Committee have been specifically limited, the Committee shall have all of the powers of the Board granted herein,

including, without limitation, the power to amend or terminate the Plan at any time, subject to the terms of the Plan and any applicable limitations imposed by law.

(h) "***Company***" means Progenity, Inc., a Delaware corporation, or any successor corporation thereto.

(i) "***Consultant***" means a person or entity engaged to provide consulting or advisory services (other than as an Employee or a Director) to a Participating Company, provided that (i) if the Consultant is a person, the identity of such person, the nature of such services or the entity to which such services are provided would not preclude the Company from offering or selling securities to such person pursuant to the Plan in reliance on either the exemption from registration provided by Rule 701 under the Securities Act or, if the Company is required to file reports pursuant to Section 13 or 15(d) of the Exchange Act, registration on a Form S-8 Registration Statement under the Securities Act, and (ii) if the Consultant is an entity would not preclude the Company from offering or selling securities to such an entity pursuant to the Plan in reliance on Section 4(2) of the Securities Act.

(j) "***Director***" means a member of the Board.

(k) "***Disability***" means the inability of the Participant, in the opinion of a qualified physician acceptable to the Company, to perform the major duties of the Participant's position with the Participating Company Group because of the sickness or injury of the Participant.

(l) "***Employee***" means any person treated as an employee (including an Officer or a Director who is also treated as an employee) in the records of a Participating Company and, with respect to any Incentive Stock Option granted to such person, who is an employee for purposes of Section 422 of the Code; provided, however, that neither service as a Director nor payment of a director's fee shall be sufficient to constitute employment for purposes of the Plan. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be an Employee and the effective date of such individual's employment or termination of employment, as the case may be. For purposes of an individual's rights, if any, under the terms of the Plan as of the time of the Company's determination of whether or not the individual is an Employee, all such determinations by the Company shall be final, binding and conclusive as to such rights, if any, notwithstanding that the Company or any court of law or governmental agency subsequently makes a contrary determination as to such individual's status as an Employee.

(m) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended.

(n) "***Fair Market Value***" means, as of any date, the value of a share of Stock or other property as determined by the Board, in its discretion, or by the Company, in its discretion, if such determination is expressly allocated to the Company herein, subject to the following:

(i) If, on such date, the Stock is listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be the

closing price of a share of Stock as quoted on the national or regional securities exchange or market system constituting the primary market for the Stock, as reported in The Wall Street Journal or such other source as the Company deems reliable. If the relevant date does not fall on a day on which the Stock has traded on such securities exchange or market system, the date on which the Fair Market Value shall be established shall be the last day on which the Stock was so traded prior to the relevant date, or such other appropriate day as shall be determined by the Board, in its discretion.

(ii) If, on such date, the Stock is not listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be as determined by the Board in good faith without regard to any restriction other than a restriction which, by its terms, will never lapse, and in a manner consistent with the requirements of Section 409A of the Code.

(o) "***Incentive Stock Option***" means an Option intended to be (as set forth in the Award Agreement) and which qualifies as an incentive stock option within the meaning of Section 422(b) of the Code.

(p) "***Insider***" means an Officer, a Director or other person whose transactions in Stock are subject to Section 16 of the Exchange Act.

(q) "***Insider Trading Policy***" means the written policy of the Company pertaining to the purchase, sale, transfer or other disposition of the Company's equity securities by Directors, Officers, Employees or other service providers who may possess material, nonpublic information regarding the Company or its securities.

(r) "***Net-Exercise***" means a procedure by which the Participant will be issued a number of whole shares of Stock upon the exercise of an Option determined in accordance with the following formula:

N = X(A-B)/A, where

"N" = the number of shares of Stock to be issued to the Participant upon exercise of the Option;

"X" = the total number of shares with respect to which the Participant has elected to exercise the Option;

"A" = the Fair Market Value of one (1) share of Stock determined on the exercise date; and

"B" = the exercise price per share (as defined in the Participant's Award Agreement).

(s) "***Nonstatutory Stock Option***" means an Option not intended to be (as set forth in the Award Agreement) or which does not qualify as an Incentive Stock Option.

(t) "***Officer***" means any person designated by the Board as an officer of the Company.

(u) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option granted pursuant to the Plan.

(v) "***Ownership Change Event***" means the occurrence of any of the following with respect to the Company: (i) the direct or indirect sale or exchange in a single or series of related transactions by the stockholders of the Company of more than fifty percent (50%) of the voting stock of the Company; (ii) a merger or consolidation in which the Company is a party; or (iii) the sale, exchange, or transfer of all or substantially all of the assets of the Company (other than a sale, exchange or transfer to one or more subsidiaries of the Company).

(w) "***Parent Corporation***" means any present or future "parent corporation" of the Company, as defined in Section 424(e) of the Code.

(x) "***Participant***" means any eligible person who has been granted one or more Awards.

(y) "***Participating Company***" means the Company or any Parent Corporation or Subsidiary Corporation.

(z) "***Participating Company Group***" means, at any point in time, all entities collectively which are then Participating Companies.

(aa) "***Restricted Stock Award***" means an Award of a Restricted Stock Bonus or a Restricted Stock Purchase Right.

(bb) "***Restricted Stock Bonus***" means Stock granted to a Participant pursuant to Section 7.

(cc) "***Restricted Stock Purchase Right***" means a right to purchase Stock granted to a Participant pursuant to Section 7.

(dd) "***Rule 16b-3***" means Rule 16b-3 under the Exchange Act, as amended from time to time, or any successor rule or regulation.

(ee) "***Securities Act***" means the Securities Act of 1933, as amended.

(ff) "***Service***" means a Participant's employment or service with the Participating Company Group, whether in the capacity of an Employee, a Director or a Consultant. Unless otherwise provided by the Board, a Participant's Service shall not be deemed to have terminated merely because of a change in the capacity in which the Participant renders such Service or a change in the Participating Company for which the Participant renders such Service, provided that there is no interruption or termination of the Participant's Service. Furthermore, a Participant's Service shall not be deemed to have terminated if the Participant takes any military leave, sick leave, or other bona fide leave of absence approved by the Company. However, unless otherwise provided by the Board, if any such leave taken by a

Participant exceeds ninety (90) days, then on the ninety-first (91st) day following the commencement of such leave the Participant's Service shall be deemed to have terminated, unless the Participant's right to return to Service is guaranteed by statute or contract. Notwithstanding the foregoing, unless otherwise established by the Company or required by law, an unpaid leave of absence shall not be treated as Service for purposes of determining vesting under the Participant's Award Agreement. Except as otherwise provided by the Board, in its discretion, the Participant's Service shall be deemed to have terminated either upon an actual termination of Service or upon the business entity for which the Participant performs Service ceasing to be a Participating Company. Subject to the foregoing, the Company, in its discretion, shall determine whether the Participant's Service has terminated and the effective date of and reason for such termination.

(gg) "***Stock***" means the common stock of the Company, as adjusted from time to time in accordance with Section 4.2.

(hh) "***Subsidiary Corporation***" means any present or future "subsidiary corporation" of the Company, as defined in Section 424(f) of the Code.

(ii) "***Ten Percent Stockholder***" means a person who, at the time an Award is granted to such person, owns stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of a Participating Company within the meaning of Section 422(b)(6) of the Code.

(jj) "***Vesting Conditions***" mean those conditions established in accordance with the Plan prior to the satisfaction of which shares subject to an Award remain subject to forfeiture or a repurchase option in favor of the Company exercisable for the Participant's monetary purchase price, if any, for such shares upon the Participant's termination of Service.

2.2 **Construction.** Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

## 3. ADMINISTRATION.

3.1 **Administration by the Board.** The Plan shall be administered by the Board. All questions of interpretation of the Plan, of any Award Agreement or of any other form of agreement or other document employed by the Company in the administration of the Plan or of any Award shall be determined by the Board, and such determinations shall be final, binding and conclusive upon all persons having an interest in the Plan or such Award, unless fraudulent or made in bad faith. Any and all actions, decisions and determinations taken or made by the Board in the exercise of its discretion pursuant to the Plan or Award Agreement or other agreement thereunder (other than determining questions of interpretation pursuant to the preceding sentence) shall be final, binding and conclusive upon all persons having an interest therein.

3.2 **Authority of Officers.** Any Officer shall have the authority to act on behalf of the Company with respect to any matter, right, obligation, determination or election which is the responsibility of or which is allocated to the Company herein, provided the Officer has apparent authority with respect to such matter, right, obligation, determination or election.

3.3 **Powers of the Board.** In addition to any other powers set forth in the Plan and subject to the provisions of the Plan, the Board shall have the full and final power and authority, in its discretion:

(a) to determine the persons to whom, and the time or times at which, Awards shall be granted and the number of shares of Stock to be subject to each Award;

(b) to determine the type of Award granted;

(c) to determine the Fair Market Value of shares of Stock or other property;

(d) to determine the terms, conditions and restrictions applicable to each Award (which need not be identical) and any shares acquired pursuant thereto, including, without limitation, (i) the exercise or purchase price of shares pursuant to any Award, (ii) the method of payment for shares purchased pursuant to any Award, (iii) the method for satisfaction of any tax withholding obligation arising in connection with any Award or shares acquired pursuant thereto, including by the withholding or delivery of shares of Stock, (iv) the timing, terms and conditions of the exercisability or vesting of any Award or shares acquired pursuant thereto, (v) the time of expiration of any Award, (vi) the effect of any Participant's termination of Service on any of the foregoing, and (vii) all other terms, conditions and restrictions applicable to any Award or shares acquired pursuant thereto not inconsistent with the terms of the Plan;

(e) to approve one or more forms of Award Agreement;

(f) to amend, modify, extend, cancel or renew any Award or to waive any restrictions or conditions applicable to any Award or any shares acquired pursuant thereto;

(g) to accelerate, continue, extend or defer the exercisability or vesting of any Award or any shares acquired pursuant thereto, including with respect to the period following a Participant's termination of Service;

(h) to prescribe, amend or rescind rules, guidelines and policies relating to the Plan, or to adopt sub-plans or supplements to, or alternative versions of, the Plan, including, without limitation, as the Board deems necessary or desirable to comply with the laws of, or to accommodate the tax policy, accounting principles or custom of, foreign jurisdictions whose citizens may be granted Awards; and

(i) to correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award Agreement and to make all other determinations and take such other actions with respect to the Plan or any Award as the Board may deem advisable to the extent not inconsistent with the provisions of the Plan or applicable law.

3.4 **Administration with Respect to Insiders.** With respect to participation by Insiders in the Plan, at any time that any class of equity security of the Company is registered pursuant to Section 12 of the Exchange Act, the Plan shall be administered in compliance with the requirements, if any, of Rule 16b-3.

3.5 **Indemnification.** In addition to such other rights of indemnification as they may have as members of the Board or as officers or employees of the Participating Company Group, members of the Board and any officers or employees of the Participating Company Group to whom authority to act for the Board or the Company is delegated shall be indemnified by the Company against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any right granted hereunder, and against all amounts paid by them in settlement thereof (provided such settlement is approved by independent legal counsel selected by the Company) or paid by them in satisfaction of a judgment in any such action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct in duties; provided, however, that within sixty (60) days after the institution of such action, suit or proceeding, such person shall offer to the Company, in writing, the opportunity at its own expense to handle and defend the same.

## 4. SHARES SUBJECT TO PLAN.

4.1 **Maximum Number of Shares Issuable.** Subject to adjustment as provided in Section 4.2, the maximum aggregate number of shares of Stock that may be issued under the Plan shall be 30,000,000 and shall consist of authorized but unissued or reacquired shares of Stock or any combination thereof. The aggregate number of shares of Stock issued pursuant to Awards under this Plan at any time shall equal only the number of shares of Stock actually issued upon grant, exercise or settlement of an Award. If an outstanding Award for any reason expires or is terminated or canceled or if shares of Stock are acquired pursuant to an Award subject to forfeiture or repurchase and are forfeited or repurchased by the Company for an amount not greater than the Participant's exercise or purchase price, the shares of Stock allocable to the terminated portion of such Award or such forfeited or repurchased shares of Stock shall again be available for issuance under the Plan.

4.2 **Adjustments for Changes in Capital Structure.** Subject to any required action by the stockholders of the Company and the requirements of Sections 409A and 424 of the Code to the extent applicable, in the event of any change in the Stock effected without receipt of consideration by the Company, whether through merger, consolidation, reorganization, reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares, or similar change in the capital structure of the Company, or in the event of payment of a dividend or distribution to the stockholders of the Company in a form other than Stock (excepting normal cash dividends) that has a material effect on the Fair Market Value of shares of Stock, appropriate and proportionate adjustments shall be made in the number and kind of shares subject to the Plan and to any outstanding Awards, in the ISO Share Limit set forth in Section 5.3(a), and in the exercise or purchase price per share of any outstanding Awards in order to prevent dilution or enlargement

of Participants' rights under the Plan. For purposes of the foregoing, conversion of any convertible securities of the Company shall not be treated as "effected without receipt of consideration by the Company." If a majority of the shares which are of the same class as the shares that are subject to outstanding Awards are exchanged for, converted into, or otherwise become (whether or not pursuant to an Ownership Change Event) shares of another corporation (the "***New Shares***"), the Board may unilaterally amend the outstanding Awards to provide that such Awards are for New Shares. In the event of any such amendment, the number of shares subject to, and the exercise or purchase price per share of, the outstanding Awards shall be adjusted in a fair and equitable manner as determined by the Board, in its discretion. Any fractional share resulting from an adjustment pursuant to this Section shall be rounded down to the nearest whole number, and the exercise price per share shall be rounded up to the nearest whole cent. In no event may the exercise or purchase price, if any, under any Award be decreased to an amount less than the par value, if any, of the stock subject to the Award. Such adjustments shall be determined by the Board, and its determination shall be final, binding and conclusive.

5. **ELIGIBILITY AND OPTION LIMITATIONS.**

5.1 **Persons Eligible for Awards.** Awards may be granted only to Employees, Consultants and Directors.

5.2 **Participation in the Plan.** Awards are granted solely at the discretion of the Board. Eligible persons may be granted more than one Award. However, eligibility in accordance with this Section shall not entitle any person to be granted an Award, or, having been granted an Award, to be granted an additional Award.

5.3 **Incentive Stock Option Limitations.**

(a) **Maximum Number of Shares Issuable Pursuant to Incentive Stock Options.** Subject to Section 4.1 and adjustment as provided in Section 4.2, the maximum aggregate number of shares of Stock that may be issued under the Plan pursuant to the exercise of Incentive Stock Options shall not exceed 30,000,000 shares (the "***ISO Share Limit***"). The maximum aggregate number of shares of Stock that may be issued under the Plan pursuant to all Awards other than Incentive Stock Options shall be the number of shares determined in accordance with Section 4.1, subject to adjustment as provided in Section 4.2.

(b) **Persons Eligible.** An Incentive Stock Option may be granted only to a person who, on the effective date of grant, is an Employee. Any person who is not an Employee on the effective date of the grant of an Option to such person may be granted only a Nonstatutory Stock Option.

(c) **Fair Market Value Limitation.** To the extent that Options designated as Incentive Stock Options (granted under all stock plans of the Participating Company Group, including the Plan) become exercisable by a Participant for the first time during any calendar year for Stock having a Fair Market Value greater than One Hundred Thousand Dollars ($100,000), the portions of such Options which exceed such amount shall be treated as Nonstatutory Stock Options. For purposes of this Section 5.3, Options designated as

Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of Stock shall be determined as of the time the Option with respect to such Stock is granted. If the Code is amended to provide for a limitation different from that set forth in this Section, such different limitation shall be deemed incorporated herein effective as of the date and with respect to such Options as required or permitted by such amendment to the Code. If an Option is treated as an Incentive Stock Option in part and as a Nonstatutory Stock Option in part by reason of the limitation set forth in this Section, the Participant may designate which portion of such Option the Participant is exercising. In the absence of such designation, the Participant shall be deemed to have exercised the Incentive Stock Option portion of the Option first. Upon exercise of the Option, shares of Stock issued pursuant to each such portion shall be separately identified.

6. **STOCK OPTIONS.**

Options shall be evidenced by Award Agreements specifying the number of shares of Stock covered thereby, in such form as the Board shall from time to time establish. Award Agreements shall set forth the terms and conditions upon which Stock Options may be exercised. Such Award Agreements may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

6.1 **Exercise Price.** The exercise price for each Option shall be established in the discretion of the Board; provided, however, that (a) the exercise price per share for an Option shall be not less than the Fair Market Value of a share of Stock on the effective date of grant of the Option and (b) no Incentive Stock Option granted to a Ten Percent Stockholder shall have an exercise price per share less than one hundred ten percent (110%) of the Fair Market Value of a share of Stock on the effective date of grant of the Option. Notwithstanding the foregoing, an Option (whether an Incentive Stock Option or a Nonstatutory Stock Option) may be granted with an exercise price lower than the minimum exercise price set forth above if such Option is granted pursuant to an assumption or substitution for another option in a manner qualifying under the provisions of Section 424(a) of the Code.

6.2 **Exercisability and Term of Options.** Options shall be exercisable at such time or times, or upon such event or events, and subject to such terms, conditions, performance criteria and restrictions as shall be determined by the Board and set forth in the Award Agreement evidencing such Option; provided, however, that (a) no Option shall be exercisable after the expiration of ten (10) years after the effective date of grant of such Option and (b) no Incentive Stock Option granted to a Ten Percent Stockholder shall be exercisable after the expiration of five (5) years after the effective date of grant of such Option. Subject to the foregoing, unless otherwise specified by the Board in the grant of an Option, any Option granted hereunder shall terminate ten (10) years after the effective date of grant of the Option, unless earlier terminated in accordance with its provisions.

6.3 **Payment of Exercise Price.**

(a) **Forms of Consideration Authorized.** Except as otherwise provided below, payment of the exercise price for the number of shares of Stock being purchased pursuant to any Option shall be made (i) in cash, by check or in cash equivalent, (ii) by tender to

the Company, or attestation to the ownership, of shares of Stock owned by the Participant having a Fair Market Value not less than the exercise price, (iii) by delivery of a properly executed notice of exercise together with irrevocable instructions to a broker providing for the assignment to the Company of the proceeds of a sale or loan with respect to some or all of the shares being acquired upon the exercise of the Option (including, without limitation, through an exercise complying with the provisions of Regulation T as promulgated from time to time by the Board of Governors of the Federal Reserve System) (a "***Cashless Exercise***"), (iv) by delivery of a properly executed notice electing a Net-Exercise, (v) by such other consideration as may be approved by the Board from time to time to the extent permitted by applicable law, or (vi) by any combination thereof. The Board may at any time or from time to time grant Options which do not permit all of the foregoing forms of consideration to be used in payment of the exercise price or which otherwise restrict one or more forms of consideration.

(b) **Limitations on Forms of Consideration.**

(i) **Tender of Stock.** Notwithstanding the foregoing, an Option may not be exercised by tender to the Company, or attestation to the ownership, of shares of Stock to the extent such tender or attestation would constitute a violation of the provisions of any law, regulation or agreement restricting the redemption of the Company's stock. Unless otherwise provided by the Board, an Option may not be exercised by tender to the Company, or attestation to the ownership, of shares of Stock unless such shares either have been owned by the Participant for more than six (6) months or such other period, if any, required by the Company (and were not used for another Option exercise by attestation during such period) or were not acquired, directly or indirectly, from the Company.

(ii) **Cashless Exercise.** The Company reserves, at any and all times, the right, in the Company's sole and absolute discretion, to establish, decline to approve or terminate any program or procedures for the exercise of Options by means of a Cashless Exercise, including with respect to one or more Participants specified by the Company notwithstanding that such program or procedures may be available to other Participants.

6.4 **Effect of Termination of Service.**

(a) **Option Exercisability.** Subject to earlier termination of the Option as otherwise provided by this Plan, an Option shall terminate immediately upon the Participant's termination of Service to the extent that it is then unvested and shall be exercisable after the Participant's termination of Service to the extent it is then vested only during the applicable time period determined in accordance with the Award Agreement evidencing the Option. To the extent required by applicable law, vested Options shall be exercisable for a minimum period of six (6) months following termination of the Participant's Service due to Disability or death and thirty (30) days following any other termination of Service (other than a termination due to Cause). Except as otherwise provided in an Award Agreement, if the Participant's Service is terminated for Cause, the Option shall terminate in its entirety and cease to be exercisable immediately upon such termination of Service. Notwithstanding the foregoing, no Option shall be exercisable later than the date of expiration of the Option's term as set forth in the Award Agreement evidencing the Option (the "***Option Expiration Date***").

(b) **Extension if Exercise Prevented by Law.** Notwithstanding the foregoing and other than with respect to a termination of Service for Cause, if the exercise of an Option within the applicable time periods set forth in the Award Agreement is prevented by the provisions of Section 11 below, the Option shall remain exercisable until the later of (i) thirty (30) days after the date such exercise first would no longer be prevented by such provisions or (ii) the end of the applicable time period set forth in the Award Agreement, but in any event no later than the Option Expiration Date.

6.5 **Transferability of Options.** During the lifetime of the Participant, an Option shall be exercisable only by the Participant or the Participant's guardian or legal representative. An Option shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. Notwithstanding the foregoing, to the extent permitted by the Board, in its discretion, and set forth in the Award Agreement evidencing such Option, a Nonstatutory Stock Option shall be assignable or transferable subject to the applicable limitations, if any, described in Rule 701 under the Securities Act, and the General Instructions to the Form S-8 Registration Statement under the Securities Act.

## 7. RESTRICTED STOCK AWARDS.

Restricted Stock Awards shall be evidenced by Award Agreements specifying whether the Award is a Restricted Stock Bonus or a Restricted Stock Purchase Right and the number of shares of Stock subject to the Award, in such form as the Board shall from time to time establish. Award Agreements evidencing Restricted Stock Awards may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

7.1 **Types of Restricted Stock Awards Authorized.** Restricted Stock Awards may be granted in the form of either a Restricted Stock Bonus or a Restricted Stock Purchase Right. Restricted Stock Awards may be granted upon such conditions as the Board shall determine, including, without limitation, upon the attainment of one or more performance goals.

7.2 **Purchase Price.** The purchase price for shares of Stock issuable under each Restricted Stock Purchase Right shall be established by the Board in its discretion. No monetary payment (other than applicable tax withholding) shall be required as a condition of receiving shares of Stock pursuant to a Restricted Stock Bonus, the consideration for which shall be services actually rendered to a Participating Company or for its benefit. Notwithstanding the foregoing, if required by applicable state corporate law, the Participant shall furnish consideration in the form of cash or past services rendered to a Participating Company or for its benefit having a value not less than the par value of the shares of Stock subject to a Restricted Stock Award.

7.3 **Purchase Period.** A Restricted Stock Purchase Right shall be exercisable within a period established by the Board, which shall in no event exceed thirty (30) days from the effective date of the grant of the Restricted Stock Purchase Right.

7.4 **Payment of Purchase Price.** Except as otherwise provided below, payment of the purchase price for the number of shares of Stock being purchased pursuant to any Restricted Stock Purchase Right shall be made (a) in cash, by check or in cash equivalent, (b) by such other consideration as may be approved by the Board from time to time to the extent permitted by applicable law, or (c) by any combination thereof.

7.5 **Vesting and Restrictions on Transfer.** Shares issued pursuant to any Restricted Stock Award may (but need not) be made subject to Vesting Conditions based upon the satisfaction of such Service requirements, conditions, restrictions or performance criteria, as shall be established by the Board and set forth in the Award Agreement evidencing such Award. During any period in which shares acquired pursuant to a Restricted Stock Award remain subject to Vesting Conditions, such shares may not be sold, exchanged, transferred, pledged, assigned or otherwise disposed of other than pursuant to an Ownership Change Event or as provided in Section 7.8. The Board, in its discretion, may provide in any Award Agreement evidencing a Restricted Stock Award that, if the satisfaction of Vesting Conditions with respect to any shares subject to such Restricted Stock Award would otherwise occur on a day on which the sale of such shares would violate the provisions of the Insider Trading Policy, then satisfaction of the Vesting Conditions automatically shall be determined on the next trading day on which the sale of such shares would not violate the Insider Trading Policy. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the receipt of shares of Stock hereunder and shall promptly present to the Company any and all certificates representing shares of Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions.

7.6 **Voting Rights; Dividends and Distributions.** Except as provided in this Section, Section 7.5 and any Award Agreement, during any period in which shares acquired pursuant to a Restricted Stock Award remain subject to Vesting Conditions, the Participant shall have all of the rights of a stockholder of the Company holding shares of Stock, including the right to vote such shares and to receive all dividends and other distributions paid with respect to such shares. However, in the event of a dividend or distribution paid in shares of Stock or other property or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant is entitled by reason of the Participant's Restricted Stock Award shall be immediately subject to the same Vesting Conditions as the shares subject to the Restricted Stock Award with respect to which such dividends or distributions were paid or adjustments were made.

7.7 **Effect of Termination of Service.** Unless otherwise provided by the Board in the Award Agreement evidencing a Restricted Stock Award, if a Participant's Service terminates for any reason, whether voluntary or involuntary (including the Participant's death or disability), then (a) the Company shall have the option to repurchase for the purchase price paid by the Participant any shares acquired by the Participant pursuant to a Restricted Stock Purchase Right which remain subject to Vesting Conditions as of the date of the Participant's termination of Service and (b) the Participant shall forfeit to the Company any shares acquired by the Participant pursuant to a Restricted Stock Bonus which remain subject to Vesting Conditions as of the date of the Participant's termination of Service. The Company shall have the right to

assign at any time any repurchase right it may have, whether or not such right is then exercisable, to one or more persons as may be selected by the Company.

7.8 **Nontransferability of Restricted Stock Award Rights.** Rights to acquire shares of Stock pursuant to a Restricted Stock Award shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or the laws of descent and distribution. All rights with respect to a Restricted Stock Award granted to a Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

## 8. STANDARD FORMS OF AWARD AGREEMENTS.

8.1 **Award Agreements.** Each Award shall comply with and be subject to the terms and conditions set forth in the appropriate form of Award Agreement approved by the Board and as amended from time to time. No Award or purported Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Any Award Agreement may consist of an appropriate form of Notice of Grant and a form of Agreement incorporated therein by reference, or such other form or forms, including electronic media, as the Board may approve from time to time.

8.2 **Authority to Vary Terms.** The Board shall have the authority from time to time to vary the terms of any standard form of Award Agreement either in connection with the grant or amendment of an individual Award or in connection with the authorization of a new standard form or forms; provided, however, that the terms and conditions of any such new, revised or amended standard form or forms of Award Agreement are not inconsistent with the terms of the Plan or applicable law.

## 9. CHANGE IN CONTROL.

9.1 **Effect of Change in Control on Awards.** Subject to the requirements and limitations of Section 409A of the Code, if applicable, the Board may provide for any one or more of the following:

(a) **Accelerated Vesting.** The Board may, in its discretion, provide in any Award Agreement or, in the event of a Change in Control, may take such actions as it deems appropriate to provide for the acceleration of the exercisability and/or vesting in connection with such Change in Control of each or any outstanding Award or portion thereof and shares acquired pursuant thereto upon such conditions, including termination of the Participant's Service prior to, upon, or following such Change in Control, to such extent as the Board shall determine.

(b) **Assumption, Continuation or Substitution of Awards.** In the event of a Change in Control, the surviving, continuing, successor, or purchasing corporation or other business entity or parent thereof, as the case may be (the "***Acquiror***"), may, without the consent of any Participant, assume or continue the Company's rights and obligations under each or any Award or portion thereof outstanding immediately prior to the Change in Control or substitute for each or any such outstanding Award or portion thereof a substantially equivalent award with respect to the Acquiror's stock. For purposes of this Section, if so determined by the

Board, in its discretion, an Award or any portion thereof shall be deemed assumed if, following the Change in Control, the Award confers the right to receive, subject to the terms and conditions of the Plan and the applicable Award Agreement, for each share of Stock subject to such portion of the Award immediately prior to the Change in Control, the consideration (whether stock, cash, other securities or property or a combination thereof) to which a holder of a share of Stock on the effective date of the Change in Control was entitled; provided, however, that if such consideration is not solely common stock of the Acquiror, the Board may, with the consent of the Acquiror, provide for the consideration to be received upon the exercise of the Award for each share of Stock to consist solely of common stock of the Acquiror equal in Fair Market Value to the per share consideration received by holders of Stock pursuant to the Change in Control. If any portion of such consideration may be received by holders of Stock pursuant to the Change in Control on a contingent or delayed basis, the Board may, in its discretion, determine such Fair Market Value per share as of the time of the Change in Control on the basis of the Board's good faith estimate of the present value of the probable future payment of such consideration. Except as otherwise provided in an Award Agreement, if the Acquiror does not assume or continue any Award, then any Award or portion thereof which is not assumed or continued by the Acquiror in connection with the Change in Control and which is not exercised as of the time of consummation of the Change in Control shall terminate and cease to be outstanding effective as of the time of consummation of the Change in Control. Notwithstanding the foregoing, shares acquired upon exercise of an Award prior to the Change in Control and any consideration received pursuant to the Change in Control with respect to such shares shall continue to be subject to all applicable provisions of the Award Agreement evidencing such Award except as otherwise provided in such Award Agreement.

(c) **Cash-Out of Outstanding Awards.** Notwithstanding anything in this Plan to the contrary, the Board may, in its discretion and without the consent of any Participant, determine that, upon the occurrence of a Change in Control, each or any Award or portion thereof outstanding immediately prior to the Change in Control shall be canceled in exchange for a payment with respect to each vested share (and each unvested share, if so determined by the Board) of Stock subject to such canceled Award in (i) cash, (ii) stock of the Company or of a corporation or other business entity a party to the Change in Control, or (iii) other property which, in any such case, shall be in an amount having a Fair Market Value equal to the Fair Market Value of the consideration to be paid per share of Stock in the Change in Control, reduced by the exercise or purchase price per share, if any, under such Award. If any portion of such consideration may be received by holders of Stock pursuant to the Change in Control on a contingent or delayed basis, the Board may, in its sole discretion, determine such Fair Market Value per share as of the time of the Change in Control on the basis of the Board's good faith estimate of the present value of the probable future payment of such consideration. In the event such determination is made by the Board, the amount of such payment (reduced by applicable withholding taxes, if any) shall be paid to Participants in respect of the vested portions of their canceled Awards as soon as practicable following the date of the Change in Control and in respect of the unvested portions of their canceled Awards in accordance with the vesting schedules applicable to such Awards.

9.2 **Federal Excise Tax Under Section 4999 of the Code.**

(a) If at any time or from time to time, it shall be determined by independent tax professionals selected by the Company ("Tax Professional") that any acceleration of vesting pursuant to an Award and any other payment or benefit received or to be received by a Participant, whether or not pursuant to an Award granted under the Plan, would subject the Participant to any excise tax pursuant to Section 4999 of the Code (or any similar tax payable under any state, local, foreign or other law, but expressly excluding any income taxes and penalties or interest imposed pursuant to Section 409A of the Code ("Excise Taxes"), due to the characterization of such acceleration of vesting, payment or benefit as an "excess parachute payment" under Section 280G of the Code ("Potential Parachute Payment"), then Participant's Potential Parachute Payment shall be either (a) provided to Executive in full, or (b) provided to Participant as to such lesser extent which would result in no portion of such benefits being subject to the Excise Taxes, whichever of the foregoing amounts, after taking into account applicable federal, state, local and foreign income and employment taxes, the Excise Tax, and any other applicable taxes, results in the receipt by Participant, on an after-tax basis, of the greatest amount of benefits, notwithstanding that all or some portion of such benefits may be taxable under the Excise Taxes ("Payments").

(b) Implementation of Any Benefit Reduction. In the event of a reduction of benefits pursuant to paragraph 9.2(a), the Tax Professional shall determine which benefits shall be reduced so as to achieve the principle set forth in paragraph 9.2(a). For purposes of making the calculations required by paragraph 9.2(a), the Tax Professional may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code and other applicable legal authority. The Company and the Participant shall furnish to the Tax Professional such information and documents as the Tax Professional may reasonably request in order to make a determination under paragraph 9.2(a). The Company shall bear all costs the Tax Professional may reasonably incur in connection with any calculations contemplated by paragraph 9.2(a).

(c) Potential Subsequent Adjustments.

(i) If, notwithstanding any calculations performed or reduction in benefits imposed as described in paragraph 9.2(a), the IRS determines that Participant is liable for Excise Taxes as a result of the receipt of any payments characterized as "parachute payments" within the meaning of Section 280G of the Code, then the Participant shall be obligated to pay back to the Company, within thirty (30) days after a final IRS determination or in the event that the Participant challenges the final IRS determination, a final judicial determination, a portion of the Payments equal to the "Repayment Amount." The Repayment Amount shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Participant's net after-tax proceeds with respect to the Payments (after taking into account the payment of the Excise Taxes and all other applicable taxes imposed on such benefits) shall be maximized. The Repayment Amount shall be zero if a Repayment Amount of more than zero would not result in Executive's net after-tax proceeds with respect to the Payments being maximized. If the Excise Taxes are not eliminated pursuant to this paragraph 9.2(c), Executive shall pay the Excise Taxes.

(ii) Notwithstanding any other provision of this Section 9.2, if (A) there is a reduction in the payments to the Participant as described above in this Section 9.2, (B) the IRS later determines that the Participant is liable for Excise Taxes, the payment of which would result in the maximization of the Participant's net after-tax proceeds (calculated based on the full amount of the Participant's parachute payments and as if the Participant's benefits had not previously been reduced), and (C) the Participant pays the Excise Tax, then the Company shall pay to the Participant those payments which were reduced pursuant to the application of the previous provisions of this Section 9.2 as soon as administratively possible after the Participant pays the Excise Taxes to the extent that the Participant's net after-tax proceeds with respect to the payment of the Payments are maximized.

## 10. TAX WITHHOLDING.

10.1 **Tax Withholding in General.** The Company shall have the right to deduct from any and all payments made under the Plan, or to require the Participant, through payroll withholding, cash payment or otherwise, including by means of a Cashless Exercise of an Option, to make adequate provision for, the federal, state, local and foreign taxes (including any social insurance tax), if any, required by law to be withheld by the Participating Company Group with respect to an Award or the shares acquired pursuant thereto. The Company shall have no obligation to deliver shares of Stock or to release shares of Stock from an escrow established pursuant to an Award Agreement until the Participating Company Group's tax withholding obligations have been satisfied by the Participant.

10.2 **Withholding in Shares.** The Company shall have the right, but not the obligation, to deduct from the shares of Stock issuable to a Participant upon the exercise of an Award, or to accept from the Participant the tender of, a number of whole shares of Stock having a Fair Market Value, as determined by the Company, equal to all or any part of the tax withholding obligations of the Participating Company Group. The Fair Market Value of any shares of Stock withheld or tendered to satisfy any such tax withholding obligations shall not exceed the amount determined by the applicable minimum statutory withholding rates.

## 11. COMPLIANCE WITH SECURITIES LAW.

The grant of Awards and the issuance of shares of Stock pursuant to any Award shall be subject to compliance with all applicable requirements of federal, state and foreign law with respect to such securities and the requirements of any stock exchange or market system upon which the Stock may then be listed. In addition, no Award may be exercised or shares issued pursuant to an Award unless (a) a registration statement under the Securities Act shall at the time of such exercise or issuance be in effect with respect to the shares issuable pursuant to the Award or (b) in the opinion of legal counsel to the Company, the shares issuable pursuant to the Award may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Securities Act. The inability of the Company to obtain from any regulatory body having jurisdiction the authority, if any, deemed by the Company's legal counsel to be necessary to the lawful issuance and sale of any shares hereunder shall relieve the Company of any liability in respect of the failure to issue or sell such shares as to which such requisite authority shall not have been obtained. As a condition to issuance of any Stock, the Company may require the Participant to satisfy any qualifications that may be necessary or

appropriate, to evidence compliance with any applicable law or regulation and to make any representation or warranty with respect thereto as may be requested by the Company.

12. **AMENDMENT OR TERMINATION OF PLAN.**

The Board may amend, suspend or terminate the Plan at any time. However, without the approval of the Company's stockholders, there shall be (a) no increase in the maximum aggregate number of shares of Stock that may be issued under the Plan (except by operation of the provisions of Section 4.2), (b) no change in the class of persons eligible to receive Incentive Stock Options, and (c) no other amendment of the Plan that would require approval of the Company's stockholders under any applicable law, regulation or rule, including the rules of any stock exchange or market system upon which the Stock may then be listed. No amendment, suspension or termination of the Plan shall affect any then outstanding Award unless expressly provided by the Board. Except as provided by the next sentence, no amendment, suspension or termination of the Plan may materially adversely affect any then outstanding Award without the consent of the Participant. Notwithstanding any other provision of the Plan or any Award Agreement to the contrary, the Board may, in its sole and absolute discretion and without the consent of any Participant, amend the Plan or any Award Agreement, to take effect retroactively or otherwise, as it deems necessary or advisable for the purpose of conforming the Plan or such Award Agreement to any present or future law, regulation or rule applicable to the Plan, including, but not limited to, Section 409A of the Code.

13. **MISCELLANEOUS PROVISIONS.**

13.1 **Repurchase Rights.** Shares of Stock issued under the Plan may be subject to a right of first refusal, one or more repurchase options, or other conditions and restrictions as determined by the Board in its discretion at the time the Award is granted. The Company shall have the right to assign at any time any repurchase right or other right that it may have with respect to a share of Stock issued under the Plan, whether or not such right is then exercisable, to one or more persons as may be selected by the Company. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the issuance of shares of Stock hereunder and shall promptly present to the Company any and all certificates representing shares of Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions. To the extent required by any agreement of stockholders or other agreement to which the Company is or may become subject, persons acquiring shares of Stock issued under the Plan will be required to enter into such agreement upon acquiring such shares of Stock.

13.2 **Provision of Information.** At least annually, copies of the Company's balance sheet and income statement for the just completed fiscal year shall be made available to each Participant and purchaser of shares of Stock upon the exercise of an Award; provided, however, that this requirement shall not apply if all offers and sales of securities pursuant to the Plan comply with all applicable conditions of Rule 701 under the Securities Act. The Company shall not be required to provide such information to key persons whose duties in connection with the Company assure them access to equivalent information. The Company shall deliver to each Participant such disclosures as are required in accordance with Rule 701 under the Securities Act.

13.3 **Rights as Employee, Consultant or Director.** No person, even though eligible pursuant to Section 5, shall have a right to be selected as a Participant, or, having been so selected, to be selected again as a Participant. Nothing in the Plan or any Award granted under the Plan shall confer on any Participant a right to remain an Employee, Consultant or Director or interfere with or limit in any way any right of a Participating Company to terminate the Participant's Service at any time. To the extent that an Employee of a Participating Company other than the Company, receives an Award under the Plan, that Award shall in no event be understood or interpreted to mean that the Company is the Employee's employer or that the Employee has an employment relationship with the Company.

13.4 **Rights as a Stockholder.** A Participant shall have no rights as a stockholder with respect to any shares covered by an Award until the date of the issuance of such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). No adjustment shall be made for dividends, distributions or other rights for which the record date is prior to the date such shares are issued, except as provided in Section 4.2 or another provision of the Plan.

13.5 **Delivery of Title to Shares.** Subject to any governing rules or regulations, the Company shall issue or cause to be issued the shares of Stock acquired pursuant to an Award and shall deliver such shares to or for the benefit of the Participant by means of one or more of the following: (a) by delivering to the Participant evidence of book entry shares of Stock credited to the account of the Participant, (b) by depositing such shares of Stock for the benefit of the Participant with any broker with which the Participant has an account relationship, (c) by delivering such shares of Stock to the Participant in certificate form, or (d) by delivering such shares to an escrow agent who shall hold such shares in accordance with the terms of a form of escrow agreement established by the Company in order to ensure compliance with the terms of the Plan, the Award Agreement under which the right to receive such shares of Stock were granted, and any other conditions, restrictions or terms of other agreement to which such shares of Stock are subject upon their issuance.

13.6 **Fractional Shares.** The Company shall not be required to issue fractional shares upon the exercise or settlement of any Award.

13.7 **Retirement and Welfare Plans.** Neither Awards made under this Plan nor shares of Stock or cash paid pursuant to such Awards shall be included as "compensation" for purposes of computing the benefits payable to any Participant under any Participating Company's retirement plans (both qualified and non-qualified) or welfare benefit plans unless such other plan expressly provides that such compensation shall be taken into account in computing such benefits.

13.8 **Severability.** If any one or more of the provisions (or any part thereof) of this Plan shall be held invalid, illegal or unenforceable in any respect, such provision shall be modified so as to make it valid, legal and enforceable, and the validity, legality and enforceability of the remaining provisions (or any part thereof) of the Plan shall not in any way be affected or impaired thereby.

13.9 **No Constraint on Corporate Action.** Nothing in this Plan shall be construed to: (a) limit, impair, or otherwise affect the Company's or another Participating Company's right or power to make adjustments, reclassifications, reorganizations, or changes of its capital or business structure, or to merge or consolidate, or dissolve, liquidate, sell, or transfer all or any part of its business or assets; or (b) limit the right or power of the Company or another Participating Company to take any action which such entity deems to be necessary or appropriate.

13.10 **Choice of Law.** Except to the extent governed by applicable federal law, the validity, interpretation, construction and performance of the Plan and each Award Agreement shall be governed by the laws of the State of California, without regard to its conflict of law rules.

13.11 **Stockholder Approval.** The Plan or any increase in the maximum aggregate number of shares of Stock issuable thereunder as provided in Section 4.1 (the "***Authorized Shares***") shall be approved by a majority of the outstanding securities of the Company entitled to vote by the later of (a) a period beginning twelve (12) months before and ending twelve (12) months after the date of adoption thereof by the Board or (b) the first issuance of any security pursuant to the Plan in the State of California (within the meaning of Section 25008 of the California Corporations Code). Awards granted prior to security holder approval of the Plan or in excess of the Authorized Shares previously approved by the security holders shall become exercisable no earlier than the date of security holder approval of the Plan or such increase in the Authorized Shares, as the case may be, and such Awards shall be rescinded if such security holder approval is not received in the manner described in the preceding sentence.

PLAN HISTORY

| | |
|---|---|
| February 23, 2012 | Board adopts Ascendant MDx, Inc. 2012 Stock Plan, with an initial reserve of 1,250,000 shares. |
| February 23, 2012 | Stockholders of the Company approve Ascendant MDx, Inc. 2012 Stock Plan. |
| June 12, 2013 | Board adopts Amended and Restated Ascendant MDx, Inc. 2012 Stock Plan with a reserve of 3,000,000 shares. |
| June 12, 2013 | Stockholders of the Company approve Amended and Restated Ascendant MDx, Inc. 2012 Stock Plan. |
| August 21, 2013 | Board and Stockholders adopt and approve a 10 for 1 stock split (and corresponding Second Amended and Restated Progenity, Inc. 2012 Stock Plan with a reserve of 30,000,0000 shares, reflecting the stock split) |

**Exhibit 10.4**

# PROGENITY, INC. 2015 CONSULTANT STOCK PLAN

## 1. ESTABLISHMENT, PURPOSE AND TERM OF PLAN.

1.1 **Establishment.** The Progenity, Inc. 2015 Consultant Stock Plan (the "***Plan***") is hereby established effective as of June 8, 2015. Capitalized terms used in this Section 1 shall have the meanings set forth below in Section 2.1.

1.2 **Purpose.** The purpose of the Plan is to advance the interests of the Participating Company Group and its stockholders by providing an incentive to attract, retain and reward individual consultants performing services for the Participating Company Group and by motivating such persons to contribute to the growth and profitability of the Participating Company Group. The Company intends that Awards granted pursuant to the Plan be exempt from or comply with Section 409A of the Code (including any amendments or replacements of such section), and the Plan shall be so construed.

1.3 **Term of Plan.** The Plan shall continue in effect until its termination by the Board.

## 2. DEFINITIONS AND CONSTRUCTION.

2.1 **Definitions.** Whenever used herein, the following terms shall have their respective meanings set forth below:

(a) "***Accredited Investor***" has the meaning defined in Rule 501 of Regulation D promulgated under the Securities Act.

(b) "***Award***" means an Option, Restricted Stock Purchase Right or Restricted Stock Bonus granted under the Plan.

(c) "***Award Agreement***" means a written or electronic agreement between the Company and a Participant setting forth the terms, conditions and restrictions of the Award granted to the Participant.

(d) "***Board***" means the Board of Directors of the Company. If one or more Committees have been appointed by the Board to administer the Plan, "***Board***" also means such Committee(s).

(e) "***Cause***" means, unless such term or an equivalent term is otherwise defined with respect to an Award by the Participant's Award Agreement or written contract of employment or service, any of the following: (i) the Participant's theft, dishonesty, willful misconduct, breach of fiduciary duty for personal profit, or falsification of any documents or records of any Participating Company or an Engaging Company; (ii) the Participant's material failure to abide by an Engaging Company's code of conduct or other policies (including, without limitation, policies relating to confidentiality and reasonable workplace conduct); (iii) the Participant's unauthorized use, misappropriation, destruction or diversion of any tangible or intangible asset or corporate opportunity of an Engaging Company or a Participating Company

(including, without limitation, the Participant's improper use or disclosure of an Engaging Company or a Participating Company's confidential or proprietary information); (iv) any intentional act by the Participant which has a material detrimental effect on an Engaging Company or a Participating Company's reputation or business; (v) the Participant's repeated failure or inability to perform any reasonable assigned duties after written notice from an Engaging Company of, and a reasonable opportunity to cure, such failure or inability; (vi) any material breach by the Participant of any employment or service agreement between the Participant and an Engaging Company or an Engaging Company and a Participating Company, which breach is not cured pursuant to the terms of such agreement; or (vii) the Participant's conviction (including any plea of guilty or *nolo contendere*) of any criminal act involving fraud, dishonesty, misappropriation or moral turpitude, or which impairs the Participant's ability to perform his or her duties with an Engaging Company or to any Participating Company.

(f) "***Change in Control***" means, unless such term or an equivalent term is otherwise defined with respect to an Award by the Participant's Award Agreement or written contract of employment or service, the occurrence of any of the following:

(i) an Ownership Change Event or a series of related Ownership Change Events (collectively, a "***Transaction***") in which the stockholders of the Company immediately before the Transaction do not retain immediately after the Transaction direct or indirect beneficial ownership of more than fifty percent (50%) of the total combined voting power of the outstanding securities entitled to vote generally in the election of Directors or, in the case of an Ownership Change Event described in Section 2.1(v)(iii), the entity to which the assets of the Company were transferred (the "***Transferee***"), as the case may be; or

(ii) the liquidation or dissolution of the Company.

For purposes of the preceding sentence, indirect beneficial ownership shall include, without limitation, an interest resulting from ownership of the voting securities of one or more corporations or other business entities which own the Company or the Transferee, as the case may be, either directly or through one or more subsidiary corporations or other business entities. The Board shall have the right to determine whether multiple sales or exchanges of the voting securities of the Company or multiple Ownership Change Events are related, and its determination shall be final, binding and conclusive.

(g) "***Code***" means the Internal Revenue Code of 1986, as amended, and any applicable regulations and administrative guidelines promulgated thereunder.

(h) "***Committee***" means the compensation committee or other committee or subcommittee of the Board duly appointed to administer the Plan and having such powers as shall be specified by the Board. Unless the powers of the Committee have been specifically limited, the Committee shall have all of the powers of the Board granted herein, including, without limitation, the power to amend or terminate the Plan at any time, subject to the terms of the Plan and any applicable limitations imposed by law.

(i) "***Company***" means Progenity, Inc., a Delaware corporation, or any successor corporation thereto.

(j) "***Consultant***" means a person engaged to provide consulting or advisory services (other than as an Employee or a Director) to a Participating Company, or to provide services as an employee to an Engaging Company. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be a Consultant and the effective date thereof. For purposes of an individual's rights, if any, under the terms of the Plan as of the time of the Company's determination of whether or not the individual is a Consultant, all such determinations by the Company shall be final, binding and conclusive as to such rights, if any.

(k) "***Director***" means a member of the Board.

(l) "***Disability***" means the inability of the Participant, in the opinion of a qualified physician acceptable to the Company, to perform the major duties of the Participant's position with the Engaging Company or to a Participating Company Group because of the sickness or injury of the Participant.

(m) "***Employee***" means any person treated as an employee (including an Officer or a Director who is also treated as an employee) in the records of a Participating Company; provided, however, that neither service as a Director nor payment of a director's fee shall be sufficient to constitute employment for purposes of the Plan. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be an Employee (including any change in status from a Consultant to Employee) and the effective date of such individual's employment or termination of employment, as the case may be. For purposes of an individual's rights, if any, under the terms of the Plan as of the time of the Company's determination of whether or not the individual is an Employee, all such determinations by the Company shall be final, binding and conclusive as to such rights, if any, notwithstanding that the Company or any court of law or governmental agency subsequently makes a contrary determination as to such individual's status as an Employee.

(n) "***Engaging Company***" means any entity (i) for which a Participant is treated as an employee in the records of such entity, and (ii) that has an agreement with a Participating Company to provide services to the Participating Company (an "***Engaging Company Service Agreement***").

(o) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended.

(p) "***Fair Market Value***" means, as of any date, the value of a share of Stock or other property as determined by the Board, in its discretion, or by the Company, in its discretion, if such determination is expressly allocated to the Company herein, subject to the following:

(i) If, on such date, the Stock is listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be the closing price of a share of Stock as quoted on the national or regional securities exchange or market system constituting the primary market for the Stock, as reported in The Wall Street Journal or such other source as the Company deems reliable. If the relevant date does not fall on a day on which the

Stock has traded on such securities exchange or market system, the date on which the Fair Market Value shall be established shall be the last day on which the Stock was so traded prior to the relevant date, or such other appropriate day as shall be determined by the Board, in its discretion.

(ii) If, on such date, the Stock is not listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be as determined by the Board in good faith without regard to any restriction other than a restriction which, by its terms, will never lapse, and in a manner consistent with the requirements of Section 409A of the Code.

(q) "***Insider***" means an Officer, a Director or other person whose transactions in Stock are subject to Section 16 of the Exchange Act.

(r) "***Insider Trading Policy***" means the written policy of the Company pertaining to the purchase, sale, transfer or other disposition of the Company's equity securities by Directors, Officers, Employees or other service providers who may possess material, nonpublic information regarding the Company or its securities.

(s) "***Net-Exercise***" means a procedure by which the Participant will be issued a number of whole shares of Stock upon the exercise of an Option determined in accordance with the following formula:

N = X(A-B)/A, where

"N" = the number of shares of Stock to be issued to the Participant upon exercise of the Option;

"X" = the total number of shares with respect to which the Participant has elected to exercise the Option;

"A" = the Fair Market Value of one (1) share of Stock determined on the exercise date; and

"B" = the exercise price per share (as defined in the Participant's Award Agreement).

(t) "***Officer***" means any person designated by the Board as an officer of the Company.

(u) "***Option***" means an option granted pursuant to the Plan, which options may not be incentive stock options as defined under Section 422 of the Code.

(v) "***Ownership Change Event***" means the occurrence of any of the following with respect to the Company: (i) the direct or indirect sale or exchange in a single or series of related transactions by the stockholders of the Company of more than fifty percent (50%) of the voting stock of the Company; (ii) a merger or consolidation in which the Company is a party; or (iii) the sale, exchange, or transfer of all or substantially all of the assets of the Company (other than a sale, exchange or transfer to one or more subsidiaries of the Company).

(w) "***Parent Corporation***" means any present or future "parent corporation" of the Company, as defined in Section 424(e) of the Code.

(x) "***Participant***" means any eligible person who has been granted one or more Awards.

(y) "***Participating Company***" means the Company or any Parent Corporation or Subsidiary Corporation.

(z) "***Participating Company Group***" means, at any point in time, all entities collectively which are then Participating Companies.

(aa) "***Restricted Stock Award***" means an Award of a Restricted Stock Bonus or a Restricted Stock Purchase Right.

(bb) "***Restricted Stock Bonus***" means Stock granted to a Participant pursuant to Section 7.

(cc) "***Restricted Stock Purchase Right***" means a right to purchase Stock granted to a Participant pursuant to Section 7.

(dd) "***Rule 16b-3***" means Rule 16b-3 under the Exchange Act, as amended from time to time, or any successor rule or regulation.

(ee) "***Securities Act***" means the Securities Act of 1933, as amended.

(ff) "***Service***" means a Participant's employment or service with the Participating Company Group, whether in the capacity of an Employee, a Director or a Consultant, or employment with an Engaging Company. Unless otherwise provided by the Board, a Participant's Service shall not be deemed to have terminated merely because of a change in the capacity in which the Participant renders such Service or a change in the Participating Company for which the Participant renders such Service or a change from providing service as an employee of an Engaging Company to employment or service with a Participating Company, provided that there is no interruption or termination of the Participant's Service. Furthermore, a Participant's Service shall not be deemed to have terminated if the Participant takes any military leave, sick leave, or other bona fide leave of absence approved by the Company. However, unless otherwise provided by the Board, if any such leave taken by a Participant exceeds ninety (90) days, then on the ninety-first (91st) day following the commencement of such leave the Participant's Service shall be deemed to have terminated, unless the Participant's right to return to Service is guaranteed by statute or contract. Unless a Participant concurrently becomes an Employee or Director, any termination of an Engaging Company Service Agreement, for any reason, or no reason, or a Participant's termination of employment with the Engaging Company, shall be a termination of Service. Notwithstanding the foregoing, unless otherwise established by the Company or required by law, an unpaid leave of absence shall not be treated as Service for purposes of determining vesting under the Participant's Award Agreement. Except as otherwise provided by the Board, in its discretion, the Participant's Service shall be deemed to have terminated either upon an actual termination of Service or upon the business entity for which the Participant performs Service ceasing to be a Participating Company. Subject to the foregoing, the Company, in its discretion,

shall determine whether the Participant's Service has terminated and the effective date of and reason for such termination.

(gg) "***Stock***" means the common stock of the Company, as adjusted from time to time in accordance with Section 4.2.

(hh) "***Subsidiary Corporation***" means any present or future "subsidiary corporation" of the Company, as defined in Section 424(f) of the Code.

(ii) "***Vesting Conditions***" mean those conditions established in accordance with the Plan prior to the satisfaction of which shares subject to an Award remain subject to forfeiture or a repurchase option in favor of the Company exercisable for the Participant's monetary purchase price, if any, for such shares upon the Participant's termination of Service.

2.2 **Construction.** Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

## 3. ADMINISTRATION.

3.1 **Administration by the Board.** The Plan shall be administered by the Board. All questions of interpretation of the Plan, of any Award Agreement or of any other form of agreement or other document employed by the Company in the administration of the Plan or of any Award shall be determined by the Board, and such determinations shall be final, binding and conclusive upon all persons having an interest in the Plan or such Award, unless fraudulent or made in bad faith. Any and all actions, decisions and determinations taken or made by the Board in the exercise of its discretion pursuant to the Plan or Award Agreement or other agreement thereunder (other than determining questions of interpretation pursuant to the preceding sentence) shall be final, binding and conclusive upon all persons having an interest therein.

3.2 **Authority of Officers.** Any Officer shall have the authority to act on behalf of the Company with respect to any matter, right, obligation, determination or election which is the responsibility of or which is allocated to the Company herein, provided the Officer has apparent authority with respect to such matter, right, obligation, determination or election.

3.3 **Powers of the Board.** In addition to any other powers set forth in the Plan and subject to the provisions of the Plan, the Board shall have the full and final power and authority, in its discretion:

(a) to determine the persons to whom, and the time or times at which, Awards shall be granted and the number of shares of Stock to be subject to each Award;

(b) to determine the type of Award granted;

(c) to determine the Fair Market Value of shares of Stock or other property;

(d) to determine the terms, conditions and restrictions applicable to each Award (which need not be identical) and any shares acquired pursuant thereto, including, without limitation, (i) the exercise or purchase price of shares pursuant to any Award, (ii) the method of payment for shares purchased pursuant to any Award, (iii) the method for satisfaction of any tax withholding obligation arising in connection with any Award or shares acquired pursuant thereto, including by the withholding or delivery of shares of Stock, (iv) the timing, terms and conditions of the exercisability or vesting of any Award or shares acquired pursuant thereto, (v) the time of expiration of any Award, (vi) the effect of any Participant's termination of Service on any of the foregoing, and (vii) all other terms, conditions and restrictions applicable to any Award or shares acquired pursuant thereto not inconsistent with the terms of the Plan;

(e) to approve one or more forms of Award Agreement;

(f) to amend, modify, extend, cancel or renew any Award or to waive any restrictions or conditions applicable to any Award or any shares acquired pursuant thereto;

(g) to accelerate, continue, extend or defer the exercisability or vesting of any Award or any shares acquired pursuant thereto, including with respect to the period following a Participant's termination of Service;

(h) to prescribe, amend or rescind rules, guidelines and policies relating to the Plan, or to adopt sub-plans or supplements to, or alternative versions of, the Plan, including, without limitation, as the Board deems necessary or desirable to comply with the laws of, or to accommodate the tax policy, accounting principles or custom of, foreign jurisdictions whose citizens may be granted Awards; and

(i) to correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award Agreement and to make all other determinations and take such other actions with respect to the Plan or any Award as the Board may deem advisable to the extent not inconsistent with the provisions of the Plan or applicable law.

3.4 **Administration with Respect to Insiders.** With respect to participation by Insiders in the Plan, at any time that any class of equity security of the Company is registered pursuant to Section 12 of the Exchange Act, the Plan shall be administered in compliance with the requirements, if any, of Rule 16b-3.

3.5 **Indemnification.** In addition to such other rights of indemnification as they may have as members of the Board or as officers or employees of the Participating Company Group, members of the Board and any officers or employees of the Participating Company Group to whom authority to act for the Board or the Company is delegated shall be indemnified by the Company against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any right granted hereunder, and against all amounts paid by them in settlement thereof (provided such settlement is approved by independent

legal counsel selected by the Company) or paid by them in satisfaction of a judgment in any such action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct in duties; provided, however, that within sixty (60) days after the institution of such action, suit or proceeding, such person shall offer to the Company, in writing, the opportunity at its own expense to handle and defend the same.

## 4. SHARES SUBJECT TO PLAN.

4.1 **Maximum Number of Shares Issuable.** Subject to adjustment as provided in Section 4.2, the maximum aggregate number of shares of Stock that may be issued under the Plan shall be 3,000,000 and shall consist of authorized but unissued or reacquired shares of Stock or any combination thereof. The aggregate number of shares of Stock issued pursuant to Awards under the Plan at any time shall equal only the number of shares of Stock actually issued upon grant, exercise or settlement of an Award. If an outstanding Award for any reason expires or is terminated or canceled or if shares of Stock are acquired pursuant to an Award subject to forfeiture or repurchase and are forfeited or repurchased by the Company for an amount not greater than the Participant's exercise or purchase price, the shares of Stock allocable to the terminated portion of such Award or such forfeited or repurchased shares of Stock shall again be available for issuance under the Plan.

4.2 **Adjustments for Changes in Capital Structure.** Subject to any required action by the stockholders of the Company and the requirements of Sections 409A and 424 of the Code to the extent applicable, in the event of any change in the Stock effected without receipt of consideration by the Company, whether through merger, consolidation, reorganization, reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares, or similar change in the capital structure of the Company, or in the event of payment of a dividend or distribution to the stockholders of the Company in a form other than Stock (excepting normal cash dividends) that has a material effect on the Fair Market Value of shares of Stock, appropriate and proportionate adjustments shall be made in the number and kind of shares subject to the Plan and to any outstanding Awards, and in the exercise or purchase price per share of any outstanding Awards in order to prevent dilution or enlargement of Participants' rights under the Plan. For purposes of the foregoing, conversion of any convertible securities of the Company shall not be treated as "effected without receipt of consideration by the Company." If a majority of the shares which are of the same class as the shares that are subject to outstanding Awards are exchanged for, converted into, or otherwise become (whether or not pursuant to an Ownership Change Event) shares of another corporation (the "***New Shares***"), the Board may unilaterally amend the outstanding Awards to provide that such Awards are for New Shares. In the event of any such amendment, the number of shares subject to, and the exercise or purchase price per share of, the outstanding Awards shall be adjusted in a fair and equitable manner as determined by the Board, in its discretion. Any fractional share resulting from an adjustment pursuant to this Section shall be rounded down to the nearest whole number, and the exercise price per share shall be rounded up to the nearest whole cent. In no event may the exercise or purchase price, if any, under any Award be decreased to an amount less than the par value, if any, of the stock subject to the Award. Such adjustments shall be determined by the Board, and its determination shall be final, binding and conclusive.

5. **ELIGIBILITY.**

5.1 **Persons Eligible for Awards.** Awards may be granted only to Consultants; provided, however that each Consultant who receives an Award under the Plan must qualify as an Accredited Investor at the time of grant (the "***Accredited Investor Requirement***").

5.2 **Participation in the Plan.** Awards are granted solely at the discretion of the Board. Eligible persons may be granted more than one Award. However, eligibility in accordance with this Section shall not entitle any person to be granted an Award, or, having been granted an Award, to be granted an additional Award.

6. **STOCK OPTIONS.**

Options shall be evidenced by Award Agreements specifying the number of shares of Stock covered thereby, in such form as the Board shall from time to time establish. Award Agreements shall set forth the terms and conditions upon which Stock Options may be exercised. Such Award Agreements may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

6.1 **Exercise Price.** The exercise price for each Option shall be established in the discretion of the Board; provided, however, that the exercise price per share for an Option shall be not less than the Fair Market Value of a share of Stock on the effective date of grant of the Option Notwithstanding the foregoing, an Option may be granted with an exercise price lower than the minimum exercise price set forth above if such Option is granted pursuant to an assumption or substitution for another option in a manner qualifying under the provisions of Section 409A of the Code.

6.2 **Exercisability and Term of Options.** Options shall be exercisable at such time or times, or upon such event or events, and subject to such terms, conditions, performance criteria and restrictions as shall be determined by the Board and set forth in the Award Agreement evidencing such Option; provided, however, that no Option shall be exercisable after the expiration of ten (10) years after the effective date of grant of such Option. Subject to the foregoing, unless otherwise specified by the Board in the grant of an Option, any Option granted hereunder shall terminate ten (10) years after the effective date of grant of the Option, unless earlier terminated in accordance with its provisions.

6.3 **Payment of Exercise Price.**

(a) **Forms of Consideration Authorized.** Except as otherwise provided below, payment of the exercise price for the number of shares of Stock being purchased pursuant to any Option shall be made (i) in cash, by check or in cash equivalent, (ii) by tender to the Company, or attestation to the ownership, of shares of Stock owned by the Participant having a Fair Market Value not less than the exercise price, (iii) to the extent permitted under applicable securities laws, as determined by the Board or its legal counsel, by delivery of a properly executed notice of exercise together with irrevocable instructions to a broker providing for the assignment to the Company of the proceeds of a sale or loan with respect to some or all of the shares being acquired upon the exercise of the Option (including, without limitation, through an exercise complying with the provisions of Regulation T as promulgated from time to time by the Board of

Governors of the Federal Reserve System) (a "***Cashless Exercise***"), (iv) by delivery of a properly executed notice electing a Net-Exercise, (v) by such other consideration as may be approved by the Board from time to time to the extent permitted by applicable law, or (vi) by any combination thereof. The Board may at any time or from time to time grant Options which do not permit all of the foregoing forms of consideration to be used in payment of the exercise price or which otherwise restrict one or more forms of consideration. Without limiting the foregoing, if the Participant is not an Accredited Investor at the time of exercise of the Option, the Board can take any actions it determines necessary or advisable to comply with applicable securities laws, including limiting the form of consideration payable upon exercise of the Option or delaying or prohibiting the exercise of the Option for such period of time it so determines.

(b) **Limitations on Forms of Consideration.**

(i) **Tender of Stock.** Notwithstanding the foregoing, an Option may not be exercised by tender to the Company, or attestation to the ownership, of shares of Stock to the extent such tender or attestation would constitute a violation of the provisions of any law, regulation or agreement restricting the redemption of the Company's stock. Unless otherwise provided by the Board, an Option may not be exercised by tender to the Company, or attestation to the ownership, of shares of Stock unless such shares either have been owned by the Participant for more than six (6) months or such other period, if any, required by the Company (and were not used for another Option exercise by attestation during such period) or were not acquired, directly or indirectly, from the Company.

(ii) **Cashless Exercise.** The Company reserves, at any and all times, the right, in the Company's sole and absolute discretion, to establish, decline to approve or terminate any program or procedures for the exercise of Options by means of a Cashless Exercise, including with respect to one or more Participants specified by the Company notwithstanding that such program or procedures may be available to other Participants.

6.4 **Effect of Termination of Service.**

(a) **Option Exercisability.** Subject to earlier termination of the Option as otherwise provided by the Plan, an Option shall terminate immediately upon the Participant's termination of Service to the extent that it is then unvested and shall be exercisable after the Participant's termination of Service to the extent it is then vested only during the applicable time period determined in accordance with the Award Agreement evidencing the Option. To the extent required by applicable law, vested Options shall be exercisable for a minimum period of six (6) months following termination of the Participant's Service due to Disability or death and thirty (30) days following any other termination of Service (other than a termination due to Cause). Except as otherwise provided in an Award Agreement, if the Participant's Service is terminated for Cause, the Option shall terminate in its entirety and cease to be exercisable immediately upon such termination of Service. Notwithstanding the foregoing, no Option shall be exercisable later than the date of expiration of the Option's term as set forth in the Award Agreement evidencing the Option (the "***Option Expiration Date***").

(b) **Extension if Exercise Prevented by Law.** Notwithstanding the foregoing and other than with respect to a termination of Service for Cause, if the exercise of an

Option within the applicable time periods set forth in the Award Agreement is prevented by the provisions of Section 11 below, the Option shall remain exercisable until the later of (i) thirty (30) days after the date such exercise first would no longer be prevented by such provisions or (ii) the end of the applicable time period set forth in the Award Agreement, but in any event no later than the Option Expiration Date.

6.5 **Transferability of Options.** Unless otherwise provided in the Award Agreement evidencing the Option, during the lifetime of the Participant, an Option shall be exercisable only by the Participant or the Participant's guardian or legal representative. An Option shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution.

## 7. RESTRICTED STOCK AWARDS.

Restricted Stock Awards shall be evidenced by Award Agreements specifying whether the Award is a Restricted Stock Bonus or a Restricted Stock Purchase Right and the number of shares of Stock subject to the Award, in such form as the Board shall from time to time establish. Award Agreements evidencing Restricted Stock Awards may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

7.1 **Types of Restricted Stock Awards Authorized.** Restricted Stock Awards may be granted in the form of either a Restricted Stock Bonus or a Restricted Stock Purchase Right. Restricted Stock Awards may be granted upon such conditions as the Board shall determine, including, without limitation, upon the attainment of one or more performance goals.

7.2 **Purchase Price.** The purchase price for shares of Stock issuable under each Restricted Stock Purchase Right shall be established by the Board in its discretion. No monetary payment (other than applicable tax withholding) shall be required as a condition of receiving shares of Stock pursuant to a Restricted Stock Bonus, the consideration for which shall be services actually rendered to a Participating Company or for its benefit. Notwithstanding the foregoing, if required by applicable state corporate law, the Participant shall furnish consideration in the form of cash or past services rendered to a Participating Company or for its benefit having a value not less than the par value of the shares of Stock subject to a Restricted Stock Award.

7.3 **Purchase Period.** A Restricted Stock Purchase Right shall be exercisable within a period established by the Board, which shall in no event exceed thirty (30) days from the effective date of the grant of the Restricted Stock Purchase Right.

7.4 **Payment of Purchase Price.** Except as otherwise provided below, payment of the purchase price for the number of shares of Stock being purchased pursuant to any Restricted Stock Purchase Right shall be made (a) in cash, by check or in cash equivalent, (b) by such other consideration as may be approved by the Board from time to time to the extent permitted by applicable law, or (c) by any combination thereof.

**7.5 Vesting and Restrictions on Transfer.** Shares issued pursuant to any Restricted Stock Award may (but need not) be made subject to Vesting Conditions based upon the

satisfaction of such Service requirements, conditions, restrictions or performance criteria, as shall be established by the Board and set forth in the Award Agreement evidencing such Award. During any period in which shares acquired pursuant to a Restricted Stock Award remain subject to Vesting Conditions, such shares may not be sold, exchanged, transferred, pledged, assigned or otherwise disposed of other than pursuant to an Ownership Change Event or as provided in Section 7.8. The Board, in its discretion, may provide in any Award Agreement evidencing a Restricted Stock Award that, if the satisfaction of Vesting Conditions with respect to any shares subject to such Restricted Stock Award would otherwise occur on a day on which the sale of such shares would violate the provisions of the Insider Trading Policy, then satisfaction of the Vesting Conditions automatically shall be determined on the next trading day on which the sale of such shares would not violate the Insider Trading Policy. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the receipt of shares of Stock hereunder and shall promptly present to the Company any and all certificates representing shares of Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions.

7.6 **Voting Rights; Dividends and Distributions.** Except as provided in this Section, Section 7.5 and any Award Agreement, during any period in which shares acquired pursuant to a Restricted Stock Award remain subject to Vesting Conditions, the Participant shall have all of the rights of a stockholder of the Company holding shares of Stock, including the right to vote such shares and to receive all dividends and other distributions paid with respect to such shares. However, in the event of a dividend or distribution paid in shares of Stock or other property or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant is entitled by reason of the Participant's Restricted Stock Award shall be immediately subject to the same Vesting Conditions as the shares subject to the Restricted Stock Award with respect to which such dividends or distributions were paid or adjustments were made.

7.7 **Effect of Termination of Service.** Unless otherwise provided by the Board in the Award Agreement evidencing a Restricted Stock Award, if a Participant's Service terminates for any reason, whether voluntary or involuntary (including the Participant's death or disability), then (a) the Company shall have the option to repurchase for the purchase price paid by the Participant any shares acquired by the Participant pursuant to a Restricted Stock Purchase Right which remain subject to Vesting Conditions as of the date of the Participant's termination of Service and (b) the Participant shall forfeit to the Company any shares acquired by the Participant pursuant to a Restricted Stock Bonus which remain subject to Vesting Conditions as of the date of the Participant's termination of Service. The Company shall have the right to assign at any time any repurchase right it may have, whether or not such right is then exercisable, to one or more persons as may be selected by the Company.

7.8 **Nontransferability of Restricted Stock Award Rights.** Rights to acquire shares of Stock pursuant to a Restricted Stock Award shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or the laws of descent and distribution. All rights with respect to a Restricted Stock Award granted to a

Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

8. **STANDARD FORMS OF AWARD AGREEMENTS.**

8.1 **Award Agreements.** Each Award shall comply with and be subject to the terms and conditions set forth in the appropriate form of Award Agreement approved by the Board and as amended from time to time. No Award or purported Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Any Award Agreement may consist of an appropriate form of Notice of Grant and a form of Agreement incorporated therein by reference, or such other form or forms, including electronic media, as the Board may approve from time to time.

8.2 **Authority to Vary Terms.** The Board shall have the authority from time to time to vary the terms of any standard form of Award Agreement either in connection with the grant or amendment of an individual Award or in connection with the authorization of a new standard form or forms; provided, however, that the terms and conditions of any such new, revised or amended standard form or forms of Award Agreement are not inconsistent with the terms of the Plan or applicable law.

9. **CHANGE IN CONTROL.**

9.1 **Effect of Change in Control on Awards.** Subject to the requirements and limitations of Section 409A of the Code, if applicable, the Board may provide for any one or more of the following:

(a) **Accelerated Vesting.** The Board may, in its discretion, provide in any Award Agreement or, in the event of a Change in Control, may take such actions as it deems appropriate to provide for the acceleration of the exercisability and/or vesting in connection with such Change in Control of each or any outstanding Award or portion thereof and shares acquired pursuant thereto upon such conditions, including termination of the Participant's Service prior to, upon, or following such Change in Control, to such extent as the Board shall determine.

(b) **Assumption, Continuation or Substitution of Awards.** In the event of a Change in Control, the surviving, continuing, successor, or purchasing corporation or other business entity or parent thereof, as the case may be (the "***Acquiror***"), may, without the consent of any Participant, assume or continue the Company's rights and obligations under each or any Award or portion thereof outstanding immediately prior to the Change in Control or substitute for each or any such outstanding Award or portion thereof a substantially equivalent award with respect to the Acquiror's stock. For purposes of this Section, if so determined by the Board, in its discretion, an Award or any portion thereof shall be deemed assumed if, following the Change in Control, the Award confers the right to receive, subject to the terms and conditions of the Plan and the applicable Award Agreement, for each share of Stock subject to such portion of the Award immediately prior to the Change in Control, the consideration (whether stock, cash, other securities or property or a combination thereof) to which a holder of a share of Stock on the effective date of the Change in Control was entitled; provided, however, that if such consideration is not solely common stock of the Acquiror, the Board may, with the consent of the Acquiror,

provide for the consideration to be received upon the exercise of the Award for each share of Stock to consist solely of common stock of the Acquiror equal in Fair Market Value to the per share consideration received by holders of Stock pursuant to the Change in Control. If any portion of such consideration may be received by holders of Stock pursuant to the Change in Control on a contingent or delayed basis, the Board may, in its discretion, determine such Fair Market Value per share as of the time of the Change in Control on the basis of the Board's good faith estimate of the present value of the probable future payment of such consideration. Except as otherwise provided in an Award Agreement, if the Acquiror does not assume or continue any Award, then any Award or portion thereof which is not assumed or continued by the Acquiror in connection with the Change in Control and which is not exercised as of the time of consummation of the Change in Control shall terminate and cease to be outstanding effective as of the time of consummation of the Change in Control. Notwithstanding the foregoing, shares acquired upon exercise of an Award prior to the Change in Control and any consideration received pursuant to the Change in Control with respect to such shares shall continue to be subject to all applicable provisions of the Award Agreement evidencing such Award except as otherwise provided in such Award Agreement.

(c) **Cash-Out of Outstanding Awards.** Notwithstanding anything in the Plan to the contrary, the Board may, in its discretion and without the consent of any Participant, determine that, upon the occurrence of a Change in Control, each or any Award or portion thereof outstanding immediately prior to the Change in Control shall be canceled in exchange for a payment with respect to each vested share (and each unvested share, if so determined by the Board) of Stock subject to such canceled Award in (i) cash, (ii) stock of the Company or of a corporation or other business entity that is a party to the Change in Control, or (iii) other property which, in any such case, shall be in an amount having a Fair Market Value equal to the Fair Market Value of the consideration to be paid per share of Stock in the Change in Control, reduced by the exercise or purchase price per share, if any, under such Award. If any portion of such consideration may be received by holders of Stock pursuant to the Change in Control on a contingent or delayed basis, the Board may, in its sole discretion, determine such Fair Market Value per share as of the time of the Change in Control on the basis of the Board's good faith estimate of the present value of the probable future payment of such consideration. In the event such determination is made by the Board, the amount of such payment (reduced by applicable withholding taxes, if any) shall be paid to Participants in respect of the vested portions of their canceled Awards as soon as practicable following the date of the Change in Control and in respect of the unvested portions of their canceled Awards in accordance with the vesting schedules applicable to such Awards.

9.2 **Federal Excise Tax Under Section 4999 of the Code.**

(a) **Potential Excise Taxes.** If at any time or from time to time, it shall be determined by independent tax professionals selected by the Company ("***Tax Professional***") that any acceleration of vesting pursuant to an Award and any other payment or benefit received or to be received by a Participant, whether or not pursuant to an Award granted under the Plan, would subject the Participant to any excise tax pursuant to Section 4999 of the Code (or any similar tax payable under any state, local, foreign or other law, but expressly excluding any income taxes and penalties or interest imposed pursuant to Section 409A of the Code ("***Excise Taxes***"), due to the characterization of such acceleration of vesting, payment or benefit as an "excess parachute payment" under Section 280G of the Code ("***Potential Parachute Payment***"), then Participant's

Potential Parachute Payment shall be either (i) provided to the Participant in full, or (ii) provided to Participant as to such lesser extent that would result in no portion of such benefits being subject to the Excise Taxes, whichever of the foregoing amounts, after taking into account applicable federal, state, local and foreign income and employment taxes, the Excise Tax, and any other applicable taxes, results in the receipt by the Participant, on an after-tax basis, of the greatest amount of benefits, notwithstanding that all or some portion of such benefits may be taxable under the Excise Taxes ("***Payments***").

(b) **Implementation of Any Benefit Reduction.** In the event of a reduction of benefits pursuant to Section 9.2(a), the Tax Professional shall determine which benefits shall be reduced so as to achieve the principle set forth in Section 9.2(a). For purposes of making the calculations required by Section 9.2(a), the Tax Professional may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code and other applicable legal authority. The Company and the Participant shall furnish to the Tax Professional such information and documents as the Tax Professional may reasonably request in order to make a determination under Section 9.2(a). The Company shall bear all costs the Tax Professional may reasonably incur in connection with any calculations contemplated by Section 9.2(a).

(c) **Potential Subsequent Adjustments.**

(i) If, notwithstanding any calculations performed or reduction in benefits imposed as described in Section 9.2(a), the IRS determines that Participant is liable for Excise Taxes as a result of the receipt of any payments characterized as "parachute payments" within the meaning of Section 280G of the Code, then the Participant shall be obligated to pay back to the Company, within thirty (30) days after a final IRS determination or in the event that the Participant challenges the final IRS determination, a final judicial determination, a portion of the Payments equal to the "***Repayment Amount***." The Repayment Amount shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Participant's net after-tax proceeds with respect to the Payments (after taking into account the payment of the Excise Taxes and all other applicable taxes imposed on such benefits) shall be maximized. The Repayment Amount shall be zero if a Repayment Amount of more than zero would not result in the Participant's net after-tax proceeds with respect to the Payments being maximized. If the Excise Taxes are not eliminated pursuant to this Section 9.2(c), the Participant shall pay the Excise Taxes.

(ii) Notwithstanding any other provision of this Section 9.2, if (A) there is a reduction in the payments to the Participant as described above in this Section 9.2, (B) the IRS later determines that the Participant is liable for Excise Taxes, the payment of which would result in the maximization of the Participant's net after-tax proceeds (calculated based on the full amount of the Participant's

parachute payments and as if the Participant's benefits had not previously been reduced), and (C) the Participant pays the Excise Tax, then the Company shall pay to the Participant those payments that were reduced pursuant to the application of the previous provisions of this Section 9.2 as soon as administratively possible after the Participant pays the Excise Taxes to the extent that the Participant's net after-tax proceeds with respect to the payment of the Payments are maximized.

## 10. TAX WITHHOLDING.

10.1 **Tax Withholding in General.** The Company shall have the right to deduct from any and all payments made under the Plan, or to require the Participant, through payroll withholding, cash payment or otherwise, including by means of a Net Exercise or Cashless Exercise of an Option, to make adequate provision for, the federal, state, local and foreign taxes (including any social insurance tax), if any, required by law to be withheld by the Participating Company Group with respect to an Award or the shares acquired pursuant thereto. The Company shall have no obligation to deliver shares of Stock or to release shares of Stock from an escrow established pursuant to an Award Agreement until the Participating Company Group's tax withholding obligations have been satisfied by the Participant.

10.2 **Withholding in Shares.** The Company shall have the right, but not the obligation, to deduct from the shares of Stock issuable to a Participant upon the exercise of an Award, or to accept from the Participant the tender of, a number of whole shares of Stock having a Fair Market Value, as determined by the Company, equal to all or any part of the tax withholding obligations of the Participating Company Group. The Fair Market Value of any shares of Stock withheld or tendered to satisfy any such tax withholding obligations shall not exceed the amount determined by the applicable minimum statutory withholding rates.

## 11. COMPLIANCE WITH SECURITIES LAW.

The grant of Awards and the issuance of shares of Stock pursuant to any Award shall be subject to compliance with all applicable requirements of federal, state and foreign law with respect to such securities and the requirements of any stock exchange or market system upon which the Stock may then be listed. In addition, no Award may be exercised or shares issued pursuant to an Award unless (a) a registration statement under the Securities Act shall at the time of such exercise or issuance be in effect with respect to the shares issuable pursuant to the Award or (b) in the opinion of legal counsel to the Company, the shares issuable pursuant to the Award may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Securities Act. The inability of the Company to obtain from any regulatory body having jurisdiction the authority, if any, deemed by the Company's legal counsel to be necessary to the lawful issuance and sale of any shares hereunder shall relieve the Company of any liability in respect of the failure to issue or sell such shares as to which such requisite authority shall not have been obtained. As a condition to issuance of any Stock, the Company may require the Participant to satisfy any qualifications that may be necessary or appropriate, to evidence compliance with any applicable law or regulation and to make any representation or warranty with

respect thereto as may be requested by the Company, including status as an Accredited Investor at the time of grant, exercise or vesting of an Award.

12. **AMENDMENT OR TERMINATION OF PLAN.**

The Board may amend, suspend or terminate the Plan at any time. No amendment, suspension or termination of the Plan shall affect any then outstanding Award unless expressly provided by the Board. Except as provided by the next sentence, no amendment, suspension or termination of the Plan may materially adversely affect any then outstanding Award without the consent of the Participant. Notwithstanding any other provision of the Plan or any Award Agreement to the contrary, the Board may, in its sole and absolute discretion and without the consent of any Participant, amend the Plan or any Award Agreement, to take effect retroactively or otherwise, as it deems necessary or advisable for the purpose of conforming the Plan or such Award Agreement to any present or future law, regulation or rule applicable to the Plan, including, but not limited to, Section 409A of the Code.

13. **MISCELLANEOUS PROVISIONS.**

13.1 **Repurchase Rights.** Shares of Stock issued under the Plan may be subject to a right of first refusal, one or more repurchase options, or other conditions and restrictions as determined by the Board in its discretion at the time the Award is granted. The Company shall have the right to assign at any time any repurchase right or other right that it may have with respect to a share of Stock issued under the Plan, whether or not such right is then exercisable, to one or more persons as may be selected by the Company. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the issuance of shares of Stock hereunder and shall promptly present to the Company any and all certificates representing shares of Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions. To the extent required by any agreement of stockholders or other agreement to which the Company is or may become subject, persons acquiring shares of Stock issued under the Plan will be required to enter into such agreement upon acquiring such shares of Stock.

13.2 **Provision of Information.** To the extent required by applicable law, the Company will provide information to Participants regarding the Company.

13.3 **Rights as Employee, Consultant or Director.** No person, even though eligible pursuant to Section 5, shall have a right to be selected as a Participant, or, having been so selected, to be selected again as a Participant. Nothing in the Plan or any Award granted under the Plan shall confer on any Participant a right to remain an Employee, Consultant or Director or interfere with or limit in any way any right of a Participating Company to terminate an Engaging Company Service Agreement or the Participant's Service at any time. To the extent that a Consultant receives an Award under the Plan, that Award shall in no event be understood or interpreted to mean that the Company is the Consultant's employer or that the Consultant has an employment relationship with the Company.

13.4 **Rights as a Stockholder.** A Participant shall have no rights as a stockholder with respect to any shares covered by an Award until the date of the issuance of such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). No adjustment shall be made for dividends, distributions or other rights for which the record date is prior to the date such shares are issued, except as provided in Section 4.2 or another provision of the Plan.

13.5 **Delivery of Title to Shares.** Subject to any governing rules or regulations, the Company shall issue or cause to be issued the shares of Stock acquired pursuant to an Award and shall deliver such shares to or for the benefit of the Participant by means of one or more of the following: (a) by delivering to the Participant evidence of book entry shares of Stock credited to the account of the Participant, (b) by depositing such shares of Stock for the benefit of the Participant with any broker with which the Participant has an account relationship, (c) by delivering such shares of Stock to the Participant in certificated form, or (d) by delivering such shares to an escrow agent who shall hold such shares in accordance with the terms of a form of escrow agreement established by the Company in order to ensure compliance with the terms of the Plan, the Award Agreement under which the right to receive such shares of Stock were granted, and any other conditions, restrictions or terms of other agreement to which such shares of Stock are subject upon their issuance.

13.6 **Fractional Shares.** The Company shall not be required to issue fractional shares upon the exercise or settlement of any Award.

13.7 **Retirement and Welfare Plans.** To the extent applicable, no shares of Stock or cash paid pursuant to Awards under the Plan shall be included as "compensation" for purposes of computing the benefits payable to any Participant under any Participating Company's retirement plans (both qualified and non-qualified) or welfare benefit plans unless such other plan expressly provides that such compensation shall be taken into account in computing such benefits.

13.8 **Severability.** If any one or more of the provisions (or any part thereof) of the Plan shall be held invalid, illegal or unenforceable in any respect, such provision shall be modified so as to make it valid, legal and enforceable, and the validity, legality and enforceability of the remaining provisions (or any part thereof) of the Plan shall not in any way be affected or impaired thereby.

13.9 **No Constraint on Corporate Action.** Nothing in the Plan shall be construed to: (a) limit, impair, or otherwise affect the Company's or another Participating Company's right or power to make adjustments, reclassifications, reorganizations, or changes of its capital or business structure, or to merge or consolidate, or dissolve, liquidate, sell, or transfer all or any part of its business or assets; or (b) limit the right or power of the Company or another Participating Company to take any action which such entity deems to be necessary or appropriate.

13.10 **Choice of Law.** Except to the extent governed by applicable federal law, the validity, interpretation, construction and performance of the Plan and each Award Agreement shall be governed by the laws of the State of California, without regard to its conflict of law rules.

PLAN HISTORY

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|---|---|
| June 8, 2015 | Board adopts Progenity, Inc. 2015 Consultant Stock Plan, with an initial reserve of 3,000,000 shares. |

**PROGENITY, INC.**

**2018 EQUITY INCENTIVE PLAN (THIRD AMENDED & RESTATED)**

**ADOPTED BY THE BOARD: FEBRUARY 22, 2018 (FIRST AMENDMENT MARCH 6, 2019, SECOND AMENDMENT DECEMBER 5, 2019, THIRD AMENDMENT MARCH 4, 2020)**

**APPROVED BY THE STOCKHOLDERS: FEBRUARY 22, 2018 (FIRST AMENDMENT MARCH 6, 2019, SECOND AMENDMENT DECEMBER 5, 2019, THIRD AMENDMENT MARCH 4, 2020)**

## 1. GENERAL.

(a) **Successor to and Continuation of Prior Plans**. The Plan is the successor to and continuation of the Company's Amended and Restated 2012 Stock Plan, as amended, and the Company's 2015 Consultant Stock Plan (each a "**Prior Plan**"). From and after 11:59 p.m. Pacific time on the Effective Date, no additional stock awards will be granted under a Prior Plan. All stock awards granted under a Prior Plan remain subject to the terms of that Prior Plan. All Awards granted on or after 11:59 p.m. Pacific Time on the Effective Date shall be subject to the terms of the Plan.

(b) **Eligible Award Recipients**. Employees, Directors and Consultants are eligible to receive Awards.

(c) **Available Awards**. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) Stock Appreciation Rights; (iv) Restricted Stock Awards; (v) Restricted Stock Unit Awards; (vi) Performance Stock Awards; (vii) Performance Cash Awards; and (viii) Other Stock Awards.

(d) **Purpose**. The Plan, through the granting of Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in the value of the Common Stock.

## 2. ADMINISTRATION.

(a) **Administration by Board**. The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) **Powers of Board**. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine: (A) who will be granted Awards; (B) when and how each Award will be granted; (C) what type of Award will be granted; (D) the provisions of each

Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Award; (E) the number of shares of Common Stock subject to, or the cash value of, an Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Document or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, or to extend, in whole or in part, the time during which an Award may be exercised or vest, or at which cash or shares of Common Stock may be issued.

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or an Award Document, suspension or termination of the Plan will not materially impair a Participant's rights under his or her then-outstanding Award without his or her written consent, except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, adopting amendments relating to Incentive Stock Options and nonqualified deferred compensation under Section 409A of the Code and/or making the Plan or Awards granted under the Plan exempt from or compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan (including subsection (viii) below) or an Award Document, no amendment of the Plan will materially impair a Participant's rights under a then-outstanding Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) Section 422 of the Code regarding "incentive stock options" or (B) Rule 16b-3 of Exchange Act or any successor rule, if applicable.

(viii) To approve forms of Award Documents for use under the Plan and to amend the terms of any one or more outstanding Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Documents for such Awards, subject to any specified limits in the Plan that are not subject to Board discretion. A Participant's rights under any Award will not be impaired by any such amendment unless the Company requests the consent of the affected Participant, and the Participant consents in writing. However, a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. In addition, subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent (A) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (C) to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A of the Code, or (D) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan and/or Award Documents.

(x) To adopt such procedures and sub-plans as are necessary or appropriate (A) to permit or facilitate participation in the Plan by persons eligible to receive Awards under the Plan who are foreign nationals or employed outside the United States or (B) allow Awards to qualify for special tax treatment in a foreign jurisdiction; provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Document that are required for compliance with the laws of a foreign jurisdiction.

(c) **Delegation to Committee**. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in the Plan to the Board will thereafter be to the Committee or subcommittee). Any delegation of administrative powers will be reflected in the charter of the Committee to which the delegation is made, or resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or revest in the Committee any powers delegated to any subcommittee. Unless otherwise provided by the Board, delegation of authority by the Board to a Committee, or to an Officer pursuant to Section 2(d), does not limit the authority of the Board, which may continue to exercise any authority so delegated and may concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(d) **Delegation to an Officer**. The Board may delegate to one (1) or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock

Awards) and, to the extent permitted by applicable law, the terms of such Awards; and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; provided, however, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Document approved by the Committee or the Board for use in connection with such Stock Awards, unless otherwise provided for in the resolutions approving the delegation authority.

(e) **Effect of Board's Decision**. All determinations, interpretations and constructions made by the Board (or a duly authorized Committee, subcommittee or Officer exercising powers delegated by the Board under this Section 2) in good faith will not be subject to review by any Person and will be final, binding and conclusive on all Persons, unless found by a court of competent jurisdiction to have been either (i) arbitrary and capricious or (ii) made in bad faith.

**3. SHARES SUBJECT TO THE PLAN.**

(a) **Share Reserve**.

(i) Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the date of adoption of the Plan by the Board will be forty-seven million fifty thousand (47,050,000) shares of Common Stock (the "**Share Reserve**").[1]

(ii) The Share Reserve will automatically increase on January 1st of each year, during the term of the Plan, commencing on January 1, 2021 and ending with a final increase on January 1, 2030, in an amount equal to four percent (4%) of the total number of shares of Capital Stock outstanding on December 31st of the preceding calendar year, calculated on a fully diluted, fully converted basis. The Board may provide that there will be no January 1st increase in the Share Reserve for such year or that the increase in the Share Reserve for such year will be a smaller number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(iii) For clarity, the Share Reserve is a limitation on the number of shares of Common Stock that may be issued under to the Plan. As a single share may be subject to grant more than once (e.g., if a share subject to a Stock Award is forfeited, it may be made subject to grant again as provided in Section 3(b) below), the Share Reserve is not a limit on the number of Stock Awards that can be granted.

(iv) Shares may be issued under the terms of the Plan in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c), NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) **Reversion of Shares to the Share Reserve**. If a Stock Award or any portion of a Stock Award (i) expires, is canceled, forfeited or otherwise terminates without all of the shares covered by the Stock Award having been issued or (ii) is settled in cash (i.e., the Participant

[1] Note: This share reserve does not reflect the approval of a reverse split by the Company on June 9, 2020, which reduced the Share Reserve to 7,615,733 shares of Common Stock.

receives cash rather than stock), such expiration, cancelation, forfeiture, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that are available for issuance under the Plan. If any shares of Common Stock issued under a Stock Award are forfeited back to or repurchased or otherwise reacquired by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited, repurchased or reacquired will revert to and again become available for issuance under the Plan. Any shares retained or reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award, as consideration for the exercise or purchase price of a Stock Award, or with the proceeds paid by the Participant under the terms of a Stock Award, will again become available for issuance under the Plan. If the Company repurchases shares of Common Stock with stock option exercise or stock purchase proceeds, such shares shall be added to the Share Reserve. For any Stock Award with respect to which a net number of shares of Common Stock are issued, whether in satisfaction of tax withholding obligations, exercise or purchase prices or otherwise, only the net number of shares shall reduce the Share Reserve.

(c) **Incentive Stock Option Limit**. Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued on the exercise of Incentive Stock Options will be forty-seven million fifty thousand (47,050,000) shares of Common Stock.

(d) **Non-Employee Director Limit**. The aggregate dollar value of Stock Awards (based on the grant date fair value of the Stock Awards) granted under this Plan during any calendar year to any one non-employee Director shall not exceed $750,000.

(e) **Source of Shares**. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock and may include shares repurchased by the Company on the open market or otherwise or shares classified as treasury shares.

**4. ELIGIBILITY.**

(a) **Eligibility for Specific Stock Awards**. Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; provided, however, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405 of the Securities Act, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or comply with the requirements of Section 409A of the Code.

(b) **Ten Percent Stockholders**. A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

**5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.**

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; provided, however, that each Award Document will conform to (through incorporation of provisions hereof by reference in the applicable Award Document or otherwise) the substance of each of the following provisions:

(a) **Term**. Subject to Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of 10 years from the date of its grant or such shorter period specified in the Award Document.

(b) **Exercise Price**. Subject to Section 4(b) regarding Ten Percent Stockholders, the exercise price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise price lower than 100% of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a corporate transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) **Purchase Price for Options**. The purchase price of shares of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, check, bank draft or money order payable to the Company;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board or a successor regulation, or a similar rule in a foreign jurisdiction of domicile of a Participant, that, prior to or contemporaneously with the issuance of shares of Common Stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the proceeds of sale of such stock;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) if an Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; provided, however, that the Company will accept cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or

(v) in any other form of legal consideration that the Board determines is a benefit to the Company and specified in the applicable Award Document.

(d) **Exercise and Payment of a SAR**. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Award Document evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR (with respect to which the Participant is exercising the SAR on such date), over (B) the aggregate exercise price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Award Document evidencing such SAR.

(e) **Transferability of Options and SARs**. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board determines. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (or pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by U.S. Treasury Regulation 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) Beneficiary Designation. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, on the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive shares of Common Stock or other consideration resulting from such exercise. In the absence of such a designation, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) **Vesting Generally**. The total number of shares of Common Stock subject to an Option or SAR may vest and therefore become exercisable in periodic installments based on completion of specified periods of Continuous Service that may or may not be equal. The Option or SAR may be subject to such other terms and conditions with respect to the time or times when it may or may not be exercised (which may be based on the satisfaction of performance goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised.

(g) **Termination of Continuous Service**. Except as otherwise provided in the applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Document. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR will terminate.

(h) **Extension of Termination Date**. Except as otherwise provided in the applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, if the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate any provisions of the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of three (3) months (that need not be consecutive) after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such provisions, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Document. In addition, unless otherwise provided in a Participant's applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's Insider Trading Policy (the "**Insider Trading Policy**"), and the Company does not waive the potential violation of the policy or

otherwise permit the sale, or allow the Participant to surrender shares of Common Stock to the Company in satisfaction of any exercise price and/or any withholding obligations under Section 8(h), then the Option or SAR will terminate on the earlier of (i) the expiration of a period of months (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Insider Trading Policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Document.

(i) **Disability of Participant**. Except as otherwise provided in the applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date 12 months following such termination of Continuous Service, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Document. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) **Death of Participant**. Except as otherwise provided in the applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Plan or the applicable Award Document, or other agreement between the Participant and the Company or any Affiliate, for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date 18 months following the date of death, and (ii) the expiration of the term of such Option or SAR as set forth in the applicable Award Document. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR will terminate.

(k) **Termination for Cause**. Except as explicitly provided otherwise in a Participant's Award Document or other individual written agreement between the Company or any Affiliate and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate upon the date on which the event giving rise to the termination for Cause first occurred, and the Participant will be prohibited from exercising his or her Option or SAR from and after the date on which the event giving rise to the termination for Cause first occurred (or, if required by law, the date of termination of Continuous Service). If a Participant's Continuous Service is suspended pending an investigation of the existence of Cause, all of the Participant's rights under the Option or SAR will also be suspended during the investigation period.

(l) **Non-Exempt Employees**. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the U.S. Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least 6 months following the date of grant of the Option or SAR (although the Award may vest prior to such date). Consistent with the provisions of the U.S. Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the non-exempt Employee's retirement (as such term may be defined in the non-exempt Employee's applicable Award Document, in another agreement between the non-exempt Employee and the Company or any Affiliate, or, if no such definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than 6 months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt Employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the U.S. Worker Economic Opportunity Act to ensure that any income derived by a non-exempt Employee in connection with the exercise, vesting or issuance of any shares of Common Stock under any other Stock Award will be exempt from such employee's regular rate of pay, the provisions of this paragraph will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Documents.

**6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.**

(a) **Restricted Stock Awards**. Each Restricted Stock Award Document will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (x) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse, or (y) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Documents may change from time to time, and the terms and conditions of separate Restricted Stock Award Documents need not be identical. Each Restricted Stock Award Document will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that the Board determines is a benefit to the Company, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under the Restricted Stock Award Document may be subject to forfeiture to the Company in accordance with a vesting schedule and subject to such conditions as may be determined by the Board.

(iii) Termination of Participant's Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant that have not

vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Document.

(iv) Transferability. Shares of Common Stock issued pursuant to an Award, and rights to acquire shares of Common Stock under the Restricted Stock Award Document, will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Document, as the Board determines in its sole discretion, so long as such shares of Common Stock remains subject to the terms of the Restricted Stock Award Document.

(v) Dividends. A Restricted Stock Award Document may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares of Common Stock subject to the Restricted Stock Award to which they relate.

(b) **Restricted Stock Unit Awards**. Each Restricted Stock Unit Award Document will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Documents may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Documents need not be identical. Each Restricted Stock Unit Award Document will conform to (through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that the Board determines is a benefit to the Company, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Document.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and contained in the Restricted Stock Unit Award Document. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. The Restricted

Stock Unit Award Document may provide that any additional shares of Common Stock covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Document to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Document, or other agreement between the Participant and the Company or any Affiliate, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) **Performance Awards.**

(i) Performance Stock Awards. A Performance Stock Award is a Stock Award that is payable (including that may be granted, vest or exercised) contingent upon the attainment during a Performance Period of the achievement of certain performance goals. A Performance Stock Award may, but need not, require the completion of a specified period of Continuous Service. The length of any Performance Period, the performance goals to be achieved during the Performance Period, and the measure of whether and to what degree such performance goals have been attained will be conclusively determined by the Committee or the Board, in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Document, the Board may determine that a Performance Stock Award may be payable in cash.

(ii) Performance Cash Awards. A Performance Cash Award is a cash award that is granted and/or becomes payable contingent upon the attainment during a Performance Period of the achievement of certain performance goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. At the time of grant of a Performance Cash Award, the length of any Performance Period, the performance goals to be achieved during the Performance Period, and the measure of whether and to what degree such performance goals have been attained will be conclusively determined by the Committee or the Board, in its sole discretion. The Board may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board may specify, to be paid in whole or in part in cash or other property.

(iii) Board Discretion. The Committee or the Board, retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of performance goals and to define the manner of calculating the performance criteria it selects to use for a Performance Period.

(d) **Other Stock Awards**. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, shares of Common Stock, including the appreciation in value thereof (e.g., options or stock rights with an exercise price or purchase price less than 100% of the Fair Market Value of shares of Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and

complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

**7. COVENANTS OF THE COMPANY.**

(a) **Availability of Shares**. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) **Securities Law Compliance**. No Award may be exercised or shares of Common Stock issued pursuant to an Award unless (a) a registration statement under the Securities Act shall at the time of such exercise or issuance be in effect with respect to the shares issuable pursuant to the Award or (b) in the opinion of legal counsel to the Company , the shares of Common Stock issuable pursuant to the Award may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Securities Act. The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; provided, however, that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any shares of Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of shares of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or shares of Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable securities law.

(c) **No Obligation to Notify or Minimize Taxes**. The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to, and does not undertake to, provide tax advice or to minimize the tax consequences of an Award to the holder of such Award.

**8. MISCELLANEOUS.**

(a) **Repurchase Rights**. Prior to the Initial Public Offering Date, shares of Common Stock issued under the Plan may be subject to a right of first refusal, one or more repurchase options or reacquisition rights, drag-along rights, or other conditions and restrictions as determined by the Board in its discretion at the time the Award is granted. The Company shall have the right to assign at any time any repurchase right or other right that it may have with respect to a share of Common Stock issued under the Plan, whether or not such right is then exercisable, to one or more Persons as may be selected by the Company. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions

prior to the issuance of shares of Common Stock hereunder and shall promptly present to the Company any certificates representing shares of Common Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions. To the extent required by any agreement of stockholders or other agreement to which the Company is or may become subject, persons acquiring shares of Common Stock issued under the Plan will be required to enter into such agreement upon acquiring such shares of Common Stock as a condition of acquiring such shares of Common Stock.

(b) **Provision of Information**. To the extent required by applicable law, the Company will provide information to Participants regarding the Company.

(c) **Use of Proceeds from Sales of Common Stock**. Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

(d) **Corporate Action Constituting Grant of Awards**. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the latest date that all necessary corporate action has occurred and all material terms of the Award (including, in the case of stock options, the exercise price thereof) are fixed, unless otherwise determined by the Board, regardless of when the documentation evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Document as a result of a clerical error in the papering of the Award Document, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Document.

(e) **Stockholder Rights**. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to a Stock Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Stock Award pursuant to its terms, and (ii) the issuance of the shares of Common Stock subject to such Stock Award has been entered into the books and records of the Company.

(f) **No Employment or Other Service Rights**. Nothing in the Plan, any Award Document or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or any other capacity or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee for any reason or no reason, with or without notice and with or without cause, including, but not limited to, Cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the organizational documents of the Company or an Affiliate (including the certificate of incorporation and bylaws), and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(g) **Change in Time Commitment**. If after the date of grant of any Award to the Participant, the Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence), or the Participant's role or primary responsibilities are changed to a level that, in the good faith determination by the Board does not justify the Participant's unvested Awards, the Board has the unilateral right, which right shall be exercised in its sole discretion, to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(h) **Incentive Stock Option Limitations**. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(i) **Investment Assurances**. The Company may require a Participant, as a condition of exercising or acquiring shares of Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company (A) as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and (B) that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award, and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring the shares of Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the shares of Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (x) the issuance of the shares of Common Stock upon the exercise of a Stock Award or acquisition of shares of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (y) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the shares of Common Stock.

(j) **Withholding Obligations**. Unless prohibited by the terms of an Award Document, the Company may, in its sole discretion, satisfy any U.S. federal, state, local, foreign or other tax withholding obligation relating to an Award by any of the following means or by a

combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award (only up to the amount permitted that will not cause an adverse accounting consequence or cost); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant, including proceeds from the sale of shares of Common Stock issued pursuant to a Stock Award; or (v) by such other method as may be set forth in the Award Document.

(k) **Electronic Delivery**. Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto), or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

(l) **Deferrals**. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of shares of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code (to the extent applicable to a Participant). Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(m) **Compliance with Section 409A**. Unless otherwise expressly provided for in an Award Document, or other agreement between the Participant and the Company or any Affiliate, the Plan and Award Documents will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A of the Code, the Award Document evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Document is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Document. Notwithstanding anything to the contrary in the Plan (and unless the Award Document specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A of the Code is a "specified employee" for purposes of Section 409A of the Code, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A of the Code without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A of the Code, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule.

(n) **Clawback/Recovery**. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Document as the Board determines necessary or appropriate, including, but not limited to, a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company or an Affiliate.

**9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.**

(a) **Capitalization Adjustments**. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a); (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c); and (iii) the class(es) and number of securities or other property and value (including price per share of stock) subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) **Dissolution or Liquidation**. Except as otherwise provided in the Stock Award Document, or other agreement between the Participant and the Company or any Affiliate, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; provided, however, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) **Corporate Transaction**. The following provisions will apply to Stock Awards in the event of a Corporate Transaction unless otherwise provided in the instrument evidencing the Stock Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of a Stock Award. In the event of a Corporate Transaction, then, notwithstanding any other provision of the Plan, the Board will take one or more of the following actions with respect to each outstanding Stock Award, contingent upon the closing or completion of the Corporate Transaction:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to

acquire the same consideration per share paid to the stockholders of the Company pursuant to the Corporate Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of shares of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board will determine, with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and with such accelerated vesting (and if applicable, such exercise) reversed if the Corporate Transaction does not become effective;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

(v) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration, if any, as the Board, in its reasonable determination, may consider appropriate as an approximation of the value of the canceled Stock Award, taking into account the value of the shares of Common Stock subject to the canceled Stock Award, the possibility that the Stock Award might not otherwise vest in full, and such other factors as the Board deems relevant;

(vi) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value in the Corporate Transaction of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise; and

(vii) continuation of the Stock Award.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

In the absence of any affirmative determination by the Board at the time of a Corporate Transaction, each outstanding Stock Award will be assumed or an equivalent Stock Award will be substituted by such successor corporation or a parent or subsidiary of such successor corporation (the "**Successor Corporation**"), unless the Successor Corporation does not agree to assume the Stock Award or to substitute an equivalent Stock Award, in which case the vesting of such Stock Award will accelerate in its entirety (along with, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board will determine (or, if the Board will not determine such a date, to the

date that is 5 days prior to the effective date of the Corporate Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction, and with such exercise reversed if the Corporate Transaction does not become effective.

(d) **Change in Control**. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Document for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur.

**10. TERMINATION OR SUSPENSION OF THE PLAN.**

The Board may suspend or terminate the Plan at any time. No Awards may be granted after the tenth (10th) anniversary of the earlier of (i) the date the Board adopts the Plan, or (ii) the date the stockholders approve the Plan. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

**11. EFFECTIVE DATE OF PLAN**

The Plan came into existence on the Effective Date and no Award shall be granted hereunder prior to such date.

**12. CHOICE OF LAW.**

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of the Plan, without regard to that state's conflict of laws rules.

**13. DEFINITIONS**. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "**Affiliate**" means, at the time of determination, any direct or indirect "parent" or "subsidiary" of the Company, as such terms are defined in Rule 405 of the Securities Act. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "**Award**" means a Stock Award or a Performance Cash Award.

(c) "**Award Document**" means a written agreement between the Company and a Participant, or a written notice issued by the Company to a Participant, evidencing the terms and conditions of an Award.

(d) "**Board**" means the Board of Directors of the Company.

(e) "**Capital Stock**" means each and every class and series of common stock and preferred stock of the Company, regardless of the number of votes per share.

(f) "**Capitalization Adjustment**" means any change that is made in, or other events that occur with respect to, shares of Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other similar equity restructuring transaction, as that term is used in Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(g) "**Cause**" will have the meaning ascribed to such term in any written agreement between the Participant and the Company or any Affiliate defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) Participant's failure substantially to perform his or her duties and responsibilities to the Company or any Affiliate or violation of a policy of the Company or any Affiliate; (ii) Participant's commission of any act of fraud, embezzlement, dishonesty or any other misconduct that has caused or is reasonably expected to result in injury to the Company or any Affiliate; (iii) unauthorized use or disclosure by Participant of any proprietary information or trade secrets of the Company or any other Person to whom the Participant owes an obligation of nondisclosure as a result of his or her relationship with the Company or any Affiliate; or (iv) Participant's breach of any of his or her obligations under any written agreement or covenant with the Company or any Affiliate. The determination as to whether a Participant is being terminated for Cause will be made in good faith by the Company and will be final and binding on the Participant. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company, any Affiliate or such Participant for any other purpose.

(h) "**Change in Control**" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, or (C) solely because the level of Ownership held by any Exchange Act Person (the "**Subject Person**") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding

voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(iv) individuals who, on the date on which the Board adopts the Plan, are members of the Board (the "**Incumbent Board**") cease for any reason to constitute at least a majority of the members of the Board; provided, however, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of the Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of the Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

If required for compliance with Section 409A of the Code, in no event will a Change in Control be deemed to have occurred if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under U.S. Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant's consent, amend the definition of "Change in Control" to conform to the definition of "Change in Control" under Section 409A of the Code, and the regulations thereunder.

(i) "**Code**" means the U.S. Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(j) "**Committee**" means a committee of one (1) or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(k) "**Common Stock**" means the common stock of the Company.

(l) "**Company**" means Progenity, Inc., a Delaware corporation.

(m) "**Consultant**" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, from and after the Initial Public Offering Date, a person is treated as a Consultant under the Plan only if a Form Registration Statement on Form S-8 or a successor form under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(n) "**Continuous Service**" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. If the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. In addition, if required for exemption from or compliance with Section 409A of the Code, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "separation from service" as defined under U.S. Treasury Regulation Section 1.409A-1(h) (without regard to any alternative definition thereunder). A leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the applicable Award Document, the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(o) "**Corporate Transaction**" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least 90% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

To the extent required for compliance with Section 409A of the Code, in no event will an event be deemed a Corporate Transaction if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under U.S. Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(p) "**Director**" means a member of the Board.

(q) "**Disability**" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months as provided in Sections 22(e)(3) and 409A(a)(2)(C)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(r) "**Effective Date**" means February 22, 2018.

(s) "**Employee**" means any person providing services as an employee of the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(t) "**Entity**" means a corporation, partnership, limited liability company or other entity.

(u) "**Exchange Act**" means the U.S. Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(v) "**Exchange Act Person**" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in

substantially the same proportions as their Ownership of stock of the Company, (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the date of adoption by the Board of the Plan, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities, (vi) Harry Stylli, or any trust or Entity wholly owned by him or as to which he is the trustee and beneficiary, or (vii) Athyrium Capital Management, LP, or any fund managed by Athyrium Capital Management, LP.

(w) "**Fair Market Value**" means, as of any date, the value of a share of Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock as of any date of determination will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

The Board shall make a good faith determination of the Fair Market Value of any securities or derivative securities (including options) of the Company. For any options granted after the Initial Public Offering Date, the Board shall base the Fair Market Value of any options on the "fair value" determined for financial accounting purposes under Accounting Standards Codification 718.

(x) "**Incentive Stock Option**" means an option granted pursuant to Section 5 of the Plan that is intended to be, and that qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(y) "**Initial Public Offering**" means the initial underwritten public offering of shares of Common Stock pursuant to a registration statement filed and declared effective pursuant to the Securities Act.

(z) "**Initial Public Offering Date**" means the date of the underwriting agreement between the Company and the underwriters(s) managing the Initial Public Offering, pursuant to which shares of Common Stock are priced for the Initial Public Offering; provided that the Initial Public Offering contemplated by such underwriting agreement occurs.

(aa) "**Nonstatutory Stock Option**" means any option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

(bb) "**Officer**" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act (whether or not shares of Common Stock are publicly traded).

(cc) "**Option**" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(dd) "**Option Agreement**" means an Award Document evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(ee) "**Optionholder**" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ff) "**Other Stock Award**" means an award based in whole or in part by reference to shares of Common Stock that is granted pursuant to the terms and conditions of Section 6(d).

(gg) "**Other Stock Award Document**" means an Award Document evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Document will be subject to the terms and conditions of the Plan.

(hh) "**Own**," "**Owned**," "**Owner**," "**Ownership**", a Person will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such Person, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ii) "**Participant**" means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(jj) "**Performance Cash Award**" means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

(kk) "**Performance Period**" means the period of time selected by the Board over which the attainment of one or more performance goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(ll) "**Performance Stock Award**" means a Stock Award granted under the terms and conditions of Section 6(c)(i).

(mm) "**Person**" means a "person" as defined in Section 3(a)(9) of the Exchange Act and used in Section 13(d) and 14(d) thereof, including a "group" as defined in Section 13(d) thereof.

(nn) "**Plan**" means this 2018 Equity Incentive Plan of Progenity, Inc. (Third Amended and Restated).

(oo) "**Restricted Stock Award**" means an award of shares of Common Stock that is granted pursuant to the terms and conditions of Section 6(a).

(pp) "**Restricted Stock Award Document**" means an Award Document evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Document will be subject to the terms and conditions of the Plan.

(qq) "**Restricted Stock Unit Award**" means a right to receive shares of Common Stock that is granted pursuant to the terms and conditions of Section 6(b).

(rr) "**Restricted Stock Unit Award Document**" means an Award Document evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Document will be subject to the terms and conditions of the Plan.

(ss) "**Securities Act**" means the U.S. Securities Act of 1933, as amended.

(tt) "**Stock Appreciation Right**" or "**SAR**" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(uu) "**Stock Appreciation Right Award Document**" means an Award Document evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Award Document will be subject to the terms and conditions of the Plan.

(vv) "**Stock Award**" means any right to receive shares of Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right, a Performance Stock Award, or any Other Stock Award. The right to receive cash under the terms of a Stock Award that is actually settled in shares of Common Stock shall not disqualify such award from satisfying the definition of a "Stock Award".

(ww) "**Stock Award Document**" means an Award Document evidencing the terms and conditions of a Stock Award grant. Each Stock Award Document will be subject to the terms and conditions of the Plan.

(xx) "**Subsidiary**" means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other Entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(yy) "**Ten Percent Stockholder**" means a Person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate. END OF DOCUMENT

**Exhibit 10.6**

**PROGENITY, INC.**

**2020 EMPLOYEE STOCK PURCHASE PLAN**

**Section 1. PURPOSE**

The purpose of this Employee Stock Purchase Plan (the "Plan") is to provide an opportunity for Employees of Progenity, Inc., a Delaware corporation ("Sponsor") and its Participating Subsidiaries (collectively Sponsor and its Participating Subsidiaries shall be referred to as the "Company"), to purchase Common Stock of Sponsor and thereby to have an additional incentive to contribute to the prosperity of the Company. It is the intention of the Company that the Plan (excluding any sub-plans thereof except as expressly provided in the terms of such sub-plan) qualify as an "Employee Stock Purchase Plan" under Section 423 of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), and the Plan shall be administered in accordance with this intent. In addition, the Plan authorizes the grant of options pursuant to sub-plans or special rules adopted by the Committee designed to achieve desired tax or other objectives in particular locations outside of the United States or to achieve other business objectives in the determination of the Committee, which sub-plans shall not be required to comply with the requirements of Section 423 of the Code or all of the specific provisions of the Plan, including but not limited to terms relating to eligibility, Offering Periods or Purchase Price.

**Section 2. DEFINITIONS**

(a) "Applicable Law" shall mean the legal requirements relating to the administration of an employee stock purchase plan under applicable U.S. state corporate laws, U.S. federal and applicable state securities laws, the Code, any stock exchange rules or regulations and the applicable laws of any other country or jurisdiction, as such laws, rules, regulations and requirements shall be in place from time to time.

(b) "Board" shall mean the Board of Directors of Sponsor.

(c) "Code" shall mean the Internal Revenue Code of 1986, as such is amended from time to time, and any reference to a section of the Code shall include any successor provision of the Code.

(d) "Commencement Date" shall mean, with respect to a given Offering Period, the first Trading Day during such Offering Period.

(e) "Committee" shall mean the Compensation Committee of the Board or the officer, officers or committee appointed by the Compensation Committee in accordance with Section 15 of the Plan (to the extent of the duties and responsibilities delegated by the Compensation Committee of the Board).

(f) "Common Stock" shall mean the common stock of Sponsor, par value $0.001 per share, or any securities into which such Common Stock may be converted.

(g) "Compensation" shall mean the total cash compensation paid by the Company to an Employee with respect to an Offering Period, including salary, commissions, overtime, shift differentials and all or any portion of any item of compensation considered by the Company to be part of the Employee's regular earnings, but excluding items not considered by the Company to be part of the Employee's regular earnings. Items excluded from the definition of "Compensation" include but are not limited to such items as relocation bonuses, MBO bonuses and similar incentive bonuses, expense reimbursements, certain bonuses paid in connection with mergers and acquisitions, author incentives, recruitment and referral bonuses, foreign service premiums, differentials and allowances, imputed income pursuant to Section 79 of the Code, income realized as a result of participation in any stock option, restricted stock, restricted stock unit, stock purchase or similar equity plan maintained by Sponsor or a Participating Subsidiary, tuition and other reimbursements, taxable fringe benefits and severance benefits. The Committee shall have the authority to determine and approve all forms of pay to be included in the definition of Compensation and may change the definition on a prospective basis.

(h) "Effective Date" shall mean the date of the underwriting agreement between the Company and the underwriters(s) managing the initial public offering of the Common Stock, pursuant to which the Common Stock is priced for the initial public offering of the Company's securities pursuant to a registration statement filed and declared effective pursuant to the Securities Act.

(i) "Employee" shall mean an individual classified as an employee (within the meaning of Code Section 3401(c) and the regulations thereunder) by Sponsor or a Participating Subsidiary on Sponsor's or such Participating Subsidiary's payroll records during the relevant participation period. Notwithstanding the foregoing, no employee of Sponsor or a Participating Subsidiary shall be included within the definition of "Employee" if such person's customary employment is for less than twenty (20) hours per week or for less than five (5) months per year. Individuals classified as independent contractors, consultants, advisers, or members of the Board are not considered "Employees."

(j) "Enrollment Period" shall mean, with respect to a given Offering Period, that period established by the Committee prior to the commencement of such Offering Period during which Employees may elect to participate in order to purchase Common Stock at the end of that Offering Period in accordance with the terms of this Plan.

(k) "Exchange Act" shall mean the U.S. Securities Exchange Act of 1934, as amended from time to time, and any reference to a section of the Exchange Act shall include any successor provision of the Exchange Act.

(l) "Market Value" on a given date of determination (e.g., a Commencement Date or Purchase Date, as appropriate) means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Market Value of a share of Common Stock as of any date of determination will be, unless otherwise determined by the Board or Committee, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the

greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board or Committee deems reliable.

(ii) Unless otherwise provided by the Board or Committee, if there is no closing sales price for the Common Stock on the date of determination, then the Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Market Value will be determined by the Board or Committee in good faith.

(m) "Offering Period" shall mean a period of no more than twenty-seven (27) months. The Plan shall be implemented by a series of Offering Periods with terms established by the Committee in accordance with the Plan. Once established, the duration and timing of Offering Periods may be changed or modified by the Committee as permitted by the Plan. If the Committee does not establish different rules with respect to an Offering Period, then the duration of an Offering Period shall be twenty-four (24) months and each Offering Period shall consist of four (4) consecutive purchase periods each having a duration of six (6) months (individually, a "Purchase Period"), commencing on the first Trading Day following one Purchase Date and ending with the next Purchase Date, except that the first Purchase Period of any Offering Period will commence on the Commencement Date and end with the next Purchase Date. If the Committee does not establish different rules with respect to the frequency of Offering Periods, a new Offering Period shall commence every six (6) months following the Commencement Date of the previous Offering Period.

(n) "Offering Price" shall mean the Market Value of a share of Common Stock on the Commencement Date for a given Offering Period.

(o) "Participant" shall mean a participant in the Plan as described in Section 5 of the Plan.

(p) "Participating Subsidiary" shall mean a Subsidiary that has been designated by the Committee in its sole discretion as eligible to participate in the Plan with respect to its Employees.

(q) "Plan" shall mean this 2020 Employee Stock Purchase Plan, including any sub-plans or appendices hereto.

(r) "Purchase Date" shall mean, for any Purchase Period, the last Trading Day of such Purchase Period.

(s) "Purchase Period" shall have the meaning set out in Section 2(m).

(t) "Purchase Price" shall have the meaning set out in Section 8(b).

(u) "Securities Act" shall mean the U.S. Securities Act of 1933, as amended, as amended from time to time, and any reference to a section of the Securities Act shall include any successor provision of the Securities Act.

(v) "Stockholder" shall mean a record holder of shares entitled to vote such shares of Common Stock under Sponsor's by-laws.

(w) "Subsidiary" shall mean any entity treated as a corporation (other than Sponsor) in an unbroken chain of corporations beginning with Sponsor, within the meaning of Code Section 424(f), whether or not such corporation now exists or is hereafter organized or acquired by Sponsor or a Subsidiary.

(x) "Trading Day" shall mean a day on which U.S. national stock exchanges are open for trading and the Common Stock is being actively traded on one or more of such markets.

**Section 3. ELIGIBILITY**

(a) Any Employee employed by Sponsor or by any Participating Subsidiary at the beginning of an Enrollment Period for a given Offering Period shall be eligible to participate in the Plan with respect to such Offering Period and future Offering Periods, provided that the Committee may establish administrative rules requiring that employment commence some minimum period (not to exceed 90 days) prior to an Enrollment Period and/or that customary employment exceed a specified number of hours or period during a calendar year (not to exceed 20 hours per week or 5 months in a calendar year) to be eligible to participate with respect to the associated Offering Period and provided further that an Employee may only participate in one Offering Period at a time. The Committee may also determine that a designated group of highly compensated Employees is ineligible to participate in the Plan so long as the excluded category fits within the definition of "highly compensated employee" in Code Section 414(q). If the Committee does not establish different rules with respect to an Offering Period, the minimum period of employment that must be completed prior to the beginning of an Enrollment Period shall be five (5) working days. No Employee who becomes eligible to participate in the Plan may become a participant in an Offering Period following the Commencement Date of such Offering Period or after the commencement of any minimum period of employment established pursuant to the preceding sentence with respect to such Offering Period.

(b) No Employee may participate in the Plan if immediately after an option is granted the Employee owns or is considered to own (within the meaning of Code Section 424(d)) shares of Common Stock, including Common Stock which the Employee may purchase by conversion of convertible securities or under outstanding options granted by Sponsor or its Subsidiaries, possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of Sponsor or of any of its Subsidiaries. All Employees who participate in the Plan shall have the same rights and privileges under the Plan, except for differences that may be mandated by local law and that are consistent with Code Section 423(b)(5); provided that individuals participating in a sub-plan adopted pursuant to Section 16 hereof which is not designed to qualify under Code Section 423 need not have the same rights and privileges as Employees participating in the Code Section 423 Plan. No Employee may participate in more than one Offering Period at a time.

**Section 4. OFFERING PERIODS**

The Plan shall be implemented by a series of Offering Periods, which shall possess terms specified by the Committee in accordance with the terms of the Plan. Offering Periods shall continue until the Plan is terminated pursuant to Section 14 hereof. Once established, the Committee shall have the authority to change the frequency and/or duration of Offering Periods (including the Commencement Dates thereof) with respect to future Offering Periods if such change is announced prior to the scheduled occurrence of the Enrollment Period for the first Offering Period to be affected thereafter. If the Committee does not establish different rules with respect to an Offering Period, then the duration of an Offering Period shall be twenty-four (24) months and each Offering Period shall consist of four (4) Purchase Periods commencing on the first Trading Day following one Purchase Date and ending with the next Purchase Date, except that the first Purchase Period of any Offering Period will commence on the Commencement Date and end with the next Purchase Date. If the Committee does not establish different rules with respect to the frequency of Offering Periods, a new Offering Period shall commence every six (6) months following the Commencement Date of the previous Offering Period.

**Section 5. PARTICIPATION**

(a) An Employee who is eligible to participate in the Plan in accordance with its terms at the beginning of an Enrollment Period for an Offering Period and elects to participate in such Offering Period shall automatically receive an option in accordance with Section 8(a). Such an Employee shall become a Participant by completing and submitting, on or before the date prescribed by the Committee with respect to a given Offering Period, a completed payroll deduction authorization and Plan enrollment form provided by Sponsor or its Participating Subsidiaries or by following an electronic or other enrollment process as prescribed by the Committee. An eligible Employee may authorize payroll deductions at the rate of any whole percentage of the Employee's Compensation, not to be less than one percent (1.0%) and not to exceed fifteen percent (15.0%) (or such other percentages as the Committee may establish from time to time before an Enrollment Period for a future Offering Period) of such Employee's Compensation on each payday during the Offering Period. All payroll deductions will be held in a general corporate account or a trust account. No interest shall be paid or credited to the Participant with respect to such payroll deductions. Sponsor shall maintain or cause to be maintained a separate bookkeeping account for each Participant under the Plan and the amount of each Participant's payroll deductions shall be credited to such account. A Participant may not make any additional payments into such account, unless payroll deductions are prohibited under Applicable Law, in which case the provisions of Section 5(b) of the Plan shall apply. A Participant will automatically participate in each Offering Period commencing immediately following the last day of the prior Offering Period unless he or she withdraws or is deemed to withdraw from this Plan or terminates further participation in the Offering Period. A Participant is not required to file any additional agreement in order to continue participation in this Plan following the end of an Offering Period in which the Participant is then participating.

(b) Notwithstanding any other provisions of the Plan to the contrary, in locations where local law prohibits payroll deductions, an eligible Employee may elect to participate through contributions to his or her account under the Plan in a form acceptable to the Committee. In such event, any such Employees shall be deemed to be participating in a sub-plan, unless the

Committee otherwise expressly provides that such Employees shall be treated as participating in the Plan.

(c) Under procedures and at times established by the Committee, a Participant may withdraw from the Plan during an Offering Period, by completing and filing a new payroll deduction authorization and Plan enrollment form with the Company or by following electronic or other procedures prescribed by the Committee. If a Participant withdraws from the Plan during an Offering Period, his or her accumulated payroll deductions will be refunded to the Participant without interest, his or her right to participate in the current Offering Period will be automatically terminated and no further payroll deductions for the purchase of Common Stock will be made during the Offering Period. Any Participant who wishes to withdraw from the Plan during an Offering Period, must complete the withdrawal procedures prescribed by the Committee, subject to any rules established by the Committee, or changes to such rules, pertaining to the timing of withdrawals, limiting the frequency with which Participants may withdraw and re-enroll in the Plan, or imposing a waiting period on Participants wishing to re-enroll following withdrawal.

(d) Notwithstanding the preceding provisions of this Section 5, if the Market Value on the day of commencement of a Purchase Period, other than the first Purchase Period of such Offering Period, is less than the amount specified in Section 8(b)(i) for such Offering Period, each Participant who purchased shares of Common Stock in the preceding Purchase Period of such Offering Period shall automatically be withdrawn from that original Offering Period and re-enrolled in the next twenty four-month Offering Period.

(e) A Participant may not increase his or her rate of contribution through payroll deductions or otherwise during a given Offering Period. A Participant may decrease his or her rate of contribution through payroll deductions during a given Offering Period during such times specified by the Committee by filing a new payroll deduction authorization and Plan enrollment form or by following electronic or other procedures prescribed by the Committee. If a Participant has not followed such procedures to change the rate of contribution, the rate of contribution shall continue at the originally elected rate throughout the Offering Period and future Offering Periods. Notwithstanding the foregoing, to the extent necessary to comply with Section 423(b)(8) of the Code for a given calendar year, the Committee may reduce a Participant's payroll deductions to zero percent (0%) at any time during an Offering Period scheduled to end during such calendar year. Payroll deductions shall re-commence at the rate provided in such Participant's enrollment form at the beginning of the first Offering Period which is scheduled to end in the following calendar year, unless terminated by the Participant as provided in Section 5(c).

**Section 6. TERMINATION OF EMPLOYMENT**

In the event any Participant terminates employment with Sponsor and its Participating Subsidiaries for any reason (including death) prior to the expiration of an Offering Period, the Participant's participation in the Plan shall terminate and all amounts credited to the Participant's account shall be paid to the Participant or, in the case of death, to the Participant's heirs or estate, without interest. Whether a termination of employment has occurred shall be determined by the Committee. The Committee may provide that if a Participant's termination of employment

occurs within a certain period of time as specified by the Committee (not to exceed 30 days) prior to a Purchase Date during an Offering Period then in progress, his or her option for the purchase of shares of Common Stock will be exercised on such Purchase Date in accordance with Section 9 as if such Participant were still employed by the Company. If the Committee does not establish different rules with respect to an Offering Period, then a Participant must be employed on a Purchase Date in order for his or her option to be exercised on such Purchase Date. The Committee may also establish rules regarding when leaves of absence or changes of employment status will be considered to be a termination of employment, including rules regarding transfer of employment among Participating Subsidiaries, Subsidiaries and Sponsor, and the Committee may establish termination-of-employment procedures for the Plan that are independent of similar rules established under other benefit plans of Sponsor and its Subsidiaries; provided that such procedures are not in conflict with the requirements of Section 423 of the Code.

**Section 7. STOCK**

(a) Subject to adjustment as set forth in Section 11 and the "evergreen" provision in this Section 7, the aggregate number of shares of Common Stock which may be issued pursuant to the Plan shall not exceed Five Hundred Ten Thousand (510,000) shares (the "Share Reserve"). The Share Reserve will automatically increase on January 1st of each calendar year, for ten years, commencing on January 1 of the calendar year following the Effective Date, in an amount equal to the lesser of (i) one percent (1%) of the total number of shares of Common Stock outstanding on December 31st of the preceding calendar year or (ii) Six Hundred Thousand (600,000) shares (subject to adjustment as set forth in Section 11). The Board may act prior to January 1st of a given year to provide that there will be no January 1st increase of the Share Reserve for such year or that the increase in the Share Reserve for such year will be a smaller number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(b) Notwithstanding the above, subject to adjustment as set forth in Section 11, the maximum number of shares of Common Stock that may be issued to any Employee in a given Offering Period shall be that number of shares of Common Stock that could be purchased on the Commencement Date of such Offering Period with Fifty-Thousand Dollars (USD$50,000), taking into consideration any discount from the Offering Period pursuant to Section 8(b). The Committee may change this limitation at any time on a prospective basis to apply to future Offering Periods. If, on a given Purchase Date, the number of shares with respect to which options are to be exercised exceeds either maximum, the Committee shall make, as applicable, such adjustment or pro rata allocation of the shares remaining available for purchase in as uniform a manner as shall be practicable and as it shall determine to be equitable.

**Section 8. OFFERING**

(a) On the Commencement Date relating to each Offering Period, each eligible Employee, whether or not such Employee has elected to participate as provided in Section 5(a), shall be granted an option to purchase that number of whole shares of Common Stock (as adjusted as set forth in Section 11) not to exceed that number of shares of Common Stock determined in accordance with the last paragraph of Section 7 above (or such lower number of shares as determined by the Committee), which may be purchased with the payroll deductions

accumulated on behalf of such Employee during each Offering Period at the purchase price specified in Section 8(b) below, subject to the additional limitation that no Employee participating in the Plan shall be granted an option to purchase Common Stock under the Plan if such option would permit his or her rights to purchase stock under all employee stock purchase plans (described in Section 423 of the Code) of Sponsor and its Subsidiaries to accrue at a rate which exceeds Twenty-Five Thousand Dollars (USD$25,000) of the Market Value of such Common Stock (determined at the time such option is granted) for each calendar year in which such option is outstanding at any time. For purposes of the Plan, an option is "granted" on a Participant's Commencement Date. An option will expire upon the earliest to occur of (i) the termination of a Participant's participation in the Plan or such Offering Period, (ii) the beginning of a subsequent Offering Period in which such Participant is participating, or (iii) the termination of the Offering Period. For avoidance of doubt, if an option is granted to an Employee who is not a Participant in such Offering Period, that option shall expire upon the Commencement Date with any right or ability of such Employee to exercise the option. This Section 8(a) shall be interpreted so as to comply with Code Section 423(b)(8).

(b) The Purchase Price under each option shall be with respect to each Purchase Period in an Offering Period the lower of (i) a percentage (not less than eighty-five percent (85%)) ("Designated Percentage") of the Offering Price, or (ii) the Designated Percentage of the Market Value of a share of Common Stock on the Purchase Date on which the Common Stock is purchased; provided that the Purchase Price may be adjusted by the Committee pursuant to Sections 11 or 12 in accordance with Section 424(a) of the Code. For a given Offering Period, the Designated Percentage shall be established no later than the beginning of the Enrollment Period for such Offering Period. The Committee may change the Designated Percentage with respect to any future Offering Period, but not to below eighty-five percent (85%), and the Committee may determine with respect to any prospective Offering Period that the Purchase Price shall be the Designated Percentage of the Market Value of a share of the Common Stock solely on each Purchase Date. If the Committee does not establish the Designated Percentage prior to the beginning of the Enrollment Period for a given Offering Period, the Designated Percentage for such Offering Period shall be eighty-five percent (85%).

**Section 9. PURCHASE OF STOCK**

Unless a Participant withdraws from the Plan as provided in Section 5(c), terminates employment prior to the end of an Offering Period as provided in Section 6, or except as provided in Sections 7, 12 or 14(b), upon each Purchase Date in the Offering Period, a Participant's option shall be exercised automatically for the purchase of that number of whole shares of Common Stock which the accumulated payroll deductions credited to the Participant's account at that time shall purchase at the applicable price specified in Section 8(b) in accordance with the terms of the Plan, including Section 7. If a Participant's contributions are collected in a currency other than U.S. Dollars, then unless otherwise provided by the Committee with respect to an Offering Period, such contributions shall be converted into U.S. Dollars using an exchange rate prevailing on the Purchase Date as selected in the reasonable determination of the Sponsor. Notwithstanding the foregoing, Sponsor or its Participating Subsidiary may make such provisions and take such action as it deems necessary or appropriate for the withholding of taxes and/or social insurance and/or other amounts which Sponsor or its Participating Subsidiary determines is required by Applicable Law. Each Participant, however, shall be responsible for

payment of all individual tax liabilities arising under the Plan. The shares of Common Stock purchased upon exercise of an option hereunder shall be considered for tax purposes to be sold to the Participant on the Purchase Date. A Participant's option to purchase shares of Common Stock hereunder is exercisable only by him or her.

**Section 10. PAYMENT AND DELIVERY**

Within an administratively reasonable period of time after the exercise of an option, Sponsor shall deliver or cause to have delivered to the Participant a record of the Common Stock purchased and the balance of any amount of payroll deductions credited to the Participant's account not used for the purchase of Common Stock, except as specified below. The Committee may permit or require that shares be deposited directly with a broker designated by the Committee or to a designated agent of the Company, and the Committee may utilize electronic or automated methods of share transfer. The Committee may require that shares be retained with such broker or agent for a designated period of time and/or may establish other procedures to permit tracking of disqualifying dispositions of such shares. Sponsor or its Participating Subsidiary shall retain the amount of payroll deductions used to purchase Common Stock as full payment for the Common Stock and the Common Stock shall then be fully paid and non-assessable. No Participant shall have any voting, dividend, or other Stockholder rights with respect to shares subject to any option granted under the Plan until the shares subject to the option have been purchased and delivered to the Participant as provided in this Section 10. Following the last Purchase Date in an Offering Period, the Committee may in its discretion direct Sponsor to retain in a Participant's account for a subsequent Offering Period any payroll deductions which are not sufficient to purchase a whole share of Common Stock or return such amount to the Participant. Any other amounts left over in a Participant's account after the final Purchase Date in each Offering Period shall be returned to the Participant. If the Committee does not establish different rules with respect to an Offering Period, then all amounts left over in a Participant's account after the final Purchase Date of such Offering Period shall be returned to the Participant.

**Section 11. RECAPITALIZATION**

Subject to any required action by the Stockholders of Sponsor, if there is any change in the outstanding shares of Common Stock or other securities of Sponsor because of a merger, consolidation, spin-off, reorganization, recapitalization, dividend in property other than cash, extraordinary dividend whether in cash and/or other property, stock split, reverse stock split, stock dividend, liquidating dividend, combination or reclassification of the Common Stock or other securities (including any such change in the number of shares of Common Stock or other securities effected in connection with a change in domicile of Sponsor), or any other increase or decrease in the number of shares of Common Stock or other securities effected without receipt of consideration by Sponsor, provided that conversion of any convertible securities of Sponsor shall not be deemed to have been "effected without receipt of consideration," the type and number of securities covered by each option under the Plan which has not yet been exercised, the type and number of securities which have been authorized and remain available for issuance under the Plan, the maximum number of shares that may be added to the Plan in accordance with Section 7(a)(ii), as well as the maximum number of securities which may be purchased by a Participant in an Offering Period, and the price per share covered by each option under the Plan which has

not yet been exercised, shall be appropriately and proportionally adjusted by the Board, and the Board shall take any further actions which, in the exercise of its discretion, may be necessary or appropriate under the circumstances. The Board's determinations under this Section 11 shall be conclusive and binding on all parties.

**Section 12. MERGER, LIQUIDATION, OTHER CORPORATE TRANSACTIONS**

(a) In the event of the proposed liquidation or dissolution of Sponsor, each Offering Period will terminate immediately prior to the consummation of such proposed transaction, unless otherwise provided by the Board in its sole discretion, and all outstanding options shall automatically terminate and the amounts of all payroll deductions will be refunded without interest to the Participants.

(b) In the event of a proposed sale of all or substantially all of the assets of Sponsor, or the merger or consolidation or similar combination of Sponsor with or into another entity, then in the sole discretion of the Board, (1) each option shall be assumed or an equivalent option shall be substituted by the successor corporation or parent or subsidiary of such successor entity, (2) on a date established by the Board on or before the date of consummation of such merger, consolidation, combination or sale, such date shall be treated as the final Purchase Date of each Offering Period, and all outstanding options shall be exercised on such date, (3) all outstanding options shall terminate and the accumulated payroll deductions will be refunded without interest to the Participants, or (4) outstanding options shall continue unchanged.

**Section 13. TRANSFERABILITY**

Neither payroll deductions credited to a Participant's bookkeeping account nor any rights to exercise an option or to receive shares of Common Stock under the Plan may be voluntarily or involuntarily assigned, transferred, pledged, or otherwise disposed of in any way, and any attempted assignment, transfer, pledge, or other disposition shall be null and void and without effect. If a Participant in any manner attempts to transfer, assign or otherwise encumber his or her rights or interests under the Plan, other than as permitted by the Code, such act shall be treated as an election by the Participant to discontinue participation in the Plan pursuant to Section 5(c).

**Section 14. AMENDMENT OR TERMINATION OF THE PLAN**

(a) The Plan shall continue from the Effective Date until the time that the Plan is terminated in accordance with Section 14(b).

(b) The Board or the Committee may, in its sole discretion, insofar as permitted by law, terminate or suspend the Plan, or revise or amend it in any respect whatsoever, except that, without approval of the Stockholders, no such revision or amendment shall increase the number of shares subject to the Plan, other than an adjustment under Section 11 of the Plan, or make other changes for which Stockholder approval is required under Applicable Law. Upon a termination or suspension of the Plan, the Board may in its discretion (i) return without interest, the payroll deductions credited to Participants' accounts to such Participants or (ii) set an earlier final Purchase Date with respect to each Offering Period then in progress.

**Section 15. ADMINISTRATION**

(a) The Board has appointed the Compensation Committee of the Board to administer the Plan (the "Committee"), who will serve for such period of time as the Board may specify and whom the Board may remove at any time. The Committee will have the authority and responsibility for the day-to-day administration of the Plan, the authority and responsibility specifically provided in this Plan and any additional duty, responsibility and authority delegated to the Committee by the Board, which may include any of the functions assigned to the Board in this Plan. The Committee may delegate to a sub-committee and/or to officers or employees of Sponsor the day-to-day administration of the Plan. The Committee shall have full power and authority to adopt, amend and rescind any rules and regulations which it deems desirable and appropriate for the proper administration of the Plan, to construe and interpret the provisions and supervise the administration of the Plan, to make factual determinations relevant to Plan entitlements and to take all action in connection with administration of the Plan as it deems necessary or advisable, consistent with the delegation from the Board. Decisions of the Committee shall be final and binding upon all Participants. Any decision reduced to writing and signed by a majority of the members of the Committee shall be fully effective as if it had been made at a meeting of the Committee duly held. The Company shall pay all expenses incurred in the administration of the Plan.

(b) In addition to such other rights of indemnification as they may have as members of the Board or officers or employees of the Company, members of the Board and of the Committee and their delegates shall be indemnified by the Company against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any right granted under the Plan, and against all amounts paid by them in settlement thereof (provided such settlement is approved by independent legal counsel selected by the Sponsor) or paid by them in satisfaction of a judgment in any such action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct in duties; provided, however, that within sixty (60) days after the institution of such action, suit or proceeding, such person shall offer to the Company, in writing, the opportunity at its own expense to handle and defend the same.

**Section 16. COMMITTEE RULES FOR JURISDICTIONS OTHER THAN THE UNITED STATES**

The Committee may adopt rules or procedures relating to the operation and administration of the Plan to accommodate the specific requirements of the laws and procedures of jurisdictions outside of the United States. Without limiting the generality of the foregoing, the Committee is specifically authorized to adopt rules and procedures regarding handling of payroll deductions or other contributions by Participants, payment of interest, conversion of local currency, data privacy security, payroll tax, withholding procedures and handling of stock certificates which vary with local requirements; however, if such varying provisions are not in accordance with the provisions of Section 423(b) of the Code, including but not limited to the requirement of Section 423(b)(5) of the Code that all options granted under the Plan shall have

the same rights and privileges unless otherwise provided under the Code and the regulations promulgated thereunder, then the individuals affected by such varying provisions shall be deemed to be participating under a sub-plan and not in the Plan. The Committee may also adopt sub-plans applicable to particular Subsidiaries or locations, which sub-plans may be designed to be outside the scope of Code Section 423 and shall be deemed to be outside the scope of Code Section 423 unless the terms of the sub-plan provide to the contrary. The rules of such sub-plans may take precedence over other provisions of this Plan, with the exception of Section 7, but unless otherwise superseded by the terms of such sub-plan, the provisions of this Plan shall govern the operation of such sub-plan. The Committee shall not be required to obtain the approval of the Stockholders prior to the adoption, amendment or termination of any sub-plan unless required by the laws of the jurisdiction in which Employees participating in the sub-plan are located.

**Section 17. SECURITIES LAWS REQUIREMENTS**

(a) No option granted under the Plan may be exercised to any extent unless the shares to be issued upon such exercise under the Plan are covered by an effective registration statement pursuant to the Securities Act and the Plan is in material compliance with all applicable provisions of any applicable national, regional, state, local or other jurisdiction, including, without limitation, the Securities Act, the Exchange Act, the rules and regulations promulgated thereunder, applicable state and foreign securities laws and the requirements of any stock exchange upon which the Shares may then be listed, subject to the approval of counsel for the Company with respect to such compliance. If on a Purchase Date in any Offering Period hereunder, the Plan is not so registered or in such compliance, options granted under the Plan which are not in material compliance shall not be exercised on such Purchase Date, and the Purchase Date shall be delayed until the Plan is subject to such an effective registration statement and such compliance, except that each Purchase Date shall not be delayed more than twelve (12) months and the final Purchase Date shall in no event be more than twenty-seven (27) months from the Commencement Date relating to such Offering Period. If, on the Purchase Date of any offering hereunder, as delayed to the maximum extent permissible, the Plan is not registered and in such compliance, options granted under the Plan which are not in material compliance shall not be exercised and all payroll deductions accumulated during the Offering Period (reduced to the extent, if any, that such deductions have been used to acquire shares of Common Stock) shall be returned to the Participants, without interest. The provisions of this Section 17 shall comply with the requirements of Section 423(b)(5) of the Code to the extent applicable.

(b) As a condition to the exercise of an option, Sponsor may require the person exercising such option to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for Sponsor, such a representation is required by any of the aforementioned applicable provisions of law.

**Section 18. GOVERNMENTAL REGULATIONS**

This Plan and Sponsor’s obligation to sell and deliver shares of its stock under the Plan shall be subject to the approval of any governmental authority required in connection with the Plan or the authorization, issuance, sale, or delivery of stock hereunder.

**Section 19. NO ENLARGEMENT OF EMPLOYEE RIGHTS**

Nothing contained in this Plan shall be deemed to give any Employee or other individual the right to be retained in the employ or service of Sponsor or any Participating Subsidiary or to interfere with the right of Sponsor or Participating Subsidiary to discharge any Employee or other individual at any time, for any reason or no reason, with or without notice.

**Section 20. GOVERNING LAW**

This Plan shall be governed by applicable laws of the State of Delaware without regard for the conflicts of laws provisions thereof, and other applicable law.

**Section 21. EFFECTIVE DATE**

This Plan shall be effective on the Effective Date, subject to approval of the Stockholders of Sponsor within twelve (12) months before or after its date of adoption by the Board.

**Section 22. REPORTS**

Individual accounts shall be maintained for each Participant in the Plan. Statements of account shall be made available to Participants at least annually, which statements shall set forth the amounts of payroll deductions, the Purchase Price, the number of shares of Common Stock purchased and the remaining cash balance, if any.

**Section 23. DESIGNATION OF BENEFICIARY FOR OWNED SHARES**

With respect to shares of Common Stock purchased by the Participant pursuant to the Plan and held in an account maintained by Sponsor or its assignee on the Participant's behalf, the Participant may be permitted to file a written designation of beneficiary, who is to receive any shares and cash, if any, from the Participant's account under the Plan in the event of such Participant's death subsequent to the end of a Purchase Period but prior to delivery to him or her of such shares and cash. In addition, a Participant may file a written designation of a beneficiary who is to receive any cash from the Participant's account under the Plan in the event of such Participant's death prior to any Purchase Date(s) of an Offering Period. If a Participant is married and the designated beneficiary is not the spouse, spousal consent shall be required for such designation to be effective to the extent required by local law. The Participant (and if required under the preceding sentence, his or her spouse) may change such designation of beneficiary at any time by written notice. Subject to local legal requirements, in the event of a Participant's death, Sponsor or its assignee shall deliver any shares of Common Stock and/or cash to the designated beneficiary. Subject to local law, in the event of the death of a Participant and in the absence of a beneficiary validly designated who is living at the time of such Participant's death, Sponsor shall deliver such shares of Common Stock and/or cash to the executor or administrator of the estate of the Participant, or if no such executor or administrator has been appointed (to the knowledge of Sponsor), Sponsor in its sole discretion, may deliver (or cause its assignee to deliver) such shares of Common Stock and/or cash to the spouse, or to any one or more dependents or relatives of the Participant, or if no spouse, dependent or relative is known to Sponsor, then to such other person as Sponsor may determine. The provisions of this Section 23 shall in no event require Sponsor to violate local law, and Sponsor shall be entitled to take

whatever action it reasonably concludes is desirable or appropriate in order to transfer the assets allocated to a deceased Participant's account in compliance with local law.

**Section 24. ADDITIONAL RESTRICTIONS OF RULE 16b-3.**

The terms and conditions of options granted hereunder to, and the purchase of shares of Common Stock by, persons subject to Section 16 of the Exchange Act shall comply with the applicable provisions of Rule 16b-3. This Plan shall be deemed to contain, and such options shall contain, and the shares of Common Stock issued upon exercise thereof shall be subject to, such additional conditions and restrictions, if any, as may be required by Rule 16b-3 to qualify for the maximum exemption from Section 16 of the Exchange Act with respect to Plan transactions.

**Section 25. NOTICES**

All notices or other communications by a Participant to Sponsor or the Committee under or in connection with the Plan shall be deemed to have been duly given when received in the form specified by Sponsor or the Committee at the location, or by the person, designated by Sponsor for the receipt thereof.

**Exhibit 10.7**

May 1, 2019

**Eric d'Esparbes**

Dear Mr. Eric d'Esparbes

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer as Chief Financial Offer starting May 20, 2019 (the "Employment Start Date"). This offer is subject to the terms and conditions set forth in this offer letter.

**Employment**
You agree to serve as Chief Financial Officer at the Senior Vice President level and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Chief Executive Offer. The annual base salary for this position is $400,000 on a full-time basis.

**Benefits**
Beginning the first of the month following your start date, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated.

**PTO**
Your PTO time shall be in accord with the Company's PTO policy that allows all full-time employees to accrue three weeks' PTO per benefit year.

**Bonus**
You are eligible for the annual bonus program with a target bonus of 40%. Bonuses are calculated annually when the calendar year ends and are awarded in the first quarter of the following year. These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2020. The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Equity Awards**
You will be granted a restricted stock unit ("RSU") award covering 87,750 restricted stock units and also a stock option ("Stock Option") award to purchase up to 175,500 shares of common stock. This initial grant is equivalent to approximately .2% of the fully diluted outstanding shares at the time of the grant. Such RSU and Stock Option awards are subject to the terms and conditions of the Company's 2018 Equity Incentive Plan and related RSU and Stock Option agreements and notice forms, and except as otherwise specified or provided, twenty-five percent of each award will vest one year from the 15th day of the calendar month following the month of your employment start date and the balance will vest in 36 consecutive equal monthly installments on the 15th day of each month thereafter. An additional .05% (of the fully diluted outstanding shares at the time of the grant) will be granted at the completion of a successful IPO, the terms of which will be agreed upon between you and Harry Stylli within 60 days of your start date.

**Relocation**
Relocation to San Diego by September 15, 2019 is required as condition of employment. Progenity will reimburse the expenses associated with transition travel and relocation to San Diego, up to a maximum of $45,000. Expenses will be reimbursed through Progenity's expense system and all receipts will be required. Progenity will reimburse temporary housing costs up to $3,500 per month for six months. Relocation expenses should be submitted with IRS tax guidelines considered. Should you voluntarily resign or be dismissed for cause prior to 12 months following your first day of employment you will be required to repay the relocation and temporary housing expense reimbursements on a pro-rata basis.

**Other Activities**
Except under prior approval of your direct supervisor, you shall not during the period of your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Employee Confidentiality and Proprietary Rights Assignment Agreement**
In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others. You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records. This offer is also contingent upon completion of successful reference checks.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,
/s/ Harry Stylli
Harry Stylli
Chief Executive Officer, Executive Chairman
Progenity, Inc.

Agreed:

| /s/ Eric d'Esparbes | 05/14/19 |
|---|---|
| Candidate Signature | Date |

Eric d'Esparbes
Printed Name

**Exhibit 10.8**

December 13, 2017

**Sami Shihabi**

Dear Mr. Sami Shihabi,

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer as Senior Vice President of Marketing and Portfolio Strategy starting January 15, 2018 (the "Employment Start Date"). This offer is subject to the terms and conditions set forth in this offer letter. This offer will remain open until Friday, December 15th, 2017.

**Employment**
You agree to serve as Senior Vice President of Marketing and Portfolio Strategy and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Executive Chairman. The annual base salary for this position is $350,000 on a full-time basis. Progenity will provide you with a $100,000 sign-on bonus to be paid on the pay date following your start date.

**90 Day Probationary Period**
The first 90 days of your employment will be under a probationary period. During this period, both the company and you will determine whether you can perform the requirements of the job you have been assigned to.

**Benefits**
Beginning the first of the month following your start date, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated

**PTO**
Your PTO time shall be.in accord with the Company's PTO policy that allows all full-time employees to accrue three weeks' PTO per benefit year.

**Bonus**
You are eligible for the annual bonus program with a maximum annual bonus of 40%. Bonuses are calculated annually when the calendar year ends and are awarded in the first quarter of the following year. These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2019. The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Stock Grant**
You will be granted an option to purchase 225,000 shares of common stock. Such option and exercise shall be subject to the terms of the Company's most current Equity Incentive Plan and standard agreement. Twenty-five percent of the option shall become vested on the first anniversary of your Employment Start Date and the balance of the shares shall vest in 36 consecutive successive equal monthly installments thereafter, provided that you are providing Continuous Service during the period commencing on the Grant Date and through each applicable vesting date.

**Stock Grant**
You will be granted an option to purchase 225,000 shares of common stock. Such option and exercise shall be subject to the terms of the Company's most current Equity Incentive Plan and standard agreement. Twenty-five percent of the option shall become vested on the first anniversary of your Employment Start Date and the balance of the shares shall vest in 36 consecutive successive equal monthly installments thereafter, provided that you are providing Continuous Service during the period commencing on the Grant Date and through each applicable vesting date.

**Other Activities**
Except under prior approval of your direct supervisor, you shall not during the period of your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Employee Confidentiality and Proprietary Rights Assignment Agreement**
Enclosed for your review and signature is an "Employee Confidentiality and Proprietary Rights Assignment Agreement." In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others.

You have not entered into and you agree not to enter in to any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,
/s/ Harry Stylli
Harry Stylli
Chief Executive Officer, Executive Chairman
Progenity, Inc.

Agreed: /s/ Sami Shihabi — 12/14/17
Signature — Date

Sami Shihabi
Printed Name

**Exhibit 10.9**

March 20, 2015

Matthew Cooper, Ph.D.

Dear Dr. Cooper,

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer as Vice President and Chief Scientific Officer of Progenity starting on or about March 27, 2015 (the "Employment Start Date"). This offer is subject to the terms and conditions set forth in this offer letter. This offer and its acceptance by you are also contingent upon closing of the acquisition of Carmenta Bioscience, Inc. by the Company and/or its affiliates no later than April 6, 2015, at which time this offer expires if the contingency has not been met.

**Employment**
You agree to serve as Vice President and Chief Scientific Officer and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Executive Chairman. The annual base salary for this position is $330,000 on a full-time basis.

**Benefits**
Upon employment, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, dental, vision, 401k (with company match) and similar benefits made available generally to employees of the company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated.

**PTO/Holidays**
Your paid time off shall be in accord with the Company's PTO policy that in general currently allows all fulltime employees three weeks' PTO per benefit year, which may be amended or terminated by the Company from time to time. Progenity recognizes 10 company holidays that all full-time employees are paid for.

**Bonus**
You are eligible for the annual bonus program with a target bonus of 35% of annual base salary. Bonuses are calculated annually when the calendar year ends and are awarded after all annual financials are calculated. These bonuses are prorated based on your start date. (You would be eligible for your first bonus during 2016, for the 2015 calendar year.) The bonus incentive is based on several terms including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Stock Grant**
You will be granted an option to purchase 225,000 shares of common stock (the "Option"). The Option and exercise rights shall be subject to the terms of the Company's most current Equity Incentive Plan and standard agreement. Twenty-five percent of the shares subject to the Option shall become vested on the first anniversary of your Employment Start Date and the balance of the shares shall vest in 36 consecutive successive equal monthly installments thereafter, provided that you are providing continuous service during the period commencing on the grant date and through each applicable vesting date.

**Severance**
If your employment is terminated without Cause by the Company (and for clarity, other than by death or disability), subject to your delivery of an effective release agreement in form approved by the Company, the Company will provide you with COBRA premiums and severance pay equal to 12 months of your then current regular base salary (less applicable tax and other required withholdings) paid per the Company's regular payroll schedule over 12 months. "Cause" means any of (1) conviction of any felony or any crime involving moral turpitude or dishonesty; (2) participation in a fraud or act of dishonesty against the Company that results in material harm to the Company; (3) intentional and material damage to Company property; or (4) material breach of any written Company Policy or written agreement with the Company including the Employee Confidentiality and Proprietary Rights Assignment Agreement.

**Other Activities**
Except under prior approval of your manager, you shall not during your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might put you in a competing position to that of the Company.

**Employee Confidentiality and Proprietary Rights Assignment Agreement**

Enclosed for your review and signature is the Company "Employee Confidentiality and Proprietary Rights Assignment Agreement." In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others. You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the Executive Chairman.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,

/s/ Harry Stylli
Harry Stylli
Executive Chairman
Progenity, Inc.

Agreed: /s/ Matthew Cooper Date: March 27, 2015
Signature

Matthew Cooper, Ph.D.

**Exhibit 10.10**

August 26, 2014

Clarke W. Neumann

Dear Mr. Clarke Neumann,

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer for General Counsel starting by September 30th 2014 (the "Employment Start Date"). The start date can change by the mutual agreement of the parties in writing. This employment offer is subject to the terms and conditions set forth in this offer letter.

**Employment**
You agree to serve as General Counsel and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Executive Chairman. The annual base salary for this position is $300,000 annually on a full-time basis.

**90 Day Probationary Period**
The first 90 days of your employment will be under a probationary period. During this period, both the company and you will determine whether you can perform the requirements of the job you have been assigned to. Near the end of this probation, we will assess your performance in the form of a standard review.

**Benefits**
Upon employment, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus stock, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company These plans may vary, from time to time, be amended, or terminated.

**PTO**
Your paid time off shall be in accord with the Company's PTO policy that in general currently allows all fulltime employees three weeks' PTO per benefit year, which may be amended or terminated by the Company from time to time.

**Bonus**
You are eligible for the annual bonus program. Bonuses are calculated annually when the calendar year ends and are awarded in the first quarter of the following year These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2015 (if hired 90 days or less prior to the bonus end period, you will not be eligible for bonus dollars for that year). The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Stock Grant**
You will be granted an option to purchase 160,000 shares of common stock. Such option and exercise rights (and all other options set forth in this letter) shall be subject to the terms of the Company's most current Equity Incentive Plan and standard agreement. Twenty-five percent of the option shall become vested on the first anniversary of your Employment Start Date and the balance of the shares shall vest in 36 consecutive successive equal monthly installments thereafter, provided that you are providing Continuous Service during the period commencing on the Grant Date and through each applicable vesting date.

**Other Activities**
Except under prior approval of your manager, you shall not during your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Proprietary Information and Inventions Agreement**
Enclosed for your review and signature is a "Proprietary and Inventions Agreement." In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others. You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,

/s/ Harry Stylli

Harry Stylli
Executive Chairman
Progenity, Inc.

Agreed: /s/ Clarke Neumann Date: 8/27/14
Signature

Clarke Neumann
Printed Name

**Exhibit 10.11**

August 29, 2014

George Gianakopoulos

Dear Mr. George Gianakopoulos,

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer for Vice President of Sales – Specialist Markets starting September 29th, 2014 (the "Employment Start Date"). This employment offer is subject to the terms and conditions set forth in this offer letter.

**Employment**
You agree to serve as Vice President of Sales — Specialty Markets and shall have the duties and responsibilities commensurate with such position reporting directly to Chris Lowe, Vice President of Sales. The annual base salary for this position is $270,000 on a full-time basis.

**90 Day Probationary Period**
The first 90 days of your employment will be under a probationary period. During this period, both the company and you will determine whether you can perform the requirements of the job you have been assigned to. Near the end of this probation, we will assess your performance in the form of a standard review.

**Benefits**
Upon employment, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus stock, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated.

**PTO**
Your paid time off shall be in accord with the Company's PTO policy that in general currently allows all full time employees three weeks' PTO per benefit year, which may be amended or terminated by the Company from time to time.

**Bonus**
You are eligible for the annual bonus program with a max bonus of 30%. Bonuses are calculated annually when the calendar year ends and are awarded in the first quarter of the following year. These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2015 (if hired 90 days or less prior to the bonus end period, you will not be eligible for bonus dollars for that year). The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Stock Grant**
You will be granted an option to purchase 125,000 shares of common stock. Such option and exercise rights (and all other options set forth in this letter) shall be subject to the terms of the Company's most current Equity Incentive Plan and standard agreement. Twenty-five percent of the option shall become vested on the first anniversary of your Employment Start Date and the balance of the shares shall vest in 36 consecutive successive equal monthly Installments thereafter, provided that you are providing Continuous Service during the period commencing on the Grant Date and through each applicable vesting date.

**Other Activities**
Except under prior approval of your manager, you shall not during your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Proprietary Information and Inventions Agreement**
Enclosed for your review and signature is a "Proprietary and Inventions Agreement." In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others. You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,

/s/ Chris Lowe
Chris Lowe
Vice President of Sales
Progenity, Inc.

Agreed: /s/ George J. Gianakopoulos
Signature

George J. Gianakopoulos

Printed Name

January 19, 2020

**Troy Seelye**

**Dear Mr. Troy Seelye,**

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer as Chief Information Officer at the Senior Vice President level starting March 30, 2020 (the "Employment Start Date"). This offer is subject to the terms and conditions set forth in this offer letter.

**Employment**

You agree to serve as Chief Information Officer and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Chief Executive Officer. The annual base salary for this position is $400,000 on a full-time basis. Progenity will provide you with a $25,000 sign-on bonus to be paid on the pay date following 3 months of employment. Should you voluntary resign within 12 months of your sign-on bonus payment, you will be required to repay the sign on bonus on a pro-rata basis.

**Benefits**

Beginning the first of the month following your start date, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated.

**PTO**

Your PTO time shall be in accord with th Company's PTO policy that allows all full-time employees to accrue three weeks' PTO per benefit year.

**Bonus**

You are eligible for the annual bonus program, with a target bonus of 40% of your annual salary. Bonuses are calculated annually when the calendar year ends and are awarded in the first quarter of the following year. These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2021. The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Equity Awards**

You will be granted a restricted stock unit ("RSU") award covering 137,500 restricted stock units and also a stock option ("Stock Option") award to purchase up to 275,000 shares of common stock. Additional grants are given based on performance. Such RSU and Stock Option awards are subject to the terms and conditions of the Company's 2018 Equity Incentive Plan and related RSU and Stock Option agreements and notice forms, and except as otherwise specified or provided, twenty-five percent of each award will vest one year from the 15th day of the calendar month following the month of your employment start date and the balance will vest in 36 consecutive equal monthly installments on the 15th day of each month thereafter.

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**Other Activities**

Except under prior approval of your direct supervisor, you shall not during the period of your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Employee Confidentiality and Proprietary Rights Assignment Agreement**

In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others.

You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The “at will” nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,

/s/ Robyn Hatton
Robyn Hatton
Vice President of Human Resources
Progenity, Inc.

Agreed /s/ Troy Seelye _____ 01/21/2020
Signature Date

Troy Seelye
Printed Name

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March 8, 2020

**Damon Silvestry**

Dear Mr. Silvestry,

Progenity, Inc. (the "Company") is pleased to confirm the following employment offer as Chief Operations Officer at the Senior Vice President level starting May 11, 2020 (the "Employment Start Date"). This offer is subject to the terms and conditions set forth in this offer letter.

**Employment**

You agree to serve as Chief Operations Officer at the Senior Vice President level and shall have the duties and responsibilities commensurate with such position reporting directly to Harry Stylli, Chief Executive Officer. The annual base salary for this position is $400,000 on a full-time basis. Progenity will agree to reassess your level within the organization at the beginning of 2021 based on 2020 performance.

**Benefits**

Beginning the first of the month following your start date, the Company will provide you with the usual health insurance benefits it generally provides to other employees. Except for any waiting period that may be applicable, you will have immediate right to participate in and receive benefit from life, accident, disability, medical, bonus, and similar benefits made available generally to employees of the Company as such plans and benefits may be adopted by the Company. These plans may vary, from time to time, be amended, or terminated.

**PTO**

Your PTO time shall be in accord with the Company's PTO policy that allows all full-time employees to accrue three weeks' PTO per benefit year.

**Bonus**

You are eligible for the annual bonus program, with a target bonus of 40% of your annual salary. Bonuses are calculated annually when the calendar year ends and are awarded in the second quarter of the following year. These bonuses are prorated based on your start date. You would be eligible for your first bonus during the first quarter of 2021. The bonus incentive is based on several items including company performance, individual goals, and a subjective portion. The bonus program is operated at the sole discretion of the Company and is subject to review, modification, or revocation at any time.

**Equity Awards**

You will be granted a restricted stock unit ("RSU") award covering 150,000 restricted stock units and also a stock option ("Stock Option") award to purchase up to 300,000 shares of common stock. Such RSU and Stock Option awards are subject to the terms and conditions of the Company's 2018 Equity Incentive Plan and related RSU and Stock Option agreements and notice forms, and except as otherwise specified or provided, twenty-five percent of each award will vest one year from the 15th day of the calendar month following the month of your employment start date and the balance will vest in 36 consecutive equal monthly installments on the 15th day of each month thereafter. You will be granted an additional RSU award covering 75,000 restricted stock unites and also a stock option award to purchase up to 150,000 shares of common stock based on performance goals that will be set and agreed upon by you and Harry Stylli within your first 90 days of employment. This grant will be awarded upon achievement of those agreed upon goals.

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**Relocation**

Relocation to San Diego by October 31, 2020 is required as condition of employment. Progenity will reimburse the expenses associated with relocation to San Diego up to a maximum of $30,000. Expenses will be reimbursed through Progenity's expense system and all receipts will be required. Progenity will reimburse temporary housing costs up to $2,500 per month for the transition period until October 31, 2020. Relocation expenses should be submitted with IRS tax guidelines considered. Should you voluntary resign or be dismissed for cause prior to 12 months following your first day of employment you will be required to repay the relocation and temporary housing expenses reimbursements on a pro-rata basis.

**Other Activities**

Except under prior approval of your direct supervisor, you shall not during the period of your employment engage, directly or indirectly, in any business activity that is or may be competitive with, or might you be in competing position to that of the Company.

**Employee Confidentiality and Proprietary Rights Assignment Agreement**

In making this offer, the Company understands that you are not under any obligation to any former employer or person, firm or Company which would prevent, limit, impair or in any way affect the performance by you of your duties as an Employee of the Company. You also represent that as an employee of the Company you will not breach any agreement to keep in confidence proprietary information, knowledge, or data acquired by you in confidence prior to your employment by the Company. You will not disclose to the Company or induce the Company to use any confidential or proprietary information or material belonging to any previous employers or others.

You have not entered into and you agree not to enter into any agreement, either written or oral, in conflict with your employment at the Company. You further agree to conform to the rules and regulations of the Company.

It is understood that you are not being offered employment for a definite period of time and that either you or the Company may terminate the employment relationship at any time and for any reason without prior notice. The "at will" nature of the employment between you and the Company cannot be changed or modified other than in writing by the President.

This offer is contingent upon successful completion of a background investigation, which may include civil, and criminal court records, education, credentials, identity, social security number, previous employment and driving records.

Please indicate your acceptance of this offer by signing and dating this letter and returning it to me.

Sincerely,

Robyn Hatton
Vice President of Human Resources
Progenity, Inc.

Agreed: /s/ Damon Silvestry — March 9, 2020
Signature — Date

Damon Silvestry
Printed Name

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# PROGENITY, INC.

# SEVERANCE PLAN

## SECTION 1. INTRODUCTION.

**THE PROGENITY, INC. SEVERANCE PLAN (the "Plan") was approved by the Compensation Committee of the Board of Directors of PROGENITY, INC. (the "Company") on December 4, 2019 and became effective on December 4, 2019. The purpose of the Plan is to provide for the payment of severance benefits to certain selected executives and other employees of the Company in the event their employment with the Company and any Applicable Subsidiary, as applicable, is terminated involuntarily, as provided herein, and to encourage such executives and other employees to continue as employees of the Company or an Applicable Subsidiary, as the case may be, in the event of a Change in Control. Except as otherwise stated herein, the Plan shall supersede any severance benefit plan, policy or practice previously maintained by the Company with respect to an executive or employee of the Company who is a Potential Eligible Participant. This Plan document also is the Summary Plan Description for the Plan. Capitalized terms used in the Plan, unless defined elsewhere in the Plan, shall have the meaning set forth in Section 3 below.**

## SECTION 2. ELIGIBILITY FOR BENEFITS.

**(a) General Rules**. Subject to the requirements set forth in this Section 2, the Company will provide severance benefits under the Plan to each Eligible Participant.

(i) "**Potential Eligible Participant**" refers to the executives and other employees employed by the Company or any Applicable Subsidiary and designated as a Potential Eligible Participant by the Plan Administrator. No employee whose primary place of business for the Company is outside of the United States (unless such employee is a citizen or resident alien of the United States) may be designated as a Potential Eligible Participant. An "**Eligible Participant**" is any Potential Eligible Participant, other than those excluded under Section 2(b) below, whose employment with the Company or any Applicable Subsidiary is either (A) involuntarily terminated for a reason other than Cause or (B) voluntarily terminated for Good Reason (collectively, a "**Termination Event**"). Additionally, an Eligible Participant shall be eligible for additional benefits under the Plan if the Termination Event occurs during the Change in Control Period. For the avoidance of doubt, (1) a Potential Eligible Participant who is involuntarily terminated for Cause shall not be eligible for benefits under the Plan, and (2) termination of employment on account of death or Disability shall not be treated as a Termination Event. For purposes of the Plan, the term "**United States**" shall mean one of the fifty (50) states or the District of Columbia.

(ii) In order to be eligible to receive benefits under the Plan, in addition to meeting the requirements of an "Eligible Participant" set forth in Section 2(a)(i) above, an Eligible Participant must execute within 21 days, unless a longer period is required by law or a shorter period is permitted by law, of the Eligible Participant's receipt thereof (A) a general waiver and release on the form provided by the Company and (B) other than on account of a Change in Control Termination Event, an agreement containing certain covenants on the form provided by the Company and covering the matters set forth in Section 6 of the Plan, the scope and applicability of which covenants shall be determined by the Plan Administrator in its sole discretion (collectively, the "**Release and Covenant Documents**").

(iii) Any Termination Event that triggers the payment of benefits under the Plan must occur during the term of the Plan as specified in Section 9(b); *provided* that in any event eligibility for benefits shall continue until the expiration of a Change in Control Period (as defined below) if a Change in Control Period commences while the Plan is in effect.

**(b) Exceptions**. A Potential Eligible Participant who otherwise is an Eligible Participant will not receive benefits under the Plan in any of the following circumstances:

(i) The Potential Eligible Participant is involuntarily terminated by the Company for any reason other than a reason specified in Section 2(a)(i).

(ii) The Potential Eligible Participant voluntarily terminates employment with the Company either (A) for any reason other than Good Reason or (B) for no reason, in either case with or without advance notice. Voluntary terminations include, but are not limited to, death, Disability, resignation, retirement, or failure to return from a leave of absence on the scheduled date.

**SECTION 3. DEFINITIONS.**

Capitalized terms used in the Plan, unless defined elsewhere in the Plan, shall have the following meanings:

**(a)** "**Applicable Subsidiary**" means all subsidiaries of the Company included on Schedule A attached hereto, and any other entity of which the Company owns, directly or indirectly, more than fifty percent (50%) of such entity's voting securities or the activities of such entity are controlled, directly or indirectly, by the Company.

**(b)** "**Average Annual Bonus**" means, for any Eligible Participant, the average of such Eligible Participant's cash incentive bonus earned under a Bonus Plan for the two most recently completed fiscal years preceding such Eligible Participant's Termination Date.

**(c)** "**Board**" means the Board of Directors of the Company.

**(d)** "**Bonus Plan**" means the Company's annual cash incentive bonus plan applicable to a Potential Eligible Participant from time to time. For the avoidance of doubt, one-time bonuses paid by the Company to a Potential Eligible Participant that are not paid under a bonus plan described in the preceding sentence shall not be treated as cash incentive bonuses and therefore shall be excluded from the definition of "Average Annual Bonus" for purposes of the Plan. Examples of such one-time bonuses are sign-on bonuses, special recognition bonuses and guaranteed bonuses. For purposes of the Plan, no Eligible Participant shall be treated as participating in more than one Bonus Plan in any given fiscal year. In the unlikely event that an Eligible Participant is participating in more than one annual cash incentive bonus plan in a given fiscal year that would otherwise qualify as a Bonus Plan but for the preceding sentence, the annual cash incentive bonus plan that would produce the largest

payment under the terms of the Plan shall be treated as the Bonus Plan for such Eligible Participant for the applicable fiscal year.

**(e)** "**Cause**" for termination of a Potential Eligible Participant's employment means (i) if the Potential Eligible Participant is a party to any written agreement with the Company or any affiliate immediately prior to such termination, and "Cause" is defined therein, then "Cause" shall have the meaning set forth in such agreement, or (ii) if the Potential Eligible Participant is not party to any such agreement with the Company or any affiliate defining the term "Cause" immediately prior to such termination, then "Cause" shall mean: (A) the Potential Eligible Participant's willful and material failure to perform his or her duties and responsibilities to the Company or any affiliate or material violation of a policy of the Company or any affiliate; (B) the Potential Eligible Participant's commission of any act of fraud, embezzlement, dishonesty or any other misconduct that has caused or is reasonably expected to result in material injury to the Company or any affiliate; (C) unauthorized use or disclosure by the Potential Eligible Participant of any proprietary information or trade secrets of the Company or any other Person to whom the Potential Eligible Participant owes an obligation of nondisclosure as a result of his or her relationship with the Company or any affiliate that has caused or is reasonably expected to result in material injury to the Company or any affiliate; or (D) the Potential Eligible Participant's material breach of any of his or her obligations under any written agreement or covenant, including those covenants set forth in Section 6 hereof, with the Company or any affiliate. The determination as to whether a Potential Eligible Participant is being terminated for Cause will be made in good faith by the Plan Administrator and will be final and binding on the Potential Eligible Participant and any other Person having an interest in such determination. Any determination by the Plan Administrator that the employment of a Potential Eligible Participant was terminated with or without Cause for the purposes of benefits under the Plan will have no effect upon any determination of the rights or obligations of the Company, any affiliate or such Potential Eligible Participant for any other purpose.

**(f)** "**Change in Control**" shall have the same meaning as the definition of "Change in Control" set forth in Section 13(h) of the Progenity, Inc. 2018 Equity Incentive Plan, as amended from time to time (the "**Equity Plan**"). In addition, in order to qualify as a "Change in Control," an event must also meet the requirements for a "change in the ownership or effective control of a corporation, or a change in the ownership of a substantial portion of the assets of a corporation" within the meaning of Treas. Reg. §1.409A-3(i)(5).

**(g)** "**Change in Control Period**" means the period beginning on the date that is three (3) months preceding the effective date of a Change in Control and ending on the date that is thirteen (13) months following the effective date of the Change in Control. For the avoidance of doubt, no enhanced benefits payable to an Eligible Participant due to a Termination Event occurring within a Change in Control Period shall be paid prior to the effective date of a Change in Control.

**(h)** "**Change in Control Termination Event**" means the occurrence of a Termination Event during the Change in Control Period.

**(i)** "**Code**" means the Internal Revenue Code of 1986, as amended. Any specific reference to a section of the Code shall be deemed to include any regulations and other Treasury Department guidance promulgated thereunder.

**(j)** "**Company**" means Progenity, Inc., a Delaware corporation, and any successor as provided in Section 9(c) hereof.

**(k) Disability** means, with respect to the Potential Eligible Participant, the inability of such Potential Eligible Participant to engage in any substantial gainful activity, despite reasonable accommodation, by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted (x) for a period of 180 consecutive days or (y) an aggregate of six (6) months in any 12 consecutive month period. Any question as to the existence of that Potential Eligible Participant's physical or mental impairment as to which the Potential Eligible Participant or the Potential Eligible Participant's representative and the Company cannot agree shall be determined in writing by a qualified independent physician mutually acceptable to the Potential Eligible Participant and the Company. If the Potential Eligible Participant and the Company cannot agree as to a qualified independent physician, each shall appoint such a physician and those two physicians shall select a third who shall make such determination in writing. The determination of "Disability" made in writing to the Company and the Potential Eligible Participant shall be final and conclusive for all purposes of the benefits under this Plan.

**(l)** "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

**(m)** "**Good Reason**" for termination of the Potential Eligible Participant's employment means (i) if the Potential Eligible Participant is a party to an employment or other written agreement with the Company or any affiliate immediately prior to such termination, and "good reason" is defined therein, then "Good Reason" shall have the meaning set forth in such agreement, or (ii) if the Potential Eligible Participant is not party to an employment or other written agreement with the Company or any affiliate immediately prior to such termination that contains a definition of "Good Reason, " then "Good Reason" shall mean, without the consent of the Potential Eligible Participant: (A) a substantial adverse change in the nature or scope of the Potential Eligible Participant's responsibilities, authorities, powers, functions, or duties with the Company or Applicable Subsidiary, as applicable; (B) a material breach by the Company of any of its material obligations hereunder; or (C) a change in the Potential Eligible Participant's primary place of work that increases the Potential Eligible Participant's one-way commute by more than fifty (50) miles. Unless otherwise provided in an employment or other written agreement to which the Potential Eligible Participant is a party with the Company or any affiliate thereof immediately prior to such termination, to constitute "good reason termination," the Potential Eligible Participant must: (1) provide written notice to the Company within 90 days of the initial existence of the event constituting "Good Reason"; (2) may not terminate his or

her employment unless the Company fails to substantially remedy the event constituting "Good Reason" within 30 days after such notice has been given; and (3) the Potential Eligible Participant must terminate employment with the Company or the Applicable Subsidiary no later than 30 days after the end of the 30-day period in which the Company fails to substantially remedy the event constituting "Good Reason."

**(n)** "**IRS**" means the Internal Revenue Service.

**(o)** "**Pay**" means, for any Eligible Participant, such Eligible Participant's monthly base pay at the rate in effect on the Termination Date (or if greater, the last regularly scheduled payroll period immediately preceding either a Change in Control or a reduction that gave rise to a termination for Good Reason, as applicable).

**(p)** "**Payment Confirmation Date**" means the latest of the following dates: (i) the date of the Termination Event, (ii) the Termination Date, (iii) the date of receipt of executed Release and Covenant Documents by the Company or (iv) the end of any waiting period or revocation period as required by applicable law in order for the general waiver and release required by Section 2(a)(ii) of the Plan to be effective.

**(q) Person** means a "person" as defined in Section 3(a)(9) of the Exchange Act and used in Section 13(d) and 14(d) thereof, including a "group" as defined in Section 13(d) thereof.

**(r)** "**Plan**" means this Progenity, Inc. Severance Plan.

**(s)** "**Severance Period**" means, for any Eligible Participant, the number of months of Pay, rounded to the nearest whole month, used for calculating such Eligible Participant's severance benefits, as specified in the Benefits Schedules attached hereto and the Tier applicable to such Eligible Participant.

**(t)** "**Termination Date**" means, for any Eligible Participant, the last date on which such Eligible Participant is in active employment status with the Company or any of its affiliates or subsidiaries as determined by the Plan Administrator in its sole and reasonable discretion.

**(u)** "**Tier**" means, for any Eligible Participant, the applicable Tier set forth in the Benefits Schedules attached hereto that is applicable to such Potential Eligible Participant as designated by the Plan Administrator in its sole discretion and in accordance with the Plan.

**(v)** "**WARN Act**" means the federal Worker Adjustment and Retraining Notification Act and any other comparable law applicable under the laws of any state or foreign jurisdiction.

**SECTION 4. AMOUNT OF BENEFIT.**

Severance benefits payable under the Plan are as follows:

**(a)** Subject to Section 6(f), Eligible Participant will receive the benefits described in Sections 7 and 8 of the Plan and in the Benefit Schedules attached hereto based upon the Tier applicable to such Eligible Participant.

**(b)** Notwithstanding any other provision of the Plan to the contrary, any benefits payable to an Eligible Participant under the Plan shall be in lieu of any severance benefits payable by the Company or any affiliate thereof to such individual under any other arrangement covering the individual, unless expressly otherwise agreed to by the Company in writing. Further, in the event that the Eligible Participant is entitled to receive severance benefits under any agreement or contract with the Company or an affiliate thereof, any plan, policy, program or other arrangement adopted or established by the Company or affiliate thereof, under the WARN Act or other applicable law providing for payments from the Company or its subsidiaries or affiliates on account of termination of employment, including pay in lieu of advance notice of termination ("**Other Benefits**"), any severance benefits payable hereunder shall be reduced by the Other Benefits, but not less than zero.

**SECTION 5. TIME OF PAYMENT AND FORM OF BENEFIT; INDEBTEDNESS.**

**(a)** Benefits under the Plan shall be paid according to the schedule specified in the Benefits Schedules attached hereto, subject to Section 6(f) and the following provisions:

(i) Any increase to the cash severance benefits payable on account of the occurrence of a Change in Control Termination Event prior to the commencement of the Change in Control Period (such as when the Termination Event occurs prior to the consummation of the Change in Control) shall be paid (A) as soon as administratively practicable following the determination of such increased cash severance benefits has occurred with respect to lump sum severance payments or (B) on the remaining payment date(s) with respect to installment payment severance payments.

(ii) Unless otherwise required by applicable law, in no event shall payment of any Plan benefit be due prior to the Eligible Participant's Payment Confirmation Date, and any payment shall be deemed to be timely made if paid within 30 business days of such date.

(iii) Notwithstanding anything to the contrary in this Section 5(a), except for a Change in Control Period Termination Event, the Plan Administrator may, in its sole discretion, determine an alternate payment schedule for any reason, including, without limitation, to comply with Section 409A of the Code. For a Change in Control Termination Event, the Plan Administrator may determine an alternate payment schedule only to ensure compliance with applicable law, including but not limited to Section 409A of the Code.

**(b)** Subject to compliance with Section 409A of the Code and other applicable law, if an Eligible Participant is indebted to the Company or any affiliate at his or her Termination Date, the Company reserves the right to offset any severance payments under the Plan by the amount of such indebtedness.

**SECTION 6. ELIGIBLE PARTICIPANT COVENANTS**

Severance benefits payable under the Plan are conditioned upon and subject to the following covenants made by each Eligible Participant (the "**Covenants**"), the scope and applicability of which covenants shall be determined by the Plan Administrator in its sole discretion, but in any event shall not be substantially greater than as set forth in this Section 6. In the event that an Eligible Participant violates one or more of the covenants set forth in this Section 6, such Eligible Participant shall be treated as having failed to have earned the right to receive any payments or benefits under the Plan, and shall be obligated to return any payments or benefits previously delivered to such Eligible Participant under the Plan. The Company shall also be entitled to pursue any other remedies to the fullest extent not prohibited by applicable law as provided herein.

**(a) Non-Competition**. In the course of the performance of Potential Eligible Participant's job responsibilities for the Company or its affiliates, Potential Eligible Participant has obtained and will continue to obtain extensive and valuable knowledge and information concerning the Company's and such affiliates' business (including confidential information relating to the Company and such affiliates and their respective operations, intellectual property, assets, contracts, customers, personnel, plans, marketing plans, research and development plans and prospects). Accordingly, during employment with the Company or such affiliates and for the applicable Severance Period following Potential Eligible Participant's termination of employment, Potential Eligible Participant will not engage in any business activities on behalf of any enterprise which competes with the Company or any of its affiliates in the business of molecular diagnostics and genetic testing services and any other business in which the Company or any controlled affiliate engages as of the Potential Eligible Participant's date of termination of employment.

Potential Eligible Participant will be deemed to be engaged in such competitive business activities if Potential Eligible Participant participates in such a business enterprise as an employee, officer, director, consultant, contractor, agent, partner, member, manager, proprietor, or other provider of services; *provided* that the ownership of no more than two percent (2%) of the stock of a publicly traded corporation engaged in a competitive business shall not be deemed to be engaging in competitive business activities. If Potential Eligible Participant provides services to an enterprise that has some activities that compete with the Company or any of its affiliates in any area described above and other activities that do not compete with the Company or any of its affiliates in any of the areas described above, then so long as Potential Eligible Participant provides services exclusively to the portion of such enterprise that does not compete with the Company and its affiliates, Potential Eligible Participant will not be deemed to be engaged in a competitive business activity as described in this Section 6(a).

The terms of this Section 6(a) are not intended to and do not prohibit an Eligible Participant from rendering services to a competitive business, but provide for the right of the Company to cease payments or benefits under the Plan and to obtain the return of any payments or benefits previously delivered to such Eligible Participant in the event that such Eligible Participant violates this Section 6(a).

**(b) Non-Solicitation**. In the course of the performance of Potential Eligible Participant's job responsibilities for the Company or its affiliates, Potential Eligible Participant has obtained and will continue to obtain extensive and valuable knowledge and information concerning the Company's and such affiliates' business (including confidential information relating to the Company and such affiliates and their respective operations, intellectual property, assets, contracts, customers, personnel, plans, marketing plans, research and development plans and prospects). Accordingly, during employment with the Company or its affiliates and for the Severance Period following the end of Potential Eligible Participant's employment with the Company or its affiliates, Potential Eligible Employee, to the fullest extent not prohibited by applicable law, directly or indirectly, individually or on behalf of any other person or entity, including Potential Eligible Participant, will not use confidential information or trade secrets of the Company and its affiliates to encourage, induce, attempt to induce, recruit, attempt to recruit, solicit or attempt to solicit or participate in any way in hiring or retaining for employment, contractor or consulting opportunities anyone who is employed or providing full-time services as a consultant at that time to the Company or any subsidiary or other affiliate of the Company.

**(c) Protection of Confidential Information.** Potential Eligible Participant, both during employment with the Company or its affiliates and thereafter, shall not, directly or indirectly, disclose or make available to any Person for any reason or purpose whatsoever, any Confidential Information (as defined below) except as may be required for Potential Eligible Participant to perform in good faith his or her job responsibilities to the Company or its affiliates while employed by the Company or its affiliate. Upon Potential Eligible Participant's termination of employment, Potential Eligible Participant shall return to the Company all Confidential Information and shall not retain any Confidential Information in Potential Eligible Participant's possession that is in written or other tangible form and shall not furnish any such Confidential Information to any third party, except as provided herein. Notwithstanding the foregoing, this Section 6(c) shall not apply to Confidential Information that (i) was publicly known at the time of disclosure to Potential Eligible Participant, (ii) becomes publicly known or available thereafter other than by any means in violation of this Section 6 or any other duty owed to the Company or its affiliates by Potential Eligible Participant, (iii) is lawfully disclosed to Potential Eligible Participant by a third party, or (iv) is required to be disclosed by law or by any court, arbitrator or administrative or legislative body with actual or apparent jurisdiction to order Potential Eligible Participant to disclose or make accessible any information or is voluntarily disclosed by Potential Eligible Participant to law enforcement or other governmental authorities. Furthermore, in accordance with the Defend Trade Secrets Act of 2016, Potential Eligible Participant will not be held criminally or civilly liable under any federal or state trade secret law for the disclosure

of a trade secret that (A) is made (x) in confidence to a federal, state or local government official, either directly or indirectly, or to an attorney; and (y) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. As used in the Plan, Confidential Information means, without limitation, any non-public confidential or proprietary information disclosed to Potential Eligible Participant or known by Potential Eligible Participant as a consequence of or through Potential Eligible Participant's relationship with the Company or its affiliates, in any form, including electronic media. Confidential Information also includes, but is not limited to, the Company's or its affiliates' business plans and financial information, marketing plans, and business opportunities. Nothing herein shall limit in any way any obligation Potential Eligible Participant may have relating to Confidential Information under any other agreement, promise or duty to the Company or its affiliates, including pursuant to the Company Employee Confidentiality and Proprietary Rights Assignment Agreement (the "**ECPRA Agreement**").

**(d) Non-Disparagement.** At all times during and following Potential Eligible Participant's employment with the Company or its affiliates, except for the purpose of performing services for the Company and its affiliates in good faith, Potential Eligible Participant will not make or direct anyone else to make on Potential Eligible Participant's behalf any disparaging or untruthful remarks or statements, whether oral or written, about the Company or its affiliates, their respective operations or products, services, affiliates, officers, directors, employees, or agents, or issue any communication that reflects adversely on or encourages any adverse action against the Company or its affiliates. Potential Eligible Participant will not make any direct or indirect written or oral statements to the press, television, radio, on social media or to, on or through other media or other external Persons concerning any matters pertaining to the business and affairs of the Company, its affiliates or any of their respective officers or directors. The restrictions described in this paragraph shall not apply to any truthful statements made in response to a subpoena or other compulsory legal process or to law enforcement or other governmental authorities.

**(e)** It is expressly understood and agreed that although each Eligible Participant and the Company consider the restrictions contained in the Covenants to be reasonable, if a final judicial determination is made by a court of competent jurisdiction that the time or territory or any other restriction contained in the Covenants is an unenforceable restriction against an Eligible Participant, for which injunctive relief is unavailable, the provisions of the Covenants shall not be rendered void but shall be deemed amended to apply as to such maximum time and territory and to such maximum extent as such court may judicially determine or indicate to be enforceable. Furthermore, such a determination shall not limit the Company's ability to cease providing payments or benefits during the remainder of any Severance Period or to seek recovery of any prior payments or benefits made hereunder, if applicable, unless a court of competent jurisdiction has expressly declared that action to be unlawful. Alternatively, if any court of competent jurisdiction finds that any restriction contained in the Covenants is unenforceable, and such restriction cannot be amended so as to make it enforceable,

such finding shall not affect the enforceability of any of the other restrictions contained in the Covenants or other provisions of the Plan.

**(f)** All benefits payable to an Eligible Participant are contingent upon and subject to his or her full compliance with the foregoing obligations during the Severance Period. Accordingly, if the Eligible Participant, at any time, violates any Covenants, any proprietary information or confidentiality obligation to the Company or its affiliates (including Section 6(c) above), including his or her obligations under the Company's ECPRA Agreement (or any such similar agreement), or any other obligations under the Plan, (i) any remaining benefits under the Plan will terminate immediately upon written notice from the Company of such violation and (ii) to the extent the Eligible Participant has received any benefits under the Plan prior to the date of such written notice, the Eligible Participant shall deliver to the Company, within 30 days, an amount equal to the aggregate of all such benefits.

**(g)** For the avoidance of doubt, any breach of any of the provisions in this Section 6 shall constitute a material breach by Potential Eligible Participant. Notwithstanding any other provision of the Plan, by becoming entitled to receive any payments or other benefits under the Plan, Potential Eligible Participant is deemed to have agreed that damages would be an inadequate remedy for the Company in the event of a breach or threatened breach by Potential Eligible Participant of any of Sections 6(b) through 6(d), inclusive. In the event of any such breach or threatened breach, and without relinquishing any other rights or remedies that the Company or its affiliates may have, including but not limited to the repayment by Potential Eligible Participant of any payments or benefits previously paid to Potential Eligible Participant under the Plan, the Company may, either with or without pursuing any potential damage remedies and without being required to post a bond, obtain from a court of competent jurisdiction, and enforce, an injunction prohibiting Potential Eligible Participant from violating any of Sections 6(b) through Section 6(d), inclusive, and requiring Potential Eligible Participant to comply with its provisions to the fullest extent not prohibited by applicable law. The Company may present this Section 6 to any third party with which Potential Eligible Participant may have accepted employment, or otherwise entered into a business relationship, that the Company contends violates this Section 6, if the Company has reason to believe Potential Eligible Participant has or may have breached a provision of this Section 6.

**SECTION 7. CONTINUATION OF EMPLOYMENT BENEFITS.**

**(a) Health Plan Benefits Continuation**.

(i) Each Eligible Participant who is enrolled in a health, vision or dental plan sponsored by the Company may be eligible to continue coverage (the "**Continued Coverage**") under such health, vision or dental plan (or to convert to an individual policy) under the Consolidated Omnibus Budget Reconciliation Act of 1985 ("**COBRA**"). The Company will notify the Eligible Participant of any such right to continue health coverage at the time of termination. In the event that an Eligible Participant is not eligible to receive Continued Coverage through the Company (either because such Eligible Participant is not enrolled in any plan sponsored by the Company or because

such Eligible Participant will be covered by a statutory scheme for continued health, vision or dental coverage that will not be an obligation of the Company), it is understood and agreed that this Section 7(a) shall not be applicable to such Eligible Participant and, with respect to a Termination Event occurring during a Change in Control Period, he or she shall not be eligible to receive the Continued Coverage Premiums (as defined below).

(ii) Subject to Section 6(f), to the extent set forth in the Benefits Schedules attached hereto, the Company will pay to an Eligible Participant the before-tax cost of such Eligible Participant's premiums to cover the Eligible Participant and his or her eligible dependents, if any, in effect as of the Termination Event (the "**Continued Coverage Premiums**") for the period of time set forth in the Benefits Schedules and the Tier applicable to such Eligible Participant. The Continued Coverage Premiums will include the coverage premium cost of an Eligible Participant's dependents if, and only to the extent that, such dependents were enrolled in a health, vision or dental plan sponsored by the Company prior to the Eligible Participant's Termination Date and such dependents' premiums under such plans were paid by the Company prior to the Eligible Participant's Termination Date. No provision of the Plan will affect the continuation coverage rules under COBRA or any other applicable law. Therefore, the period during which an Eligible Participant must elect to continue the Company's group medical, vision or dental coverage at his or her own expense under COBRA or other applicable law, the length of time during which Continued Coverage will be made available to the Eligible Participant, and all other rights and obligations of the Eligible Participant under COBRA or any other applicable law (except the obligation to pay the Continued Coverage Premiums) will be applied in the same manner that such rules would apply in the absence of the Plan. It is expressly understood and agreed that the Eligible Participant will be solely responsible for the entire payment of premiums required under COBRA or other applicable law.

**(b) Other Employee Benefits**. All non-health benefits (such as life insurance and disability coverage) shall terminate as of the Eligible Participant's Termination Date (except to the extent that any conversion privilege is available thereunder).

**SECTION 8. EXCISE TAXES**

**(a)** In the event that any benefits payable to an Eligible Participant pursuant to the Plan ("**Payments**") (i) constitute "parachute payments" within the meaning of Section 280G of the Code, and (ii) but for this Section 8 would be subject to the excise tax imposed by Section 4999 of the Code, or any comparable successor provisions (the "**Excise Tax**"), then the Eligible Participant's payments hereunder shall be either (i) provided to the Eligible Participant in full, or (ii) provided to the Eligible Participant as to such lesser extent which would result in no portion of such benefits being subject to the Excise Tax, whichever of the foregoing amounts, when taking into account applicable federal, state, local and foreign income and employment taxes, the Excise Tax, and any other applicable taxes, results in the receipt by the Eligible Participant, on an after-tax basis, of the greatest amount of benefits, notwithstanding that all or some portion of such benefits may be taxable under the Excise Tax. Unless the Company and the Eligible Participant otherwise agree in writing, any determination required under

this Section 8 shall be made in writing in good faith by a third-party tax accountant or attorney selected by the Company (the "**Tax Professional**"). In the event of a reduction of benefits hereunder, the Tax Professional shall determine which benefits shall be reduced so as to achieve the principle set forth in the preceding sentence. For purposes of making the calculations required by this Section 8, the Tax Professional may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code and other applicable legal authority. The Company and the applicable Eligible Participant shall furnish to the Tax Professional such information and documents as the Tax Professional may reasonably request in order to make a determination under this Section 8. The Company shall bear all costs the Tax Professional may incur in connection with any calculations contemplated by this Section 8.

**(b)** If, notwithstanding any reduction described in Section 8(a), the IRS determines that an Eligible Participant is liable for the Excise Tax as a result of the receipt of any payments made pursuant to the Plan, then the Eligible Participant shall be obligated to pay back to the Company, within 30 days after a final IRS determination or in the event that the Eligible Participant challenges the final IRS determination, a final judicial determination, a portion of the Payments equal to the Repayment Amount. The "**Repayment Amount**" means the smallest such amount, if any, as shall be required to be paid to the Company so that the Eligible Participant's net after-tax proceeds with respect to the Payments (after taking into account the payment of the Excise Tax and all other applicable taxes imposed on such benefits) shall be maximized. The Repayment Amount shall be zero if a Repayment Amount of more than zero would not result in the Eligible Participant's net after-tax proceeds with respect to the Payments being maximized. If the Excise Tax is not eliminated pursuant to this Section 8(b), the Eligible Participant shall pay the Excise Tax. If, after the Payments have been made to the Eligible Participant, it is established that the Payments made to, or provided for the benefit of, the Eligible Participant are less than the maximum amount determined under Section 8(a) above (an "**Underpayment**"), then the Company shall pay an amount equal to the Underpayment to the Eligible Participant on the later of (i) 20 days after such determination or resolution and (ii) the time period such Payment would otherwise have been paid or provided to the Eligible Participant under the Plan.

**(c)** Notwithstanding any other provision of this Section 8, if (i) there is a reduction in the payments to an Eligible Participant as described in this Section 8, (ii) the IRS later determines that the Eligible Participant is liable for the Excise Tax, the payment of which would result in the maximization of the Eligible Participant's net after-tax proceeds (calculated as if the Eligible Participant's benefits had not previously been reduced), and (iii) the Eligible Participant pays the Excise Tax, then the Company shall pay to the Eligible Participant those payments which were reduced pursuant to this Section 8 as soon as administratively possible after the Eligible Participant pays the Excise Tax so that the Eligible Participant's net after-tax proceeds with respect to the payment of the Payments are maximized.

**SECTION 9. RIGHT TO INTERPRET PLAN; AMEND AND TERMINATE; OTHER ARRANGEMENTS; BINDING NATURE OF PLAN.**

**(a) Exclusive Discretion**. The "**Plan Administrator**" shall be the Compensation Committee of the Board. The Plan Administrator shall have the exclusive discretion and authority to establish rules, forms, and procedures for the administration of the Plan, and to construe and interpret the Plan and to decide any and all questions of fact, interpretation, definition, computation or administration arising in connection with the operation of the Plan, including, but not limited to, the eligibility to participate in the Plan, the designation of the Tier applicable to each Potential Eligible Participant, the amount of benefits paid under the Plan, the timing of payments under the Plan and the scope and applicability of the covenants contained in the Release and Covenant Documents. The rules, interpretations, computations and other actions of the Plan Administrator shall be binding and conclusive on all Persons. For decisions made by the Plan Administrator that do not affect benefits payable under the Plan on account of the occurrence of a Termination Event during the Change in Control Period, the Plan Administrator's decisions shall not be subject to review unless they are found to be arbitrary and capricious. For decisions made by the Plan Administrator prior to the occurrence of a Change in Control that do affect benefits payable under the Plan on account of the occurrence of a Termination Event during the Change in Control Period, the Plan Administrator's decisions shall not be subject to review unless they are found to be unreasonable or not to have been made in good faith. For decisions made by the Plan Administrator at or after the occurrence of a Change in Control that affect benefits payable under the Plan on account of the occurrence of a Termination Event during the Change in Control Period, the Plan Administrator's decisions shall be subject to review. As used in this Section 9(a), "**review**" shall mean review as provided by applicable law; further, nothing in this Section 9(a) is intended to abridge any of the rights under Section 12 of the Plan. Except as provided in Section 9(b)(i), the Plan Administrator may appoint one or more individuals and delegate such of its powers and duties as it deems desirable to any such individual(s), in which case every reference herein made to the Plan Administrator shall be deemed to mean or include the appointed individual(s) as to matters within the scope of their delegated authority.

**(b) Term Of Plan; Termination or Suspension; Amendment; Binding Nature Of Plan.**

(i) The Board or the Plan Administrator may by written resolution terminate or suspend the Plan at any time and for any reason or no reason, which termination or suspension, as applicable, shall become effective at the time set forth in such resolutions, *provided*, *however*, that no such termination or suspension shall effect the Company's obligation to complete the delivery of benefits hereunder to any Potential Eligible Participant who becomes an Eligible Participant prior to the effective time of such termination or suspension; and *further provided*, that during the Change in Control Period, the Plan shall not be terminated or suspended. Notwithstanding any other provision of the Plan to the contrary, including Section 9(a), the Plan Administrator may not delegate its authority to suspend or terminate the Plan.

(ii) The Company (including, for the avoidance of doubt, by written resolution or the Board or the Plan Administrator) reserves the right to amend the Plan or the benefits provided hereunder at any time and in any manner (including, for avoidance of doubt, removing one or more employees from treatment as a Potential Eligible Participant); *provided*, *however*, that no such amendment shall materially adversely affect the interests or rights of any Eligible Participant whose Termination Date has occurred prior to amendment of the Plan; and *further provided*, that during the Change in Control Period, the Plan shall not be amended in a manner that causes any Potential Eligible Participant to have benefits reduced without the written consent of the Potential Eligible Participant or Potential Eligible Participants so affected. Subject to the foregoing rights of the Company set forth in this Section 9(b), the Plan establishes and vests in each Eligible Participant a contractual right to the benefits to which such Eligible Participant is entitled hereunder, enforceable by the Eligible Participant against the Company.

(iii) Any action amending, suspending or terminating the Plan shall be in writing and approved by the Plan Administrator or its delegate, except to the extent that the Plan specifies that such action shall be taken by the Board or the Board determines to take such action.

**(c) Binding Effect On Successor To Company**. The Plan shall be binding upon any successor or assignee, whether direct or indirect, by purchase, merger, consolidation or otherwise, to all or substantially all the business or assets of the Company, or upon any successor to the Company as the result of a Change in Control, and any such successor or assignee shall be required to perform the Company's obligations under the Plan, in the same manner and to the same extent that the Company would be required to perform if no such succession or assignment or Change in Control had taken place. In such event, the term "Company," as used in the Plan, shall mean the Company as hereinafter defined and any successor or assignee as described above which by reason hereof becomes bound by the terms and provisions of the Plan.

**SECTION 10. NO IMPLIED EMPLOYMENT CONTRACT.**

The Plan shall not be deemed (a) to give any employee or other person any right to be retained in the employ of the Company or any affiliate thereof or (b) to interfere with the right of the Company or any such affiliate to discharge any employee or other person at any time and for any reason, which right is hereby reserved.

**SECTION 11. LEGAL CONSTRUCTION.**

The Plan is intended to be governed by and shall be construed in accordance with the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**") and, to the extent not preempted by ERISA, the laws of the State of Delaware with respect to those Eligible Participants domiciled in the United States. The Plan is intended to be (a) an employee welfare plan as defined in Section 3(1) of ERISA and (b) a "top-hat" plan maintained for the benefit of a select group of management or highly compensated employees of the Company.

**SECTION 12. CLAIMS, INQUIRIES AND APPEALS.**

**(a) Applications For Benefits And Inquiries**. Any application for benefits, inquiries about the Plan or inquiries about present or future rights under the Plan must be submitted to the Plan Administrator in writing. The name and address of the Plan Administrator is:

The Compensation Committee
of the Board of Directors of
Progenity, Inc.
ATTN: Clarke Neumann
4330 La Jolla Village Drive, Suite 200
San Diego, California 92122

**(b) Denial Of Claims**. In the event that any application for benefits is denied in whole or in part, the Plan Administrator must notify the applicant, in writing, of the denial of the application, and of the applicant's right to review the denial. The written notice of denial will be set forth in a manner designed to be understood by the employee, and will include specific reasons for the denial, specific references to the provision of the Plan upon which the denial is based, a description of any information or material that the Plan Administrator needs to complete the review and an explanation of the Plan's review procedure.

This written notice will be given to the employee within 90 days after the Plan Administrator receives the application, unless special circumstances require an extension of time, in which case, the Plan Administrator has up to an additional 90 days for processing the application. If an extension of time for processing is required, written notice of the extension will be furnished to the applicant before the end of the initial 90-day period.

This notice of extension will describe the special circumstances necessitating the additional time and the date by which the Plan Administrator is to render its decision on the application. If written notice of denial of the application for benefits is not furnished within the specified time, the application shall be deemed to be denied. The applicant will then be permitted to appeal the denial in accordance with the Review Procedure described below.

**(c) Request For A Review**. Any person (or that person's authorized representative) for whom an application for benefits is denied (or deemed denied), in whole or in part, may appeal the denial by submitting a request for a review to the Plan Administrator within 60 days after the application is denied (or deemed denied). The Plan Administrator will give the applicant (or his or her representative) an opportunity to review pertinent documents in preparing a request for a review. A request for a review shall be in writing and shall be addressed to:

Progenity, Inc.
Plan Administrator for the Severance Plan

ATTN: Clarke Neumann
4330 La Jolla Village Drive, Suite 200
San Diego, California 92122

A request for review must set forth all of the grounds on which it is based, all facts in support of the request and any other matters that the applicant feels are pertinent. The Plan Administrator may require the applicant to submit additional facts, documents or other material as it may find necessary or appropriate in making its review.

**(d) Decision On Review**. The Plan Administrator will act on each request for review within 60 days after receipt of the request, unless special circumstances require an extension of time (not to exceed an additional 60 days), for processing the request for a review. If an extension for review is required, written notice of the extension will be furnished to the applicant within the initial 60-day period. The Plan Administrator will give prompt, written notice of its decision to the applicant. In the event that the Plan Administrator confirms the denial of the application for benefits in whole or in part, the notice will outline, in a manner calculated to be understood by the applicant, the specific provisions of the Plan upon which the decision is based. If written notice of the Plan Administrator's decision is not given to the applicant within the time prescribed in this Subsection (d), the application will be deemed denied on review.

**(e) Rules And Procedures**. The Plan Administrator will establish rules and procedures, consistent with the Plan and with ERISA, as necessary and appropriate in carrying out its responsibilities in reviewing benefit claims. The Plan Administrator may require an applicant who wishes to submit additional information in connection with an appeal from the denial (or deemed denial) of benefits to do so at the applicant's own expense.

**(f) Exhaustion Of Remedies**. No legal action for benefits under the Plan may be brought until the claimant (i) has submitted a written application for benefits in accordance with the procedures described by Section 12(a) above, (ii) has been notified by the Plan Administrator that the application is denied (or the application is deemed denied due to the Plan Administrator's failure to act on it within the established time period), (iii) has filed a written request for a review of the application in accordance with the appeal procedure described in Section 12(c) above and (iv) has been notified in writing that the Plan Administrator has denied the appeal (or the appeal is deemed to be denied due to the Plan Administrator's failure to take any action on the claim within the time prescribed by Section 12(d) above).

**SECTION 13. BASIS OF PAYMENTS TO AND FROM PLAN.**

All benefits under the Plan shall be paid by the Company. The Plan shall be unfunded, and benefits hereunder shall be paid only from the general assets of the Company.

**SECTION 14. OTHER PLAN INFORMATION.**

**(a) Employer And Plan Identification Numbers**. The Employer Identification Number assigned to the Company (which is the "Plan Sponsor" as that term is used in ERISA) by the Internal Revenue Service is 27-3950390. The Plan Number assigned to the Plan by the Plan Sponsor pursuant to the instructions of the Internal Revenue Service is 502.

**(b) Ending Date For Plan's Fiscal Year**. The date of the end of the fiscal year for the purpose of maintaining the Plan's records is December 31.

**(c) Agent For The Service Of Legal Process**. The agent for the service of legal process with respect to the Plan is the General Counsel, Progenity, Inc., 4330 La Jolla Village Drive, Suite 200, San Diego, California 92122. The service of legal process may also be made on the Plan by serving the Plan Administrator.

**(d) Plan Sponsor And Administrator**. The "Plan Sponsor" of the Plan is Progenity, Inc., and the "Plan Administrator" of the Plan is the Compensation Committee of the Board. Each of the Plan Sponsor and the Plan Administrator can be reached by contacting Clarke Neumann in writing at 4330 La Jolla Village Drive, Suite 200, San Diego, California 92122, and by telephone at (855) 293-2639. The Plan Administrator is the named fiduciary charged with the responsibility for administering the Plan.

**SECTION 15. STATEMENT OF ERISA RIGHTS.**

This statement of ERISA rights is required by United States federal law and regulation, and follows the model disclosure set forth in federal regulations.

Participants in the Plan (which is a welfare benefit plan sponsored by Progenity, Inc.) are entitled to certain rights and protections under ERISA if the participant is employed in the United States. If you are an Eligible Participant employed in the United States, you are considered a participant in the Plan and, under ERISA, you are entitled to:

**(a)** Examine, without charge, at the Plan Administrator's office and at other specified locations, such as work sites, all Plan documents and copies of all documents filed by the Plan with the U.S. Department of Labor, such as detailed annual reports;

**(b)** Obtain copies of all Plan documents and Plan information upon written request to the Plan Administrator. The Plan Administrator may make a reasonable charge for the copies;

**(c)** Receive a summary of the Plan's annual financial report, in the case of a plan which is required to file an annual financial report with the Department of Labor. (Generally, all pension plans and welfare plans with 100 or more participants must file these annual reports.)

In addition to creating rights for Plan participants, ERISA imposes duties upon the people responsible for the operation of the employee benefit plan. The people who operate the Plan, called “fiduciaries” of the Plan, have a duty to do so prudently and in the interest of you and other Plan participants and beneficiaries.

No one, including your employer or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining a Plan benefit or exercising your rights under ERISA. If your claim for a Plan benefit is denied in whole or in part, you must receive a written explanation of the reason for the denial. You have the right to have the Plan Administrator review and reconsider your claim.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request materials from the Plan and do not receive them within 30 days, you may file suit in a federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to $110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the Plan Administrator. If you have a claim for benefits that is denied or ignored, in whole or in part, you may file suit in a state or federal court. If it should happen that the Plan fiduciaries misuse the Plan’s money, or if you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

If you have any questions about the Plan, you should contact the Plan Administrator. If you have any questions, about your rights under ERISA, you should contact the nearest area office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue N.W., Washington, D.C. 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration.

**SECTION 16. EFFECT OF SECTION 409A OF THE CODE**

The Plan is intended to comply with all applicable law, including Section 409A of the Code. A termination of employment shall not be deemed to have occurred for purposes of any provision of the Plan providing for the payment of any amount or benefit that is considered deferred compensation under Section 409A of the Code upon or following a termination of employment unless such termination of employment is also a “separation from service” within the meaning of Section 409A of the Code. If an Eligible Participant is deemed on the Termination Date to be a “specified employee” (as such term is defined under Section 409A of the Code), then with regard to any payment or the provision of any benefit that is considered deferred compensation under Section 409A of the Code payable on account of a “separation from service,” to the extent required to avoid any taxes imposed

under Section 409A(a)(1) of the Code, such payment or benefit shall be made or provided at the date which is no more than 15 days following the earlier of (a) the expiration of the six-month period measured from the date of such "separation from service" of such Eligible Participant, and (b) the date of such Eligible Participant's death.

END OF PLAN DOCUMENT

**SCHEDULE A**

Potential Eligible Participants employed in the United States:

Progenity, Inc., a Delaware corporation Delaware

Mattison Pathology, LLP dba Avero Diagnostics

**BENEFIT SCHEDULES**
**FOR THE**
**PROGENITY, INC.**
**SEVERANCE PLAN**

The following benefits schedules set forth the benefits payable to an Eligible Participant. The benefits schedules may be disclosed in public filings for those Potential Eligible Participants who currently are, or are foreseeable to become, "named executive officers," as defined in Item 402 of Regulation S-K and the other applicable rules and regulations promulgated by the Securities and Exchange Commission. The amount of benefits payable is dependent upon the "Tier" assigned to the Eligible Participant and whether the involuntary Termination Event occurs during a Change in Control Period, as more particularly described in the Plan.

The Plan Administrator shall determine in which "Tier" a Potential Eligible Participant shall be placed for purposes of receiving severance benefits under the Plan. The Plan Administrator's determination shall be final and shall be binding and conclusive on all Persons. The Plan Administrator retains the right to designate a different Tier applicable to a Potential Eligible Participant prior to the date of the Termination Event and/or the occurrence of a Change in Control, except as expressly restricted by the Plan in connection with the occurrence of a Change in Control.

**BENEFITS SCHEDULES**
**FOR THE**
**PROGENITY, INC.**
**SEVERANCE PLAN**

**Tier: 1 Potential Eligible Participant: Chief Executive Officer**

**Location: U.S.**

**Benefits Payable in the Event of a Termination Event (involuntary termination):**

**WITHOUT A CHANGE IN CONTROL**

| | |
|---|---|
| **Base** | 12 months of Pay |
| **Benefits** | Continued Coverage Premiums for 12 months; paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |
| **Payout Schedule** | Pay (Base only) to be paid in equal semi-monthly installments for 12 months following the Termination Date, but not to commence prior to 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |

**CHANGE IN CONTROL TERMINATION EVENT**

Note: No enhanced benefits due to a Termination Event occurring on account of a Change in Control Termination Event shall be paid prior to the effective date of a Change in Control.

| | |
|---|---|
| **Base** | 24 months of Pay |
| **Bonus** | 24 months of Average Annual Bonus |
| **Benefits** | Continued Coverage Premiums for 24 months (or if shorter, the maximum period allowable under COBRA); paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |
| **Equity** | All unvested equity-based awards that are subject solely to time-based vesting conditions and that are outstanding as of the Termination Date shall immediately accelerate in full and all unvested equity-based awards that are subject to performance-based vesting conditions and that are outstanding as of the Termination Date shall vest, if at all, based on actual performance for the portion of the performance period ending shortly prior to the occurrence of the Change in Control as if such partial performance period were the entire performance period. |

| | |
|---|---|
| **Payout Schedule** | 100% of Base and Bonus is payable in a lump sum within 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). |

**BENEFITS SCHEDULES**
**FOR THE**
**PROGENITY, INC. SEVERANCE PLAN**

**Tier:** **2** **Potential Eligible Participants: Determined by the Plan Administrator**

**Location:** **U.S.**

**Benefits Payable in the Event of a Termination Event (involuntary termination):**

**WITHOUT A CHANGE IN CONTROL**

| | |
|---|---|
| **Base** | 9 months of Pay |
| **Benefits** | Continued Coverage Premiums for 9 months; paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |
| **Payout Schedule** | Pay (Base only) to be paid in equal semi-monthly installments for 9 months following the Termination Date, but not to commence prior to 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |

**CHANGE IN CONTROL TERMINATION EVENT**

Note: No enhanced benefits due to a Change in Control Termination Event shall be paid prior to the effective date of a Change in Control.

| | |
|---|---|
| **Base** | 18 months of Pay |
| **Bonus** | 18 months of Average Annual Bonus |
| **Benefits** | Continued Coverage Premiums for 18 months; paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment. |
| **Equity** | All unvested equity-based awards that are subject solely to time-based vesting conditions and that are outstanding as of the Termination Date shall immediately accelerate in full and all unvested equity-based awards that are subject to performance-based vesting conditions and that are outstanding as of the Termination Date shall vest, if at all, based on actual performance for the portion of the performance period ending shortly prior to the occurrence of the Change in Control as if such partial performance period were the entire performance period. |

| | |
|---|---|
| **Payout Schedule** | 100% of Base and Bonus are payable in a lump sum within 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). |

**BENEFITS SCHEDULES**
**FOR THE**
**PROGENITY, INC. SEVERANCE PLAN**

**Tier: 3 Potential Eligible Participants: Determined by the Plan Administrator**

**Location: U.S.**

**Benefits Payable in the Event of a Termination Event (involuntary termination):**

**WITHOUT A CHANGE IN CONTROL**

**Base** 6 months of Pay

**Benefits** Continued Coverage Premiums for 6 months; paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment.

**Payout Schedule** Pay (Base only) to be paid in equal semi-monthly installments for 6 months following the Termination Date, but not to commence prior to 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment.

**CHANGE IN CONTROL PERIOD TERMINATION EVENT**

Note: No enhanced benefits due to a Change in Control Termination Event shall be paid prior to the effective date of a Change in Control.

**Base** 12 months of Pay

**Bonus** 12 months of Average Annual Bonus

**Benefits** Continued Coverage Premiums for 12 months; paid in monthly installments (but no payment required prior to the Payment Confirmation Date). Any installments delayed on account of the application of the preceding sentence shall be paid as part of the first installment.

**Equity** All unvested equity-based awards that are subject solely to time-based vesting conditions and that are outstanding as of the Termination Date shall immediately accelerate in full and all unvested equity-based awards that are subject to performance-based vesting conditions and that are outstanding as of the Termination Date shall vest, if at all, based on actual performance for the portion of the performance period ending shortly prior to the occurrence of the Change in Control as if such partial performance period were the entire performance period.

| | |
|---|---|
| **Payout Schedule** | 100% of Base and Bonus are payable in a lump sum within 30 business days after the Payment Confirmation Date (subject to Section 5 of the Plan and Section 409A of the Code). |

**Exhibit 10.15**

**[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

# SUPPLY & SERVICE AGREEMENT

**by and between**

**ILLUMINA, INC.**

**and**

**PROGENITY, INC.**

**Effective as of November 26, 2014**

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# SUPPLY AGREEMENT

This Supply and Service Agreement (the "**Agreement**") is effective as of the date of last signature found below (the "**Effective Date**") between Illumina, Inc., a Delaware corporation having a place of business at 5200 Illumina Way, San Diego, CA 92122 ("**Illumina**") and Progenity, Inc., having a place of business at 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122 ("**Customer**"). Customer and Illumina may be referred to herein as "**Party**" or "**Parties**."

## I. DEFINITIONS

**1.1.** "**Affiliate(s)**" means with respect to a Party, any entity that, directly or indirectly, controls, is controlled by or is under common control with such Party for so long as such control exists. For purposes of this definition, an entity has control of another entity if it has the direct or indirect ability or power to direct or cause the direction of management policies of such other entity or otherwise direct the affairs of such other entity, whether through ownership of the voting securities of such other entity, by contract or otherwise.

**1.2.** "**Agreement**" has the meaning set forth in the preamble.

**1.3.** "**Application Specific IP**" means any and all Illumina Intellectual Property Rights to the extent pertaining to or covering aspects or features of the Supplied Product (or use thereof) only with regard to (i.e., that are particular to) specific field(s) of use or specific application(s). Application Specific IP excludes all Core IP. By way of non-limiting example, to the extent Illumina Intellectual Property Rights relate to [***] those Illumina Intellectual Property Rights are Application Specific IP.

**1.4.** "**Base Hardware Warranty**" has the meaning set forth in Section 7.1(b)(1).

**1.5.** "**Changed Components**" has the meaning set forth in Section 5.7(a).

**1.6.** "**Claim**" has the meaning set forth in Section 10.1(a)(i).

**1.7.** "**Clinical Use**" means testing of human samples and specimens with Customer's own Laboratory Developed Tests in a clinical laboratory, for all clinical applications, specifically excluding [***].

**1.8.** "**Collection Territory**" means the country or countries from which samples and specimens may be collected for testing by Customer [***]. The Collection Territory is [***].

**1.9.** "**Competitor Entity**" has the meaning set forth in Section 12.5 (Assignment).

**1.10.** "**Complete Change**" has the meaning set forth in Section 5.7(a).

**1.11.** "**Confidential Information**" has the meaning set forth in Section 8.1.

**1.12.** "**Consumable(s)**" means reagents and consumable items that are offered for sale under, purchased under, supplied under or otherwise governed by the terms and conditions of this Agreement and that are intended by Illumina for use with, and are to be consumed through the use of, Hardware and Existing Hardware. The Consumables that may be purchased under this Agreement as of the Effective Date are set forth in Exhibit A**,** Part 2. Consumables are either TG Consumables or non-TG Consumables (including Temporary Consumables), or custom (i.e., made by Illumina to specifications or designs provided to Illumina by, or on behalf of, Customer). All references in this Agreement to Consumables means both TG Consumables and Non-TG Consumables unless specified otherwise in this Agreement.

**1.13.** "**Core IP**" means any and all Illumina Intellectual Property Rights to the extent pertaining to or covering aspects or features of the Supplied Product (or use thereof) without regard to (i.e., not particular to) any specific field(s) of use or specific application(s). To avoid any doubt, and without limitation, Core IP specifically excludes Illumina Intellectual Property Rights to the extent particular to [***], including without limitation [***].

**1.14.** "**Customer**" has the meaning set forth in the preamble.

**1.15.** "**Customer Indemnitee**" has the meaning set forth in Section 10.1(a)(i).

**1.16.** "**Customer Use**" means Clinical Use, NIPT Use, and Research Use.

**1.17.** "**Disclosing Party**" has the meaning set forth in Section 8.1.

**1.18.** "**Discontinued Consumable**" has the meaning set forth in Section 5.7(a).

**1.19.** "**Documentation**" means Illumina's user manual, package insert, and similar documentation, for the Supplied Product in effect on the date that the Supplied Product ships. Documentation may contain additional terms and conditions (which are hereby incorporated into this Agreement by reference) and may be provided (including by reference to a website) with the Supplied Product at the time of shipment or may be provided electronically by Illumina.

**1.20.** "**Excluded Activities**" means any use and all uses of a Supplied Product that (A) is/are not in accordance with the Supplied Product's Specifications or Documentation, (B) [***], (C) is/are re-use(s) of a previously used Consumable except to the extent the Specifications or Documentation for the applicable Consumable expressly states otherwise, (D) is/are the disassembling, reverse-engineering, reverse-compiling, or reverse-assembling of the Supplied Product, (E) is/are the separation, extraction, or isolation of components of Consumables or other unauthorized analysis of the Consumables, (F) gains access to or determines the methods of operation of the Supplied Product, (G) is/are the use of third party On-Hardware Consumables with Hardware (unless the Specifications or Documentation state otherwise), (H) is/are the transfer to a third party of, or sub-licensing of, Software or third party software (including to an Affiliate of Customer), or (I) is/are the use of the Supplied Products in a facility not owned by, leased by, or otherwise under the contractual control of Customer.

**1.21.** "**Excluded Claim**" has the meaning set forth in Section 10.1(b)(vii).

**1.22.** "**Existing Hardware**" means those Illumina instruments, accessories, or peripherals that Customer purchased from Illumina prior to the Effective Date. In the event of any conflict between the original supply terms for Existing Hardware and the terms and conditions of this Agreement, the terms and conditions of this Agreement shall supersede and govern Customer's use of the Existing Hardware, subject to Section 7.1 regarding warranty for Existing Hardware.

**1.23.** "**Fetal Chromosomal Abnormalities**" means [***].

**1.24.** "**Force Majeure**" is defined in Section 12.8.

**1.25.** "**Hardware**" means instruments, accessories or peripherals that are offered for sale under, purchased under, supplied under or otherwise governed by the terms and conditions of this Agreement. The Hardware that may be purchased under this Agreement as of the Effective Date is set forth in Exhibit A, Part 1.

**1.26.** "**Illumina**" has the meaning set forth in the preamble.

**1.27.** "**Illumina Indemnitee**" has the meaning set forth in Section 10.1(c).

**1.28.** "**Illumina Infringement Claim**" has the meaning set forth in Section 10.1(a)(i)(D).

**1.29.** "**Illumina Intellectual Property Rights**" means any and all Intellectual Property Rights owned or controlled (including under license) by Illumina or Affiliates of Illumina as of the date the Supplied Product ships. Application Specific IP and Core IP are separate, non-overlapping, subsets within the Illumina Intellectual Property Rights.

**1.30.** "**Intellectual Property Right(s)**" means all rights in patent, copyrights (including rights in computer software), trade secrets, know-how, trademark, service mark and trade dress rights and other industrial or intellectual property rights under the laws of any jurisdiction or any treaty regime (provided the treaty is properly ratified and implemented pursuant to the national laws of the relevant country), whether registered or not and including all applications or rights to apply therefor and registrations thereto.

**1.31.** "**Laboratory Developed Test**" means a test developed by Customer and performed by Customer in its own laboratory facility, which in the United States is regulated under the Clinical Laboratory Improvement Act (i.e., CLIA).

**1.32.** "**Law**" means all statutes, statutory instruments, regulations, ordinances, or legislation to which a Party is subject; common law and the law of equity as applicable to a Party; binding court orders, judgments or decrees; industry code of practice, guidance, policy or standards enforceable by law; and applicable, directions, policies, guidance, rules or orders made or given by a governmental or regulatory authority.

**1.33.** "**Metagenomics Testing**" means the study of a collection of genetic material from a mixed community of different organisms.

**1.34.** "**Off-Hardware Consumable**" means a reagent or consumable that is used to perform a process or step that is not performed on a sequencing or genotyping instrument in question. Non-limiting examples of Off-Hardware Consumables include [***], which are used to prepare a sample for subsequent processing on Hardware or Existing Hardware.

**1.35.** "**On-Hardware Consumable**" means a reagent or consumable that is used to perform a process on a sequencing or genotyping instrument in question. Non-limiting examples of On-Hardware Consumables supplied under this Agreement are [***], which are used to perform processes on Hardware and Existing Hardware.

**1.36.** "**NIPT**" means non-invasive prenatal testing and includes without limitation gender testing and all testing of nucleic acids of fetal or placental origin present in maternal tissue, including maternal blood and maternal blood components.

**1.37.** "**NIPT Application Specific IP**" means [***] within NIPT Use. For the avoidance of doubt, all Application Specific IP that pertain to NIPT that is/are not within NIPT Use are expressly excluded from NIPT Application Specific IP.

**1.38.** "**NIPT Test**" means any test performed within NIPT Use.

**1.39.** "**NIPT Use**" means the non-invasive prenatal testing of human samples with Customer's own Laboratory Developed Tests in a clinical laboratory, wherein the testing is [***]. For the avoidance of doubt, (i) [***] is expressly excluded from NIPT Use and not permitted under this Agreement, (ii) [***], and (iii) [***].

**1.40.** "**Other IP**" means any and all Intellectual Property Rights of third parties that is not controlled by Illumina or Affiliates of Illumina to the extent pertaining to or covering aspects or features of the Supplied Product (or use thereof) with regard to any specific field(s) of use or specific application(s). By way of non-limiting example, [***] are examples of Other IP. Other IP excludes all Core IP and Application Specific IP.

**1.41.** "**Party**" and "**Parties**" has the meaning set forth in the preamble.

**1.42.** "**Purchase Order**" means written purchase orders as defined in Section 6.1.

**1.43.** "**Recipient Party**" has the meaning set forth in Section 8.1.

**1.44.** "**Regulatory Approvals**" means any and all regulatory approvals, licenses, and/or certifications necessary for Customer to use the Supplied Products as intended by Customer for Customer Use.

**1.45.** "**Regulatory Event**" means changes in clinical or regulatory strategy justified by compliance with the requirements of regulatory feedback (whether directed to Illumina, Customer or a Third Party) from any regulatory authority, a change to any statute or regulation governing the Supplied Products, or any significant adverse event or condition relating to the safety or efficacy of a NIPT Test.

**1.46.** "**Research Use**" means internal research, which includes performance of research services provided to third parties, specifically excluding any and all Excluded Activities.

**1.47.** "**RUO**" has the meaning set forth in Section 4.4.

**1.48.** "**Service Contract**" is the written agreement that governs the provision of service and maintenance for Hardware by Illumina.

**1.49.** "**Software**" means software (including without limitation Hardware operating software, data analysis software) supplied under or otherwise governed by the terms and conditions of this Agreement, regardless of whether it is embedded in or installed on Hardware or provided separately.

**1.50.** "**Specifications**" means Illumina's written or electronically published (including publication on the Illumina public website) specifications for a Supplied Product in effect for that Supplied Product on the date that the Supplied Product ships.

**1.51.** "**Substitute Consumable**" has the meaning set forth in Section 5.7(a).

**1.52.** "**Supplied Product(s)**" means the Consumables, Hardware, and/or Software that are offered for sale under, purchased under, supplied under or otherwise acquired under and governed by the terms and conditions of this Agreement.

**1.53.** "**Temporary Consumable(s)**" means Non-TG Consumables that Illumina has authorized (in writing, including in this Agreement) Customer to purchase under this Agreement and use for Clinical Use and/or NIPT Use, as well as Research Use.

**1.54.** "**Term**" means the term of this Agreement as defined in Section 11.1.

**1.55.** "**Territory**" means the country or countries in which Customer may use the Supplied Products. The Territory is [***].

**1.56.** "**Test Fee**" is defined on Exhibit B.

**1.57.** "**TG Consumables**" means those Consumables that are designated with the pre-fix "TG" in their catalogue number.

**1.58.** "**Upgraded Components**" means Illumina-provided components, modifications, or enhancements to Hardware that was acquired by Customer prior to the date Illumina provides the applicable components, modifications, or enhancements.

## II. GOVERNING TERMS; SUPPLIED PRODUCTS AND PRICING

**2.1. Exclusive Governing Terms**. This Agreement (together with the applicable Documentation and Specifications) exclusively governs the ordering, purchase, supply, and use of Supplied Products and Illumina's provision of services (other than Service Contracts), and its terms shall prevail and override any conflicting and/or additional terms (including terms purported to amend such terms) contained in any purchase orders, invoices or similar documents, which are hereby rejected and shall be null and void. Failure of Illumina or Customer to object to any such conflicting and/or additional terms shall not constitute a waiver by Illumina or Customer, nor constitute acceptance by Illumina or Customer of such terms. All of Customer's purchases of products from Illumina shall be made under this Agreement. Customer shall notify Illumina if it desires to purchase a product that is not listed on Exhibit A, and the Parties will negotiate an appropriate amendment to add the product(s) to Exhibit A. The conditions, requirements, exclusions and restrictions on Supplied Product use and other activities set forth in this Agreement are bargained for conditions of sale and, therefore, control the sale of such Supplied Products and the rights in and to Supplied Products conferred upon Customer at purchase. For the avoidance of doubt, this Agreement is made with and is personal to Customer and the rights and obligations regarding purchase and supply do not extend to Affiliates of Customer or any other Third Party, except in the event of an authorized assignment in accordance with Section 12.5 of this Agreement.

**2.2. Supplied Products; Pricing**.

a. **Supplied Products**. The Supplied Products and any applicable Service Contracts, along with pricing and [***] are set forth on Exhibit A. [***]. If no price for a Supplied Product or Service Contract is set forth in Exhibit A, then the Parties will agree to the price [***]. All prices and amounts payable under this Agreement shall be in $US.

b. **Service Contract**. Customer shall, throughout the Term, purchase and maintain the minimum of an Advantage level Service Contract on each unit of Hardware (including Existing Hardware) that Customer uses for NIPT Use.

c. **Test Fee**. Exhibit B sets forth the Test Fee and audit rights that are applicable to use of the Supplied Products for NIPT Use.

d. **Exclusivity**. In exchange for [***] under this Agreement, Customer agrees to exclusively use only Illumina [***] and Instruments for [***] performed by Customer during the Term. Customer acknowledges and agrees that to be compliant with the exclusivity terms herein, it must use [***] purchased under this Agreement when performing NIPT Tests during the Term.

**2.3. Initial Purchase Commitment; Minimum Purchase Commitment**.

a. **Initial Purchase Commitment**. **Exhibit C** sets forth the initial Purchase Order that Customer shall submit under this Agreement, within five (5) days after the Effective Date, and that includes Customer's obligation to purchase [***].

b. **Minimum Purchase Commitment**. Beginning in the third calendar quarter after the calendar quarter in which Customer launches an NIPT Test, Customer shall purchase and take delivery of [***] Consumables during each calendar quarter of this Agreement during the Term. Such amount is based upon [***].

**2.4. Territory**. Upon Customer request, Illumina shall negotiate in good faith with Customer to agree on terms related to expansion of the Territory to include [***]. Customer acknowledges that pricing and regulatory considerations for Supplied Products vary among countries and such variations (and any benefits afforded Customer for its aggregate purchase of Supplied Products throughout the Territory) will be reflected in any amendments to this Agreement that expand the Territory.

## III. USE RIGHTS FOR SUPPLIED PRODUCTS

**3.1. Authorized Uses of Supplied Products.**

a. **Research Use Rights**. Subject to the terms and conditions of this Agreement, Customer's purchase of each unit of Supplied Product under this Agreement confers upon Customer [***] to use that unit of Supplied Product for Research Use in Customer's facility in the Territory solely in accordance with the terms and conditions pertaining to Supplied Products that are set forth in this Agreement (including in Documentation and Specifications). The Parties agree that the preceding sentence is designed to and does alter the effect of the exhaustion of patent rights that would otherwise result if the sale was made without restriction.

b. **Clinical Use Rights**. Subject to the terms and conditions of this Agreement, Customer's purchase of each unit of TG Consumable and Temporary Consumable under this Agreement confers upon Customer [***] to use that unit of TG Consumable or Temporary Consumable with Hardware and Software for Clinical Use in Customer's facility in the Territory, [***], solely in accordance with the terms and conditions pertaining to Supplied Products that are set forth in this Agreement (including in Documentation and Specifications). The Parties agree that the preceding sentence is designed to and does alter the effect of the exhaustion of patent rights that would otherwise result if the sale was made without restriction.

c. **NIPT Use Rights**. Subject to the terms and conditions of this Agreement, including payment of a Test Fee, Customer's purchase of each unit of TG Consumable and Temporary Consumable under this Agreement confers upon Customer [***] to use that unit of TG Consumable or Temporary Consumable with Hardware and Software for NIPT Use in Customer's facility in the Territory, [***], and only in accordance with all terms and conditions pertaining to Supplied Products that are set forth in this Agreement (including in Documentation and Specifications). The Parties agree that the preceding sentence is designed to and does alter the effect of the exhaustion of patent rights that would otherwise result if the sale was made without restriction.

d. **Software.** Subject to the terms and conditions of this Agreement, Customer has the right to use Software solely in connection with Hardware, Existing Hardware and Consumables for (i) Research Use in Customer's facility in the Territory, and (ii) for Clinical Use and/or NIPT Use in Customer's facility in the Territory, only on specimens collected from the Collection Territory, and in both of the preceding (i) and (ii) only in accordance with the use rights set forth in this Section 3.1 and any applicable end-user license agreement. All Software is licensed, not sold, to Customer, is non-transferable, non-sublicensable, and may be subject to additional terms set forth in the end user license agreement. With respect to Software, references in this Agreement to "purchase" or "sale" of Supplied Products (and similar grammatical variations) are understood to mean that Software is licensed under this Agreement and not sold.

e. **Existing Hardware**. The rights conferred upon Customer with purchase of Consumables under this Agreement as set forth in Section 3.1(a)-(c) include the right for Customer to use Existing Hardware (and software embedded or installed therein) with those Consumables to the same extent as Customer has the right to use Hardware and Software with Consumables purchased under this Agreement. With respect only to Customer Use rights set forth in Sections 3.1 (a), (b), and (c), including without limitation, the related requirements, restrictions, limitations, and exclusions set forth in this Agreement, reference to Hardware is understood to include Existing Hardware, even if not expressly stated.

**3.2. Limitations on Customer Use; Excluded Activities.**

a. **Certain Limitations on Use**. Customer agrees that (i) it will not use a Supplied Product for or in any Excluded Activity, (ii) it will not transfer to a third party, or grant a sublicense to, any Software or any third party software (other than as provided in Section 12.5), (iii) it will use the Supplied Products only within the scope of the Illumina Intellectual Property Rights and permitted field of use within Customer Use expressly conferred upon Customer with purchase of each unit of Supplied Product in accordance with Section 3.1 (Authorized Use of Supplied Products), and (iv) Customer is not granted any right under this Agreement to [***].

b. **Consumables; On-Instrument Consumables; Off-Instrument Consumables**. Consumables and Hardware were specifically designed and manufactured to operate together. Customer acknowledges and agrees that (i) with respect to Off-Hardware Consumables used with Hardware and Software to perform tests within NIPT Use and Clinical Use, it will exclusively use Consumables, provided that Illumina has an applicable Consumable available for purchase, (ii) with respect to On-Hardware Consumables used with Hardware and Software, it will only use Consumables, (iii) with respect to Clinical Use and NIPT Use the only On-Hardware Consumables it will use with Hardware and Software are TG Consumables or Temporary Consumables, (iv) it will use Non-TG Consumables only for Research Use (except to the extent applicable to Temporary Consumables), and (v) Customer is not granted any right under this Agreement to manufacture, or have manufactured, any reagent, Consumable or substitute therefor, even for use in place of an On-Hardware Consumable, even for its own use.

c. **Illumina Proprietary Information.** Customer acknowledges that the contents of and methods of operation of the Supplied Products are proprietary to Illumina and/or its Affiliates and contain or embody trade secrets of Illumina and/or its Affiliates. With respect to [***] that are included in Supplied Products, Customer agrees that it shall only use the same with the Supplied Products.

d. **Documentation.** Customer agrees that it will not alter, modify, copy, or remove the Documentation from Customer's facility, unless expressly permitted to do so in the Documentation or in this Agreement. Permitted copies of the Documentation shall include Illumina's copyright and other proprietary notices.

## IV. INTELLECTUAL PROPERTY RIGHTS; REGULATORY

**4.1. Core IP and Application Specific IP.** Customer's purchase of Supplied Products under this Agreement confers upon Customer, on a unit by unit basis, only the use rights under Core IP and, to the extent expressly stated, NIPT Application Specific IP, as stated in Section 3.1. As of the Effective Date, the only Application Specific IP that Customer has determined it requires for its intended use of Supplied Products is NIPT Application Specific IP. If Customer requires rights under additional Application Specific IP (whether the requirement is determined by Customer or Illumina), then it will obtain the required rights from Illumina or Customer will discontinue use of Supplied Products in a manner that requires rights to Application Specific IP. Illumina will give good faith consideration to Customer's request to obtain rights under Application Specific IP. Any future grant by Illumina to Customer of rights to Application Specific IP will be subject to the Parties' good faith negotiation of the terms under which such rights are to be granted, including consideration, and will be granted, if at all, under a separate written agreement or amendment to this Agreement.

**4.2. Other IP**. Customer's intended use of the Supplied Products may require that it obtain license or other rights to third party Intellectual Property Rights, including Other IP, to use Supplied Products for any and all applications within Customer Use without infringement or misuse of such third party Intellectual Property Rights. It is Customer's responsibility to ensure that it has or obtains rights to all third party Intellectual Property Rights that are required for Customer to use the Supplied Products for Customer Use without infringement or misuse of such third party Intellectual Property Rights, subject to the limited obligation of Illumina to indemnify Customer for infringement of certain third party Intellectual Property Rights as expressly set forth in Section 10.1.

**4.3. All Rights Reserved.**

a. Customer agrees that any use of Supplied Products outside the scope of rights conferred upon purchase as set forth in Section 3.1 (Authorized Uses of Supplied Products) is a prohibited and unauthorized use. All prohibited and unauthorized uses infringe Illumina Intellectual Property Rights and are expressly excluded from Customer Use. Illumina, on behalf of itself and its Affiliates (and their respective successors and assigns), retains all and does not waive the right to enforce Illumina Intellectual Property Rights and bring suit or proceedings against any person or entity, including Customer (and its Affiliates, and their respective successors, and assigns), with respect to any and all prohibited or unauthorized uses of Supplied Product or Existing Hardware. Customer agrees that actual knowledge by Illumina, Illumina's Affiliates, or their respective directors, officers, employees, or agents that Customer is using Supplied Product or Existing Hardware in any unauthorized or unpermitted manner**,** does not (i) waive or otherwise limit any rights under this Agreement or at Law that Illumina, Illumina's Affiliates or their respective successors and assigns, have to address the unauthorized or unpermitted use, or (ii) grant Customer a license or other right to any Illumina Intellectual Property Right, whether by implication, estoppel, or otherwise. There are no implied rights under this Agreement. For the avoidance of doubt, all Application Specific IP that pertain to [***] are expressly excluded from NIPT Application Specific IP, Customer does not receive any express or implied right to such excluded Application Specific IP, and Illumina reserves all rights, including enforcement rights, to same.

b. EXCEPT AS EXPRESSLY STATED IN SECTION 3.1 (AUTHORIZED USES OF SUPPLIED PRODUCTS), NO SUBLICENSE OR OTHER RIGHT OR LICENSE UNDER ANY ILLUMINA INTELLECTUAL PROPERTY RIGHTS IS OR ARE GRANTED, EXPRESSLY, BY IMPLICATION, BY ESTOPPEL OR OTHERWISE, UNDER THIS AGREEMENT. SUPPLIED PRODUCTS AND EXISTING HARDWARE MAY BE COVERED BY ONE OR MORE PATENTS IN THE TERRITORY. ILLUMINA DOES NOT REPRESENT, WARRANT, COVENANT OR UNDERTAKE THAT USE OF SUPPLIED PRODUCT FOR ANY OR ALL APPLICATIONS WITHIN CUSTOMER USES WILL NOT INFRINGE OR BE A MISUSE OF APPLICATION SPECIFIC IP (EXCEPT TO THE EXTENT RIGHTS UNDER NIPT APPLICATION SPECIFIC IP ARE CONFERRED UPON PURCHASE) OR THIRD PARTY INTELLECTUAL PROPERTY RIGHTS, INCLUDING OTHER IP, AND EXPRESSLY DISCLAIMS AND EXCLUDES ANY STATEMENT OR IMPLICATION OTHERWISE, TO THE MAXIMUM EXTENT PERMITTED BY LAW. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, CUSTOMER ASSUMES ALL RISK ASSOCIATED WITH NOT OBTAINING ANY REQUIRED RIGHTS TO OTHER IP OR APPLICATION SPECIFIC IP (EXCEPT TO THE EXTENT RIGHTS UNDER NIPT APPLICATION SPECIFIC IP ARE CONFERRED UPON PURCHASE).

**4.4. Supplied Products.** The Supplied Products are labeled *For Research Use Only* ("**RUO**"). Customer acknowledges that, unless expressly stated otherwise in writing by Illumina, no Supplied Product has been subjected to any conformity assessment or other regulatory review or certified, approved or cleared by any regulatory entity or conformity assessment body, whether foreign or domestic (including without limitation the United States Food and Drug Administration), or otherwise reviewed, cleared or approved under any Law for any purpose, whether research, commercial, diagnostic or otherwise. Illumina agrees to comply with all applicable Laws and regulations when storing and shipping Supplied Product for Customer. Customer agrees to comply with all applicable Laws and regulations when using, maintaining, storing and disposing of Supplied Product. In the event any Supplied Product added to this Agreement after the Effective Date has been certified, approved or cleared by a regulatory agency, including without limitation the FDA, then it may be subject to additional terms and conditions of sale and this Agreement will be amended as may be necessary.

**4.5. Regulatory Approvals.** Customer, and not Illumina, is responsible for obtaining any and all Regulatory Approvals. Customer shall also have sole and exclusive control over any and all matters pertaining to the commercialization of any products for which it obtained Regulatory Approval, subject in all cases to Illumina's rights under this Agreement and Customer's obligations under this Agreement. Customer agrees to promptly disclose to Illumina any communication that it receives from a government body, agency, or other regulatory or accrediting body pertaining to the Supplied Products or Customer's use of the Supplied Products, and Illumina agrees to disclose to Customer any communication that it receives from a government body, agency, or other regulatory or accrediting body that specifically names Customer.

**4.6. Regulatory Appropriate Product.**

a. In the event Illumina reasonably determines that it is not proper under applicable Law to continue to sell to customers, including Customer, one or more Supplied Products for use in particular test(s) or application(s) within Customer Use, then the Parties shall amend this Agreement accordingly to reflect such determination and use provision.

b. If Illumina makes regulatory-cleared or -approved (e.g., FDA-cleared or FDA-approved) IVD products available for use in one or more applications within Customer Use, and Illumina makes any such IVD product available for purchase by Customer under this Agreement pursuant to Section 4.4, then if Customer had been purchasing Consumables for use in performing its own Laboratory Developed Test for the same application as the IVD product, then Customer will make a good faith determination whether to purchase the IVD product for that application or to continue purchasing Consumables for use in performing its own Laboratory Developed Test for that application. If Customer chooses to purchase the IVD product, then Illumina will, at that time, provide Customer with a period of [***] to transition from use of those Consumables that Customer was using for the relevant application(s), to use of such IVD product (unless a shorter time period for transition is required by Law, in which case, within that shorter time period). Upon Customer's request, the Parties will work together in good faith to coordinate Customer's transition to the IVD product or other product or combination of products as necessary. Notwithstanding anything in this Agreement to the contrary, if Illumina reasonably determines it is improper under applicable Law, on the basis of a Regulatory Event and through no fault of Illumina, for Illumina to continue to supply Consumables for use in an application for which Illumina has made available for purchase an IVD product for that application, then Illumina shall not have any further obligation under this Agreement to supply such Consumables to Customer for use in that application.

**4.7. Manufacturing Operations.** Illumina shall conduct the manufacturing operations under its direct control pertaining to Supplied Products hereunder in a safe and prudent manner, in compliance with all applicable laws and regulations (including, but not limited to, those dealing with occupational safety and health, those dealing with public safety and health, those dealing with protecting the environment, and those dealing with disposal of wastes).

**4.8. Recalls and Seizures.** Each Party shall keep the other Party promptly informed of any notification or other information, whether received directly or indirectly, which is reasonably likely to result in the recall or seizure of Supplied Product. If Illumina determines that it is necessary to recall any Supplied Product, it shall promptly notify Customer in the same manner as it notifies its other customers of Supplied Product.

## V. TG CONSUMABLES - ADDITIONAL TERMS AND CONDITIONS

**5.1. Expiry Date; Single Lot Shipments/ Kit Lot Testing for TG Consumables**.

a. **Expiry Date for TG Consumables.** Illumina shall ensure that TG Consumables shall have an expiry date that is no less than [***] at the time of shipment. Expiry date will be pre-printed on the TG Consumable packaging.

b. **Single Lot Shipments**. Illumina shall ensure each shipment of a given TG Consumable supplied under this Agreement includes only such TG Consumable manufactured from the same lot.

c. **Kit Lot Testing**. Illumina shall test each component reagent that comprises a given TG Consumable supplied under this Agreement, together with the other component reagents of that TG Consumable to ensure their functionality, unless sufficient data are available to demonstrate that a given component reagent, or component reagents, if quality tested independently, does not affect performance of the TG Consumable.

d. **Certificates of Analysis**. Illumina shall provide a Certificate of Analysis for each lot of TG Consumables sold to Customer under this Agreement. In testing TG Consumables, Illumina will provide testing information that Illumina deems appropriate to report quality of each lot of TG Consumables.

**5.2. Forecasts for TG Consumables**. Customer shall, no later than [***], provide a written non-binding forecast detailing the estimated quantity of TG Consumables, on a TG Consumable-by-TG Consumable basis, that Customer requires during the following [***].

**5.3. TG Consumable Lead Time.** Subject to the terms and conditions of this Agreement, if a Purchase Order for TG Consumables is submitted (a) by [***], the first shipment of TG Consumables on the Purchase Order will be no earlier than [***] from the date the Purchase Order is accepted by Illumina and (b) after the [***], the first shipment of TG Consumables on the Purchase Order will be no later than [***] from the date the Purchase Order is accepted by Illumina.

**5.4. Payment Instead of Taking TG Consumable**. The type and quantity of TG Consumables required by Customer on a Purchase Order are manufactured by Illumina only after receipt of Customer's Purchase Order for those TG Consumables. Except with respect to the initial Purchase Order (Exhibit C), which may not be cancelled, Customer may cancel all or part of a Purchase Order for TG Consumables under this Agreement; provided that, Illumina reserves the right to charge Customer up to [***] of the purchase price of the canceled TG Consumables. Customer agrees to make payment on any and all invoices provided by Illumina for such charges in accordance with this Agreement.

**5.5. Availability of TG Version**. With respect to Non-TG Consumables for which Illumina does not have a corresponding TG version ("**TG Version**") generally available for purchase during the Term, at such time as Illumina does have a TG version generally available for purchase, Illumina will give Customer notice of the availability of that TG Version and at that time it shall automatically be added to Exhibit A of this Agreement and available for purchase by Customer. Notice may be by way of inclusion of the TG Version on a quote. Customer agrees that (i) within [***] of the date of such notice Customer will cease using the applicable Non-TG Consumables as Temporary Consumables for Clinical Use and NIPT Use, as applicable, (ii) it will promptly modify or cancel existing open Purchase Orders (without being subject to the charge set forth in Section 5.4) as needed so as to ensure that Customer will no longer receive the applicable Non-TG Consumables as Temporary Consumable after the date that is [***] after the date of the notice, unless Customer will use such Non-TG Consumables only for Research Use, and (iii) Customer will not place additional Purchase Orders for the applicable Non-TG Consumables as Temporary Consumable for Clinical Use and NIPT Use, as applicable, after receipt of such notice.

**5.6. Temporary Consumables.** Subject to the terms and conditions of this Agreement, if Non-TG Consumables are supplied under this Agreement as Temporary Consumables, then those Non-TG Consumables shall, solely for the purposes of Clinical Use and NIPT Use, as applicable, be considered to have the same Clinical Use and NIPT Use rights as TG Consumables.

**5.7. Discontinuation/Changes to Certain TG Consumables.**

a. TG Consumables will not be manufactured in their current configurations indefinitely as a result of product life cycle or other business considerations. Accordingly, a given TG Consumable may be phased out of production and no longer available and/or there may be a new, reconfigured, or repackaged version of a TG Consumable that embodies a material change to form, fit or function of such TG Consumable (such discontinued or materially changed TG Consumable is referred to as a "**Discontinued Consumable**"). Any product or combination of products that is intended by Illumina to replace such Discontinued Consumable shall be referred to as a "**Substitute Consumable**." In some instances a Substitute Consumable may differ from the Discontinued Consumable through changes in one or more components that comprised the Discontinued Consumable ("**Changed Components**"). In other instances the Substitute Consumable may represent a complete change from the Discontinued Consumable ("**Complete Change**").

b. In the case of a Discontinued Consumable that will have Changed Components, Illumina will use [***] efforts to make the Changed Components and instructions on how to modify the Discontinued Consumable in order to use the Changed Components available as soon as practical, but no later than [***] prior to the date that the Discontinued Consumable will no longer be available for purchase. Illumina will provide a [***] quantity of Changed Components free of charge to facilitate Customer's validation efforts in support of the change.

c. In the case of a Discontinued Consumable that will have a Complete Change, Illumina will use [***] efforts to make the Substitute Consumable available for purchase by Customer as soon as practical, but no later than [***] prior to the date that the Discontinued Consumable will no longer be available for purchase. Illumina will provide a [***] quantity of Substitute Consumable free of charge to facilitate Customer's validation efforts in support of the change.

d. Once a Discontinued Consumable is no longer available for purchase (either in the instance of a Complete Change or Changed Component), Illumina will give Customer written notice (which may be by way of quote) and the Substitute Consumable will automatically be added to this Agreement as a Consumable and the Discontinued Consumable will be removed. The price for a Substitute Consumable will be Illumina's published list price for the Substitute Consumable. Use of Substitute Consumables shall be subject to the terms and conditions of this Agreement.

## VI. PURCHASING; PAYMENT; DELIVERY

**6.1. Purchase Orders; Acceptance; Cancellation**. Customer shall order Supplied Product using written purchase orders ("**Purchase Order(s)**") submitted under and in accordance with this Agreement. Purchase Orders shall state, at a minimum, the Illumina catalogue number, the Illumina provided quote number (or other reference provided by Illumina), the quantity ordered, price, requested delivery date, and address for delivery, and shall reference this Agreement. All Purchase Orders shall be sent to the attention of Illumina Customer Solutions or to any other person or department designated by Illumina in writing. Illumina shall inform Customer in writing (including without limitation by an electronic order acceptance or rejection notice) of its acceptance or rejection of any Purchase Order within [***] of Customer's submission of such Purchase Order. Unless a Purchase Order is rejected in writing by Illumina per the previous sentence, acceptance of a Purchase Order occurs upon the earlier of (a) such time when Illumina provides Customer a sales order confirmation, or (b) [***] following Customer's submission of such Purchase Order. Purchase Orders submitted in accordance with this Agreement will not be unreasonably rejected by Illumina. Except as expressly stated in Section 5.4 (Payment Instead of Taking TG Consumables), all Purchase Orders accepted by Illumina are non-cancelable by Customer or Illumina and may not be modified without the prior written consent of both Parties.

**6.2. Shipping Terms; Title and Risk of Loss; Ship Date Changes**.

a. **Shipping; Title, Risk of Loss**. Unless otherwise agreed upon in writing, all shipments are made [***] at Customer's address on the Purchase Order and [***] is responsible for freight and insurance which will be added to the invoice and paid by Customer, except that all shipments to member countries of the E.U. are made [***] at Customer's address on the Purchase Order. In all cases, title (except for Software and third party software) and risk of loss transfers to Customer [***].

b. **Ship Date Changes**. The latest ship date allowed for any Supplied Product under a Purchase Order is the date that is [***] after the date the Purchase Order was received by Illumina. Subject to the terms and conditions of this Agreement, Illumina will use [***] efforts, but makes no guarantee and does not undertake that it will be able, to accommodate Customer requests to bring forward the ship dates for Supplied Products on a Purchase Order.

**6.3. TG Consumable Ship Schedule**. Each Purchase Order for TG Consumables must include a ship schedule, to be agreed to between Illumina and Customer prior to Illumina accepting that Purchase Order, that details the quantity of and type of TG Consumables (on a TG Consumable-by-TG Consumable basis) that Customer requires to be delivered in each calendar month that is covered by the Purchase Order.

**6.4. Invoices; Payment; Taxes.**

a. **Invoices and Payment**. Illumina shall issue invoices upon shipment of Supplied Products or upon provision of Service Contracts, as applicable. Invoices shall be sent to Customer's accounts payable department, or any other address designated by Customer in writing. All invoices are payable as of the date of invoice and payments by Customer on such invoices are due within [***] after Customer's receipt of the invoice. Test Fees are due and payable as set forth on Exhibit B. Without limiting any remedies available to Illumina, any amounts not paid when due under this Agreement will accrue interest at the rate of [***]% per month, or the maximum amount allowed by Law, if lower. In the event of nonpayment, Illumina shall have the right to take any action allowed in Law in addition to any rights or remedies under this Agreement, including without limitation, [***] until all payments are made current. [***] Each Purchase Order is a separate, independent transaction under this Agreement, and all amounts due under any other Purchase Orders or other transactions with Illumina shall be paid by the Customer in full without any set-off, counterclaim, deduction or withholding. Customer agrees to pay for Supplied Products supplied, and for services provided including Service Contracts hereunder in accordance with the terms and conditions of this Agreement.

b. **Taxes**. All prices and other amounts payable to Illumina hereunder are exclusive of and are payable without withholding or deduction for taxes, GST, VAT, customs duties, tariffs, charges or otherwise as required by Law from time to time upon the sale of the Supplied Product or provision of services, all of which will be added to the purchase price or subsequently invoiced to the Customer to gross up any payment in respect of which withholding or deduction is required to be made.

## VII. PRODUCT WARRANTIES; REPRESENTATIONS AND FORWARD-LOOKING COVENANTS

**7.1. Illumina Warranty for Supplied Products**. All warranties are made to and personal to Customer and may not be transferred or assigned to a third party, including an Affiliate of Customer. All warranties for Hardware are facility specific and do not transfer and are void if the Hardware is used at or moved to another facility, including moved to, between, or among facilities of Customer, unless Illumina conducts such move. All warranties for Consumables are facility specific and cannot be re-shipped, including re-shipments between or among facilities of Customer. The warranties set forth in this Agreement only apply to units of Supplied Products purchased under this Agreement. Warranty for Existing Hardware is as stated in the original terms of sale.

a. **Warranty for Consumables**. Illumina warrants, except as expressly stated otherwise in this Agreement, that Consumables, other than custom Consumables:

(1) will conform to their Specifications until the later of (i) for TG Consumables, [***] from the date of shipment from Illumina and for Non-TG Consumables, [***] from the date of shipment from Illumina, and (ii) [***] by Illumina, but in no event later than [***] from the date of shipment;

(2) with respect to custom Consumables (i.e., Consumables, made by Illumina to specifications or designs provided to Illumina by, or on behalf of, Customer), Illumina only warrants that the custom Consumables will be made and tested in accordance with Illumina's standard manufacturing and quality control processes. Illumina makes no warranty that custom Consumables will work as intended by Customer or for Customer's intended uses.

b. **Warranty for Hardware**. Illumina warrants that Hardware, other than Upgraded Components:

(1) will conform to the Specifications for a period of [***] after its shipment date from Illumina unless the Hardware includes Illumina-provided installation, in which case the warranty period begins on the date of installation or [***] after the date the Illumina Hardware was delivered, whichever occurs first ("**Base Hardware Warranty**").

(2) Illumina warrants that Upgraded Components will conform to their Specifications for the longer of the Base Hardware Warranty or a period of [***] from the date the Upgraded Components are installed. Upgraded Components do not extend the Base Hardware Warranty.

**7.2. Additional Representations and Warranties.**

a. **Customer**. Customer represents and warrants and covenants that (a) it owns, leases, or otherwise contractually controls the facilities in which Supplied Products will be used for Customer Use; (b) it has all rights and licenses necessary to purchase and use the Supplied Products for Customer Use; and (c) it will perform tests within NIPT Use and Clinical Use in a professional and workmanlike manner and in accordance with Law.

b. **Debarment**. Illumina represents and warrants that, as of the Effective Date, it does not knowingly use, in any capacity in connection with the manufacture of Supplied Products or any service rendered to Customer, the services of any person debarred under the U.S. Generic Drug Enforcement Act, 21 USA §335a(k)(l) or who has been convicted of a crime as defined under the Generic Drug Enforcement Act.

c. **Organization**. Each Party represents and warrants that it is (i) duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization and (ii) duly qualified to do business in such jurisdiction.

d. **Power and Authorization**. The execution, delivery and performance by each Party of this Agreement are within the power and authority of such Party and have been duly authorized by all necessary corporate action on the part of such Party and is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

e. **Authorization of Governmental Authorities**. No action by (including any authorization, consent or approval), or in respect of, or filing with, any Governmental Authority is required for, or in connection with authorization, execution, or delivery by a Party of this Agreement.

f. **Contravention.** Nothing in this Agreement knowingly contravenes or constitutes a default or violation of any provision of any agreement, commitment, or instrument to which a Party is a party as of the Effective Date.

**7.3. Exclusions from Warranty Coverage**. The foregoing warranties in Section 7.1 shall not apply to the extent a non-conformance is due to (a) abuse, misuse, neglect, negligence, accident, improper storage, or use contrary to the Documentation (misuse includes use of a Consumable more than one time), (b) improper handling, installation, maintenance, or repair (other than by Illumina personnel), (c) unauthorized alteration, (d) an event of Force Majeure, or (e) use with a third party's good not provided by Illumina (unless the applicable Documentation or Specifications expressly state such third party's good is for use with it).

**7.4. Sole Remedy**. The following states Customer's sole remedy and Illumina's sole obligations under the foregoing warranties.

a. **Consumables**. Illumina will repair or replace (the choice being at Illumina's sole discretion) the non-conforming Consumable. Repaired or replaced Non-TG Consumables come with a warranty of [***] after delivery of the repaired or replaced Consumable. Repaired or replaced TG Consumables come with a warranty that is the longer of [***] after delivery of the repaired or replaced Consumable or [***] or [***]. In no event will the warranty for repaired or replaced Consumables be later than [***] from the date of shipment. With respect to replaced TG Consumables, Illumina will use commercially reasonable efforts to provide replacement TG Consumables in Customer's next scheduled shipment where single lot per shipment can be maintained.

b. **Hardware**. Illumina will repair or replace (the choice being at Illumina's sole discretion) the non-conforming Hardware. Hardware may be repaired or replaced with functionally equivalent, reconditioned, or new Hardware or components (if only a component of Hardware is non-conforming). If the Hardware is replaced in its entirety, or if only a component(s) is/are being repaired or replaced, the warranty period for the replacement Hardware is the longer of [***] from the date of its shipment or [***]. Replaced or repaired components do not extend the original Hardware warranty period.

**7.5. Procedure**. In order to be eligible for repair or replacement under this warranty Customer must (a) promptly contact Illumina's customer support department to report the non-conformance, (b) cooperate with Illumina in the diagnosis of the non-conformance, and (c) return the Supplied Product, transportation charges prepaid, to Illumina following Illumina's instructions or, if agreed by Illumina, grant Illumina's authorized repair personnel access to this Supplied Product in order to confirm the non-conformance and make repairs.

**7.6. Third Party Goods**. Illumina has no warranty obligations with respect to any goods or software originating from a third party, including without limitation, any such goods or software supplied to Customer under this Agreement. Third party goods or software are those that are labeled or branded with a third party's name. The warranty for third party goods or software, if any, is provided by the original manufacturer. Illumina will cooperate with Customer in filing any warranty claims with such third parties.

**7.7. Limited Warranties**. TO THE EXTENT PERMITTED BY LAW AND EXCEPT FOR THE EXPRESS LIMITED WARRANTIES FOR SUPPLIED PRODUCTS SET FORTH IN SECTION 7.1 OF THIS AGREEMENT, ILLUMINA MAKES NO (AND EXPRESSLY DISCLAIMS ALL) WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, WITH RESPECT TO THE SUPPLIED PRODUCTS, OR ANY SERVICES PROVIDED IN CONNECTION WITH THIS AGREEMENT, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, CARE AND SKILL, NONINFRINGEMENT, OR ARISING FROM COURSE OF PERFORMANCE, DEALING, USAGE OR TRADE. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, ILLUMINA MAKES NO CLAIM, REPRESENTATION, OR WARRANTY OF ANY KIND AS TO THE UTILITY OF THE SUPPLIED PRODUCTS FOR CUSTOMER'S INTENDED USES.

## VIII. CONFIDENTIAL INFORMATION

**8.1. Confidential Information; Confidentiality**. The Parties acknowledge that a Party (the "**Recipient Party**") may have access to confidential or proprietary information ("**Confidential Information**") of the other Party (the "**Disclosing Party**") in connection with this Agreement. In order to be protected as Confidential Information, information must be disclosed with a confidential or other similar proprietary legend and in the case of orally or visually disclosed information, the Disclosing Party shall notify the Recipient Party of its confidential nature at the time of disclosure and provide a written summary that is marked with a confidential or other similar proprietary legend to the Recipient Party within [***] (email acceptable). Confidential Information may include, but shall not be limited to, inventions, designs, formulas, algorithms, trade secrets, know-how, customer lists, cost and pricing information, business and marketing plans, and other business, regulatory, manufacturing and financial information. This Agreement, including its terms, including pricing, is Confidential Information. During the Term of this Agreement and for a period of [***] thereafter, the Recipient Party shall hold the Disclosing Party's Confidential Information in confidence using at least the degree of care that is used by the Recipient Party with respect to its own Confidential Information, but no less than reasonable care. The Recipient Party shall disclose the Confidential Information of the Disclosing Party solely on a need to know basis to its employees, contractors, officers, directors, representatives, and those of its Affiliates, under written confidentiality and restricted use terms or undertakings consistent with this Agreement. The Recipient Party shall not use the Disclosing Party's Confidential Information for any purpose other than exercising its rights and fulfilling its obligations under this Agreement. The Confidential Information shall at all times remains the property of the Disclosing Party. The Recipient Party shall, upon written request of the Disclosing Party, return to the Disclosing Party or destroy the Confidential Information of the Disclosing Party. Notwithstanding the foregoing, the Recipient Party may maintain one copy of the Disclosing Party's Confidential Information to be retained by the Recipient Party's Legal Department for archival purposes only.

**8.2. Exceptions**. Notwithstanding any provision contained in this Agreement to the contrary, neither Party shall be required to maintain in confidence or be restricted in its use of any of the following: (a) information that, at the time of disclosure to the Recipient Party, is in the public domain through no breach of this Agreement or breach of another obligation of confidentiality owed to the Disclosing Party or its Affiliates by the Receiving Party; (b) information that, after disclosure hereunder, becomes part of the public domain by publication or otherwise, except by breach of this Agreement or breach of another obligation of confidentiality owed to the Disclosing Party or its Affiliate by the Receiving Party; (c) information that was in the Recipient Party's or its Affiliate's possession at the time of disclosure hereunder by the Disclosing Party unless subject to an obligation of confidentiality or restricted use owed to the Disclosing Party or its Affiliate; (d) information that is independently developed by or for the Recipient Party or its Affiliates without use of or reliance on Confidential Information of the Disclosing Party; or (e) information that the Recipient Party receives from a third party where such third party was under no obligation of confidentiality to the Disclosing Party or its Affiliate with respect to such information.

**8.3. Authorized Disclosures.**

a. **Disclosures Required by Law.** The Recipient Party may disclose Confidential Information of the Disclosing Party as required by court order, operation of law, or government regulation, including in connection with submissions to regulatory authorities with respect to the Supplied Products; provided that, the Recipient Party promptly notifies the Disclosing Party of the specifics of such requirement prior to the actual disclosure, or promptly thereafter if prior disclosure is impractical under the circumstances, uses commercially reasonable efforts to limit the scope of such disclosure or obtain confidential treatment of the Confidential Information if available, and allows the Disclosing Party to participate in the process undertaken to protect the confidentiality of the Disclosing Party's Confidential Information including, without limitation, cooperating with the Disclosing Party in its efforts to permit the Receiving Party to comply with the requirements of such order, law, or regulation in a manner that discloses the least amount necessary, if any, of the Confidential Information of the Disclosing Party.

b. **Potential Investors and Acquirers.** Subject to the exception that follows in this Section 8.3(b), the Recipient Party may, upon at least three business days prior notice to the other Party, disclose the terms of this Agreement to *bona fide* potential or actual (i) acquirers, or permitted assignees, and (ii) to its current or prospective banks or other financial institutions or investors for the purpose of raising capital or borrowing money or maintaining compliance with agreements, arrangements and understandings relating thereto; provided that such disclosure is covered by terms of confidentiality and non-use at least as strict as those set forth herein. Notwithstanding the foregoing, [***].

**8.4. Injunctive Relief**. Each Party acknowledges that any use or disclosure of the other Party's Confidential Information other than in accordance with this Agreement may cause irreparable damage to the other Party. Therefore, in the event of any such use or disclosure or threatened use or threatened disclosure of the Confidential Information by a Receiving Party hereto, the Disclosing Party shall be entitled, in addition to all other rights and remedies available at Law, to seek injunctive relief against the breach or threatened breach of any obligations under this Article VIII.

**8.5. Disclosure of Agreement**. Except as expressly provided otherwise in this Agreement, including Section 8.3(a) and (b), neither Party may disclose this Agreement, the terms and conditions of this Agreement, including any financial terms thereof, and the subject matter of this Agreement to any third party without the prior written consent of the other Party, which consent shall not be unreasonably withheld. Notwithstanding anything in this Agreement to the contrary, Customer acknowledges and agrees that Illumina and its Affiliates, as healthcare companies, may, if required by applicable Law, disclose this Agreement, its terms, its subject matter, including financial terms (including without limitation, Illumina's compliance with Sunshine Act).

## IX. LIMITATIONS OF LIABILITY; DISCLAIMERS; REPRESENTATIONS

**9.1. Limitation of Liability**.

a. EXCEPT WITH RESPECT TO LIABILITY ARISING FROM (1) INDEMNIFICATION OBLIGATIONS UNDER ARTICLE X, (2) BREACH OF ARTICLE VIII (CONFIDENTIAL INFORMATION), OR (3) INTENTIONAL BREACH OR INTENTIONAL MISCONDUCT UNDER THIS AGREEMENT, BUT OTHERWISE TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL EITHER PARTY OR ITS AFFILIATES BE LIABLE TO THE OTHER PARTY FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, CONSEQUENTIAL, OR PUNITIVE DAMAGES OF ANY KIND ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, INCLUDING WITHOUT LIMITATION DAMAGES ARISING FROM THE SALE OF ANY SUPPLIED PRODUCT TO CUSTOMER, USE OF ANY SUPPLIED PRODUCT BY CUSTOMER, ILLUMINA'S PERFORMANCE HEREUNDER OR ANY OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, HOWEVER ARISING OR CAUSED AND ON ANY THEORY OF LIABILITY (WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY MISREPRESENTATION, BREACH OF STATUTORY DUTY OR OTHERWISE).

b. EXCEPT WITH RESPECT TO LIABILITY ARISING FROM (1) ILLUMINA'S INDEMNIFICATION OBLIGATIONS UNDER ARTICLE X, (2) BREACH BY ILLUMINA OF ARTICLE VIII (CONFIDENTIAL INFORMATION), OR (3) ILLUMINA'S INTENTIONAL BREACH OR INTENTIONAL MISCONDUCT UNDER THIS AGREEMENT, BUT OTHERWISE TO THE EXTENT PERMITTED BY LAW, ILLUMINA'S TOTAL AND CUMULATIVE LIABILITY TO CUSTOMER ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, MISREPRESENTATION, BREACH OF STATUTORY DUTY OR OTHERWISE, SHALL IN NO EVENT EXCEED THE AMOUNT RECEIVED BY ILLUMINA FROM CUSTOMER FOR PURCHASE OF SUPPLIED PRODUCTS AND PROVISION OF SERVICES UNDER THIS AGREEMENT (EXCLUDING THE ONE-TIME PAYMENT IN SECTION 2.3(c)) DURING THE 12 MONTHS PRECEDING THE DATE THE LIABILITY AROSE.

c. EXCEPT WITH RESPECT TO LIABILITY ARISING FROM (1) CUSTOMER'S INDEMNIFICATION OBLIGATIONS UNDER ARTICLE X, (2) CUSTOMER'S BREACH OF ARTICLE VIII (CONFIDENTIAL INFORMATION), (3) CUSTOMER'S INTENTIONAL BREACH OR INTENTIONAL MISCONDUCT UNDER THIS AGREEMENT, AND (4) CUSTOMER'S PAYMENT OBLIGATIONS UNDER THIS AGREEMENT, BUT OTHERWISETO THE EXTENT PERMITTED BY LAW, CUSTOMER'S TOTAL AND CUMULATIVE LIABILITY TO ILLUMINA ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, MISREPRESENTATION, BREACH OF STATUTORY DUTY OR OTHERWISE, SHALL IN NO EVENT EXCEED THE AMOUNT INVOICED BY ILLUMINA TO CUSTOMER FOR PURCHASE OF SUPPLIED PRODUCTS AND PROVISION OF SERVICES UNDER THIS AGREEMENT DURING THE 12 MONTHS PRECEDING THE DATE THE LIABILITY AROSE.

d. THE LIMITATION OF LIABILITY IN THIS SECTION 9.1 SHALL APPLY EVEN IF ILLUMINA OR ITS AFFILIATES OR CUSTOMER AND ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LIABILITY, AND NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, INCLUDING WITHOUT LIMITATION, IN THIS ARTICLE IX, THIS AGREEMENT DOES NOT LIMIT LIABILITY OF CUSTOMER OR ITS AFFILIATES FOR (1) ANY INFRINGEMENT OF ILLUMINA INTELLECTUAL PROPERTY RIGHTS, INCLUDING WITHOUT LIMITATION, APPLICATION SPECIFIC IP (EXCEPT TO THE EXTENT RIGHTS UNDER CORE IP, OR CORE IP AND NIPT APPLICATION SPECIFIC IP, ARE CONFERRED ON CUSTOMER UPON PURCHASE OF EACH UNIT OF SUPPLIED PRODUCT AS EXPRESSLY STATED IN SECTION 3.1) OR (2) LIABILITY OF CUSTOMER FOR HARM FROM MISDIAGNOSIS, MISSED DIAGNOSES AND ACTIONS OR INACTIONS TAKEN AS A RESULT OF INFORMATION PROVIDED DIRECTLY OR INDIRECTLY BY CUSTOMER TO PATIENTS, PHYSICIANS, OR OTHER ENTITIES.

**9.2. Customer Agreements**. Customer is not an authorized dealer, representative, reseller, or distributor of any of Illumina's, or its Affiliates', products or services. Customer (a) is not purchasing the Supplied Product on behalf of a third party, (b) is not purchasing the Supplied Product in order to resell or distribute the Supplied Product to a third party, (c) is not purchasing the Supplied Product in order to export the Supplied Product from the country in which Illumina shipped the Supplied Product pursuant to the ship-to address designated by Illumina at the time of ordering, and (d) will not export the Supplied Product out of such country in (c).

## X. INDEMNIFICATION; INSURANCE

**10.1. Indemnity.**

a. **Indemnification by Illumina for Infringement**. Subject to the terms and conditions of this Agreement, including without limitation, Section 10.1(b) (Exclusions to Illumina Indemnification Obligations) , Section 10.1(c) (Indemnification by Customer), Section 10.1(d) (Conditions of Indemnifications), and Customer's obligations pertaining to Other IP pursuant to Article IV (Intellectual Property Rights; Regulatory),

(i) Illumina shall defend, indemnify and hold harmless Customer, its Affiliates, and their respective officers, directors, representatives, employees, successors and assigns (Customer and each of the foregoing a "**Customer Indemnitee**"), from and against any and all liabilities and damages resulting from claims and causes of actions brought against a Customer Indemnitee by a third party ("**Claim**"), to the extent a Claim results from or arises out of:

(A) alleged infringement of any Intellectual Property Rights of any third party that pertain to or cover aspects or features of any Supplied Product(s) (or use thereof) without regard to (i.e., that is not particular to) any specific field(s) of use or specific application(s), as a result of Customer's use of the Supplied Products in the Territory for Research Use, in accordance with all the terms and conditions of this Agreement,

(B) alleged infringement of any Intellectual Property Rights of any third party that pertain to or cover aspects or features of any Supplied Product(s) (or use thereof) without regard to (i.e., that is not particular to) any specific field(s) of use or specific application(s), as a result of Customer's use of the Hardware, Software, TG Consumables, and Temporary Consumables when used in the Territory for Clinical Use, with specimens from the Collection Territory, in accordance with all the terms and conditions of this Agreement,

(C) alleged infringement of any Intellectual Property Rights of any third party that pertain to or cover aspects or features of any Supplied Product(s) (or use thereof) without regard to (i.e., that is not particular to) any specific field(s) of use or specific application(s), as a result of Customer's use of the Hardware, Software, TG Consumables, and Temporary Consumables when used in the Territory for NIPT Use, with specimens from the Collection Territory, in accordance with all the terms and conditions of this Agreement,

(D) allegations that (1) the Supplied Products, when used by Customer to perform an Indemnified NIPT Test in the United States during the Term, or (2) the performance by Customer of an Indemnified NIPT Test in the United States during the Term, in each case (1) and (2) in accordance with the terms and conditions of this Agreement, infringe an issued patent within the Intellectual Property Rights of a third party, which patent covers (x) aspects or features of the Supplied Product(s), or (y) use of the Supplied Product(s) in accordance with its Documentation, in each case (x) and (y) only with regard to (i.e., that is particular to) NIPT Use; wherein (A), (B), (C) and (D) are separately and collectively referred to as an "**Illumina Infringement Claim**"), and

(ii) Illumina shall pay all settlements entered into, and all final judgments and costs (including reasonable attorneys' fees) awarded against such Customer Indemnitee in connection with such Illumina Infringement Claim.

(iii) The foregoing obligation to indemnify, defend and hold harmless shall not be applicable for any claim or action brought by a third party who is or becomes or was an Affiliate of Customer.

(iv) If the Supplied Products or any part thereof become, or in Illumina's opinion may become the subject of an Illumina Infringement Claim or action against Illumina (including its Affiliates) or Customer and/or any other Customer Indemnitee, Illumina has the right, at its option, to (A) procure for Customer the right to continue using such Supplied Products, (B) modify or replace such Supplied Products with substantially equivalent non-infringing substitutes, or (C) require the return of such Supplied Products that are or may become the subject of an infringement claim or action and terminate the rights, license, and any other permissions given hereunder with respect thereto, no longer be obligated to supply such Supplied Products hereunder, and refund to Customer the depreciated value (as shown in Customer's official records) of the returned Supplied Product at the time of such required return; provided that, no refund will be given for used-up or expired Consumables. This Section (including without limitation Section 10.1(b) and other Sections referred to herein) states the entire liability of Illumina for any allegation of Customer infringement of third party Intellectual Property Rights, as well as Illumina's entire obligation under this Agreement to indemnify, defend and hold harmless the Customer and other Customer Indemnitees.

An "**Indemnified NIPT Test**" is an NIPT Test (A) that is performed in the United States in accordance with the terms and conditions of this Agreement (B) using Hardware and TG Consumables or Temporary Consumables to prepare and sequence samples solely for NIPT Use and (C) is performed [***], and (D) that is covered by at least one Valid Claim and (E) for which a Test Fee was paid. For the avoidance of doubt, if an NIPT Test does not meet every one of (A), (B), (C), (D) and (E) then it is not an Indemnified NIPT Test. By way of example and not limitation, the following tests are not Indemnified NIPT Tests: [***]. A "**Valid Claim**" means a claim in an issued U.S. patent within NIPT Application Specific IP that has not expired, lapsed or been declared invalid by a final order (for which all appeal periods have passed and with respect to which there is no pending appeal) of a court of competent jurisdiction, or the United States Patent and Trademark Office (in the case of a United States patent).

(iii) The foregoing obligation to indemnify, defend and hold harmless shall not be applicable for any claim or action brought by a third party who is or becomes or was an Affiliate of Customer.

b. **Exclusions to Illumina Indemnification Obligation**. Illumina shall have no obligation under Section 10.1(a), (or any obligation under this Agreement), to defend, indemnify or hold harmless any Customer Indemnitee or pay any settlements, final judgments or costs with respect to any Illumina Infringement Claim, to the extent such Illumina Infringement Claim is or arises from any one or more of:

(i) the use of the Supplied Products in any unauthorized or unpermitted manner or for any purpose outside the scope of the rights, license(s), or permissions (including scope of field of use or Intellectual Property Rights) conferred by Illumina upon Customer with respect to purchase of each unit of the Supplied Products in accordance with Section 3.1 (Authorized Uses of Supplied Products),

(ii) the use of the Supplied Products in any manner or for any purpose not in accordance with or described in the Specifications or Documentation,

(iii) the use of the Supplied Products in combination with any other products, materials, biomarkers, assay-specific protocols, or services not supplied by Illumina,

(iv) the use of the Supplied Products to perform any assay, method or other process not supplied by Illumina, including without limitation, tests (or parts thereof) developed by Customer or performed by Customer,

(v) Illumina's compliance with specifications or instructions for Supplied Products furnished to Illumina by Customer or by a third party on behalf of Customer (e.g., custom goods),

(vi) the use of the Supplied Products in any manner or for any purpose that requires rights to Other IP or Application Specific IP to avoid infringing such rights, except to the extent NIPT Application Specific IP rights are conferred upon purchase of Supplied Product as expressly stated in Section 3.1,

(vii) Customer's breach of any term, including breach of a representation or warranty or condition, made hereunder or included in this Agreement, wherein any use specified in (i), (ii), (iii) (iv), or (vi) is a use performed by Customer, its Affiliate, or a party to whom Customer or its Affiliate transfers Supplied Product (regardless of whether any such use or transfer is permitted under this Agreement) (each of (i) – (vii), is referred to as an "**Excluded Claim**").

c. **Indemnification by Customer**. Subject to the terms and conditions of this Agreement, including without limitation, indemnification by Illumina (Section 10.1(a) above), exclusions to Illumina's indemnification obligations (Section 10.1(b) above) and conditions of indemnification obligations (Section 10.1(d) below), Customer shall defend, indemnify and hold harmless Illumina, its Affiliates, their licensors, and collaborators and development partners that contributed to the development of the Supplied Products, and their respective officers, directors, representatives, employees, successors and assigns (Illumina and each of the foregoing an "**Illumina Indemnitee**(s)"), from and against any and all liabilities and damages resulting from claims and causes of actions brought against an Illumina Indemnitee by a third party (each a "**Claim Against Illumina**), to the extent a Claim Against Illumina results from or arises out of:

(i) any action described in any Excluded Claim, including without limitation, any use or breach described therein,

(ii) any breach by Customer of any Customer warranties,

(iii) Customer's failure to obtain and maintain any required Regulatory Approvals, and

(iv) Customer's marketing, sale, and/or provision of services (including Customer's provision of tests within NIPT Use) within Customer Use, and/or use of or putting into service the Supplied Products therefor, including without limitation, any actions (or inactions) taken by individuals who receive (directly or indirectly) results from Customer's use of Supplied Product, or harm from misdiagnosis, missed diagnoses and actions or inactions taken as a result of information provided directly or indirectly by Customer to patients, physicians, or other entities, and

(v) Customer's gross negligence or willful misconduct under this Agreement.

d. **Conditions of Indemnification**. Illumina's indemnification obligations for an Indemnified NIPT Test pursuant to Section 10.1(a)(i)(D) under this Agreement are subject to Customer's compliance with the exclusivity terms in Section 2.2(d) of the Agreement. The Parties' indemnification obligations under this Section 10.1 are subject to the Party seeking indemnification (i) notifying the other indemnifying Party promptly in writing of the claim, (ii) giving indemnifying Party exclusive control and authority over the defense of such claim, (iii) not admitting infringement of any Intellectual Property Right without prior written consent of the indemnifying Party, (iv) not entering into any settlement or compromise of any such action without the indemnifying Party's prior written consent, and (v) providing all reasonable assistance to the indemnifying Party that the indemnifying Party requests and ensuring that its officers, directors, representatives and employees and other indemnitees likewise provide assistance (provided that indemnifying Party reimburses the indemnified Party(ies) for its/their reasonable out-of-pocket expenses incurred in providing such assistance). An indemnifying Party will not enter into or otherwise consent to an adverse judgment or order, or make any admission as to liability or fault that would adversely affect the indemnified Party, or settle a dispute without the prior written consent of the indemnified Party, which consent not to be unreasonably withheld, conditioned, or delayed.

e. **Third Party Goods**. Notwithstanding anything in this Agreement to the contrary, Illumina shall have no indemnification obligations with respect to any goods or software originating from a third party, including without limitation, any such goods or software supplied to Customer under this Agreement. Third party goods are those that are labeled or branded with a third party's name. Customer's sole right to indemnification with respect to such third party goods or software shall be pursuant to the original manufacturer's or original licensor's indemnity, if any, to Customer, to the extent provided by the original manufacturer or original licensor.

**10.2. Insurance**. Customer shall obtain and maintain insurance coverage as follows: (i) a policy for liability (including professional and errors & omissions) in the amount of no less than [***] per occurrence, and (ii) separately a policy for commercial general liability and public liability insurance in the amount of no less than [***], in the case of each of (i) and (ii) to protect the Illumina Indemnitees under the indemnification provided hereunder. Illumina shall be an additional insured on Customer's insurance policy or policies and, upon request, Illumina shall be provided appropriate certificates of insurance. Such policies shall provide a waiver of subrogation against Illumina as an additional insured and contain no cross-liability exclusion. Customer agrees that the Parties intend that Customer's insurance coverage will be primary over any other potentially applicable insurance. Customer shall ensure that any umbrella or excess liability coverage shall not treat the naming of Illumina as an additional insured as a coverage change that voids or terminates such coverage. Customer will not cancel or amend the policies without [***] prior written notice to Illumina. Customer shall maintain such insurance at all times during the Term and for a period of [***] thereafter.

## XI. TERM AND TERMINATION

**11.1. Term**. This Agreement shall commence on the Effective Date and terminate [***] thereafter unless otherwise terminated early as provided hereunder or extended longer by the mutual agreement of the Parties. The period from the Effective Date to the date the Agreement terminates or expires is the "**Term**."

**11.2. Early Termination**. Without limiting any other rights of termination expressly provided in this Agreement or under Law, this Agreement may be terminated early as follows:

a. **Breach of Provision**. If a Party materially breaches this Agreement and fails to cure such breach within 30 days after receiving written notice of the breach from the other Party, the non-breaching Party shall have the right to terminate this Agreement with immediate effect by providing written notice of termination to the other Party. Notwithstanding the foregoing, and without limiting any other right or remedy of Illumina, breach by Customer of any term in Article III (Use Rights for Supplied Products) or Sections 4.1, 4.2 or 4.3 of Article IV (Intellectual Property Rights; Regulatory), under this Agreement, gives Illumina the right to seek injunctive relief and/or to terminate this Agreement with immediate effect upon written notice.

b. **Bankruptcy and Insolvency**. A Party may terminate this Agreement, effective immediately upon written notice, if the other Party becomes the subject of a voluntary or involuntary petition in bankruptcy, for winding up of that Party, or any proceeding relating to insolvency, receivership, administrative receivership, administration liquidation or company voluntary arrangement or scheme of arrangement with its creditors that is not dismissed or set aside within 60 days. In the event of any insolvency proceeding commenced by or against Customer, Illumina shall be entitled to cancel any Purchase Order then outstanding and not accept any further Purchase Order until bankruptcy or insolvency proceeding is resolved.

c. **Termination for Regulatory Standards**. In the event that either Party is notified by a regulatory agency or government body, including without limitation the FDA or any foreign equivalent, or has a reasonable basis to believe, that its performance under this Agreement is illegal or violates any Law, then each Party has the right to terminate the part(s) of the Agreement negatively affected by such ruling, upon 10 days prior written notice to the other Party and Illumina has the right to cease supplying the affected Supplied Product.

d. **Termination by Customer for Convenience**. In addition to any other rights and remedies available to Customer under this Agreement or at Law, Customer shall have the right, in its sole and absolute discretion, to terminate this Agreement for convenience in its entirety at any time during the Term, by giving 90 days' prior written notice of such termination to Illumina, provided that if Customer exercises its right under Section 11.2(a) and provides Illumina written notice of breach thereunder, then Customer shall not have the right to exercise its right of termination under this Section 11.2(d), or provide written notice of termination hereunder, until after the last day of the cure period under Section 11.2(a) (whether or not Illumina cures the breach within the cure period.)

**11.3. Right to Cease Delivery**. In addition to any other remedies available to Illumina under this Agreement or at Law, Illumina reserves the right to cease shipping Supplied Product to Customer immediately if Customer (a) uses the Supplied Product in any unauthorized or unpermitted manner, including without limitation, outside the scope of Customer Use (including the Intellectual Property Rights and field of use) expressly conferred to Customer in accordance with Section 3.1 (Authorized Uses of Supplied Products) of this Agreement, (b) fails to pay invoices when due, (c) breaches any term in Article III (Use Rights for Supplied Products) or Section 4.1, 4.2 or 4.3 Article IV (Intellectual Property Rights; Regulatory), (d) breaches any Customer representation or warranty made hereunder or (e) provides notice to Illumina in accordance with Section 11.2(c).

**11.4. Survival of Obligations.** All definitions, all purchase commitments under open Purchase Orders, all payment obligations, Section 3.2 (Limitations on Customer Use; Excluded Activities), Article IV (Intellectual Property Rights; Regulatory), 5.4 (Payment Instead of Taking TG Consumable), non-cancellation of Purchase Orders under Section 6.1 (Purchase Orders; Acceptance; Cancellation), title and risk of loss under Section 6.2 (Shipping Terms; Title and Risk of Loss; Ship Date Changes), Articles VII (Representations, Warranties and Forward-Looking Covenants), VIII (Confidential Information), IX (Limitations of Liability; Disclaimers; Representations), X (Indemnification; Insurance), Section 11.4 (Survival of Obligations), and Article XII (Additional Terms and Conditions). With respect to use rights in Section 3.1, Customer has the right to use the units of Consumables supplied under this Agreement with Hardware and Existing Hardware until the expiration date of those Consumables. Termination or expiration of this Agreement shall not relieve the Parties of any liability or obligation that accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement, nor prejudice either Party's right to obtain performance of any obligation.

## XII. ADDITIONAL TERMS AND CONDITIONS

**12.1. Governing Law; Jurisdiction.** This Agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation shall be governed and construed in accordance with the laws of the State of California, U.S.A., without regard to provisions on the conflicts of laws. Any legal process to resolve a dispute under this Agreement, including without limitation arbitration or court proceedings, shall take place in San Diego, California. The Parties agree that the United Nations Convention on Contracts for the International Sale of goods shall not apply to this Agreement, including any terms in Documentation. In Illumina's sole discretion, any dispute, claim or controversy arising out of or relating to the breach, termination, enforcement, interpretation or validity of these terms and conditions, shall be determined by confidential binding arbitration conducted in the English language, (i) to be held in San Diego, California before one arbitrator who has at least 10 years of experience in handling disputes similar to the dispute to be arbitrated hereunder and administered by JAMS pursuant to the JAMS Comprehensive Arbitration Rule In all cases of arbitration hereunder each Party shall bear its own costs and expenses and an equal share of the arbitrator's and administrator's fees of arbitration; neither Party nor an arbitrator may disclose the existence, content, or results of any arbitration without the prior written consent of both Parties, unless required by Law; the decision of the arbitrator shall be final and binding on the Parties, provided that, the arbitrator shall not have the authority to alter any explicit provision of these terms and conditions; judgment on the award may be entered in any court having jurisdiction. This clause shall not preclude the Parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction. Notwithstanding anything herein to the contrary, any claims or causes of action involving infringement, validity, or enforceability of a Party or its Affiliate's Intellectual Property Rights are not subject to this arbitration clause.

**12.2. Illumina Affiliates; Rights of Third Parties**. Customer agrees that Illumina may delegate or subcontract any or all of its rights and obligations under this Agreement to one or more of its Affiliates. Illumina invoices and other documentation may come from an Illumina Affiliate and Customer shall honor those just as if they came directly from Illumina. There are no third party beneficiaries to this Agreement and no term of this Agreement is enforceable under the Contracts (Rights of Third Parties) Act 1999 by a person or entity who is not a Party to this Agreement. The Parties to this Agreement may rescind or terminate this Agreement or vary any of its terms in accordance with their rights under this Agreement and by Law, without the consent of any third party.

**12.3. Legal Compliance**. Nothing in this Agreement is intended, or should be interpreted, to prevent either Party from complying with, or to require a Party to violate, any and all applicable Laws. Should either Party reasonably conclude that any portion of this Agreement is or may be in violation of a change in a Law made after the Effective Date, or if any such change or proposed change would materially alter the amount or method of compensating Illumina for Supplied Products purchased by, or services performed for, Customer, or would materially increase the cost of Illumina's performance hereunder, the Parties agree to negotiate in good faith written modifications to this Agreement as may be necessary to establish compliance with such changes and/or to reflect applicable changes in compensation necessitated by such legal changes, with any mutually agreed upon modifications added to this Agreement by written amendment.

**12.4. Severability; No Waiver; Rights and Remedies**. If any provision or subsection of this Agreement is held invalid, illegal or unenforceable, it shall be enforced to the maximum extent permissible so as to effect the intent of the Parties, and the remainder of this Agreement will continue in full force and effect. The failure or delay of either Party to exercise any right or remedy provided herein or to require any performance of any term of this Agreement shall not be construed as a waiver, and no single or partial exercise of any right or remedy provided herein, or the waiver by either Party of any breach of this Agreement shall not prevent a subsequent exercise or enforcement of, or be deemed a waiver of any subsequent breach of, the same or any other term of this Agreement. Except as expressly provided in this Agreement, the rights and remedies of each Party under this Agreement are cumulative and not exclusive of any rights or remedies provided by Law.

**12.5. Assignment**. Illumina may assign this Agreement, upon providing written notice thereof to Customer. Customer shall not assign or delegate this Agreement, or any rights or obligations under this Agreement, without the prior written consent of Illumina; *except that*, Customer may assign this Agreement, upon providing written notice thereof to Illumina, in the event of any merger, change of control, acquisition, consolidation, or sale of all or substantially all of the stock or assets involving Customer; *provided that*, in each such case, the assignee is not a Competitor Entity. "**Competitor Entity**" means (a) an entity that develops, manufactures, sells, or distributes high throughput sequencing systems used, or that could be used, for NIPT or (b) an entity about which a material public announcement (e.g., press release, industry conference presentation) has been made of a bona fide development program of the entity or its affiliate for a nucleic acid sequencing platform and the entity or its affiliate is engaged in such program.

**12.6. Export**. Customer agrees that the Supplied Products, or any related technology provided under this Agreement, may be subject to restrictions and controls imposed by the United States Export Administration Act and the regulations thereunder (or the regulations and laws of another country). Notwithstanding anything to the contrary in this Agreement, Customer agrees not to export or re-export the Supplied Products, or any related technology into any country in violation of such controls or any other laws, rules or regulations of any country, state or jurisdiction.

**12.7. Notices**. All notices required or permitted under this Agreement shall be in writing, in English, and shall be deemed received only when (a) delivered personally; (b) 5 days after having been sent by registered or certified mail, return receipt requested, postage prepaid (or 10 days for international mail); or (c) 1 day after deposit with a commercial express courier specifying next day delivery or, for international courier packages, 2 days after deposit with a commercial express courier specifying 2-day delivery, with written verification of receipt. All notices shall be sent to the following or any other address designated by a Party using the procedures set forth in this Sub-Section:

| If to Illumina: | If to Customer |
|---|---|
| Illumina, Inc.<br>5200 Illumina Way<br>San Diego, CA 92122<br>Attn: SVP Corporate Development | Progenity, Inc.<br>4330 La Jolla Village Dr, Suite 200<br>San Diego, CA 92122<br>Attn: VP, Commercial Development |
| With a copy to: General Counsel | With a copy to: |
| Illumina, Inc.<br>5200 Illumina Way<br>San Diego, CA 92122<br>Attn: General Counsel | Progenity, Inc.<br>4330 La Jolla Village Dr, Suite 200<br>San Diego, CA 92122<br>Attn: General Counsel |

**12.8. Force Majeure**. Neither Party shall be in breach of this Agreement nor liable for any failure to perform or delay in the performance of this Agreement attributable in whole or in part to any cause beyond its reasonable control, including but not limited to acts of God, fire, flood, tornado, earthquake, hurricane, lightning, any action taken by government or a regulatory authority, actual or threatened acts of war, terrorism, civil disturbance or insurrection, sabotage, labor shortages or disputes, failure or delay in delivery by Illumina's suppliers or subcontractors, transportation difficulties, interruption or failure of any utility service, raw materials or equipment, or the other Party's fault or negligence (each an event of "**Force Majeure**"). In the event of any such delay the delivery date for performance shall be deferred for a period equal to the time lost by reason of the delay. Notwithstanding anything in this Agreement to the contrary, Customer's payment obligations are not affected by this provision except to the extent the Force Majeure affects financial institutions and, as a result, the financial institutions cannot complete the transaction necessary for Customer to satisfy its payment obligations.

**12.9. Entire Agreement; Amendment; Waiver**. This Agreement represents the entire agreement between the Parties regarding the subject matter hereof and supersedes all prior discussions, communications, agreements, and understandings of any kind and nature between the Parties. The Parties acknowledge and agree that by entering into this Agreement, they do not rely on any statement, representation, assurance or warranty of any person or entity other than as expressly set out in the Agreement. Each Party agrees that it shall have no right or remedy (other than for breach of contract) in respect of any statement, representation, assurance or warranty (whether made negligently or innocently) other than as expressly set out in this Agreement. Nothing in this Section shall exclude or limit liability for fraud. No amendment to this Agreement will be effective unless in writing and signed by both Parties. No waiver of any right, condition, or breach of this Agreement will be effective unless in writing and signed by the Party who has the right to waive the right, condition or breach and delivered to the other Party.

**12.10. Relationship of the Parties**. The Parties are independent contractors under this Agreement and nothing contained in this Agreement shall be construed as creating a partnership, joint venture or agency relationship between the Parties or, as granting either Party the authority to bind or contract any obligation in the name of the other Party, or to make any statements, representations, warranties or commitments on behalf of the other Party.

**12.11. Publicity; Use of Names or Trademarks**. Each Party shall obtain the prior written consent of the other Party on all press releases or other public announcements relating to this Agreement, including its existence or its terms, provided that a Party is not required to obtain prior written consent of the other Party for press releases or public disclosures that repeat information that has been previously publicly disclosed. Notwithstanding any of the foregoing, if required by Law, including without limitation by the U.S. Securities and Exchange Commission or any stock exchange or Nasdaq, then a Party may issue a press release or other public announcement regarding this Agreement, provided that the other Party has received prior written notice of such intended press release or public announcement and an opportunity to seek a protective order if practicable under the circumstances, and the Party subject to the requirement cooperates with the other Party to limit the disclosure and includes in such press release or public announcement only such information relating to this Agreement as is required by such Law to be publicly disclosed. The Parties will make all reasonable attempts to diligently and in good faith work together to redact this Agreement to a mutually acceptable extent in the event this Agreement is required by applicable Law to be made public (e.g., SEC filing). Neither Party shall use the name or trademarks of the other Party without the express prior written consent of the other Party.

**12.12. Headings; Interpretation; Miscellaneous**. Sections, titles and headings in this Agreement are for convenience only and are not intended to affect the meaning or interpretation hereof. This Agreement has been negotiated in the English language and only the English language version shall control. Any translation of this Agreement into a non-English language is for convenience only. Whenever required by the context, the singular term shall include the plural, the plural term shall include the singular, and the gender of any pronoun shall include all genders. As used in this Agreement except as the context may otherwise require, the words “include”, “includes”, “including”, and “such as” are deemed to be followed by “without limitation”, whether or not they are in fact followed by such words or words of like import, and “will” and “shall” are used synonymously. Except as expressly stated, any reference to “days” shall be to calendar days, and “business day” shall mean all days other than Saturdays, Sundays or a national or local holiday recognized in the United States, and any reference to “calendar month” shall be to the month and not a 30 day period, and any reference to “calendar quarter” shall mean the first 3 calendar months of the year, the 4-6$^{th}$ calendar months of the year, the 7-9$^{th}$ calendar months of the year, and the last 3 calendar months of the year. Whenever the last day for the exercise of any privilege or the discharge of any duty hereunder shall fall on, or any notice is deemed to be given on a Saturday, Sunday, or national holiday, the Party having such privilege or duty shall have until 5:00 pm PST on the next succeeding business day to exercise such privilege or to discharge such duty or the Party giving notice shall be deemed to have given notice on the next succeeding business day. It is further agreed that no usage of trade, course of performance, or other regular practice between the Parties hereto shall be used to interpret or alter the terms and conditions of this Agreement, including without limitation, the scope of use rights for each unit of Supplied Product supplied under this Agreement. Ambiguities, if any, in this Agreement shall not be construed against any particular Party, irrespective of which Party may be deemed to have authored the ambiguous provision. Unless expressly stated otherwise in this Agreement, notification of changes to any Supplied Product, including but not limited to Consumables, Hardware, and Software is not provided. Nothing in this Agreement prevents or restricts Illumina from manufacturing, offering and selling Supplied Products to any third party or Affiliate for any use, or prevents or restricts Illumina and its Affiliates from using the Supplied Products for any use, even if any such use is competitive with Customer. Illumina is constantly innovating and developing new products or new versions of products. Accordingly, Illumina makes no guarantee that the specific products described in or referenced in this Agreement will be manufactured throughout the Term or for any specific period of time.

**12.13. Counterparts**. This Agreement may be executed in one or more counterparts, and each of which shall be deemed to be an original, and all of which shall constitute one and the same instrument.

**12.14. Further Assurance; Costs**. Except as expressly provided in this Agreement, each Party shall pay its own costs incurred in connection with the negotiation, preparation, and execution of this Agreement any documents referred to in it.

***—Signature page to follow—***

**IN WITNESS WHEREOF,** the Parties hereto have caused this Agreement to be executed by their respective duly authorized representatives.

**Customer:** Progenity, Inc.

By: /s/ Harry Stylli
Name: **Harry Stylli**
Title: **Executive Chairman**

Date: 11/25/2014

**Illumina:** Illumina, Inc.

By: /s/ Nicholas J. Naclerio
Name: **Nicholas J. Naclerio**
Title: **SVP, Corporate Development**

Date: 11/24/2014

# Third Amendment to Supply Agreement

This Third Amendment to the Supply Agreement (the "**Third Amendment**") is effective as of the last date of signature between Illumina, Inc., a Delaware corporation having a place of business at 5200 Illumina Way, San Diego, CA 92122 ("**Illumina**") and Progenity, Inc., having a place of business at 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122 ("**Customer**"). Customer and Illumina may be referred to herein as "**Party**" or "**Parties**."

WHEREAS, the Parties entered into a Supply Agreement, dated November 26, 2014, and as amended on February 13, 2015 and November 1, 2015 (the "**Agreement**");

WHEREAS, the Parties desire to further amend the Agreement by entering into this Third Amendment to enable an Affiliate of Customer to exercise rights under the Agreement; and

WHEREAS, for good and valuable consideration the Parties agree to amend the Agreement as follow:

1. The last sentence of Section 2.1 is deleted in its entirety and replaced with the following:

   "For the avoidance of doubt, this Agreement is made with and is personal to Customer and the rights and obligations regarding purchase and supply do not extend to Affiliates of Customer or any other Third Party except in the event of an authorized assignment in accordance with Section 12.5 of this Agreement or as expressly follows: Avero Diagnostics, a limited liability partnership ("**Avero**") may exercise the rights granted to Customer under this Agreement provided that (i) Avero remains wholly owned or controlled by Customer, (ii) Avero is bound by all restrictions, limitations, and obligations of Customer under this Agreement, including but not limited to payment of a Test Fee and exclusivity under Section 2.2, and (iii) Avero and Customer are jointly and severally liable for all acts and omissions of both Customer and Avero.

All capitalized terms not defined in this Third Amendment shall have the meaning ascribed to them in the Agreement. Except as expressly modified herein, the Agreement shall remain in full force and effect in accordance with its terms.

**IN WITNESS WHEREOF**, the Parties have signed this Third Amendment as of the dates indicated below,

**ILLUMINA**

By: /s/ Jeffrey S. Eidel
Name: Jeffrey S. Eidel
Title: VP. Corporate and Business Development
Date: 7/27/2017

**CUSTOMER**

By: /s/ Howard Slutsky
Name: Howard Slutsky
Title: SVP
Date: 7/28/2017

# AMENDMENT #8 TO THE SUPPLY AND SERVICE AGREEMENT
## By and Between ILLUMINA, INC. and PROGENITY, INC.

This Amendment #8 to the Supply and Service Agreement ("Amendment #8") is entered into and effective as of the last date of signature below ("Amendment #8 Effective Date"), by and between Illumina, Inc., a Delaware corporation having a place of business at 5200 Illumina Way, San Diego, CA 92122 ("Illumina") and Progenity, Inc., a Delaware corporation having a place of business at 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122 ("Customer"). Illumina and Progenity may be referred to herein individually as a "Party" and collectively as the "Parties".

WHEREAS, the Parties entered into the Supply and Service Agreement with an effective date of November 25, 2014, as amended thereafter on February 13, 2015, November 1, 2015, July 28, 2017, November 16, 2018, March 18, 2019, June 28, 2019, and July 31, 2019 (collectively the "Agreement");

WHEREAS, the Parties wish to further amend the Agreement as described below.

NOW, THEREFORE, in consideration of the above premises and the mutual covenants contained herein, the Agreement is hereby amended as follows:

1. Exhibit A is deleted in its entirety and replaced with the Exhibit A in Attachment 1 to this Amendment #8.

2. The definition of "Off-Hardware Consumable" is herby deleted in its entirety and replaced with the following:

   1.34 **"Off-Hardware Consumable"** means a consumable that is used to perform a process or step that is not performed on a sequencing or genotyping instrument. Non-limiting examples of Off-Hardware Consumables include [***].

3. The definition of "On-Hardware Consumable" is herby deleted in its entirety and replaced with the following:

   1.35 **"On-Hardware Consumable"** means a Consumable that is used to perform sequencing or genotyping on Hardware or Existing Hardware.

4. The first sentence of Section 11.1 of the Agreement is hereby deleted in its entirety and replaced with the following:

   "This Agreement shall commence on the Effective Date and terminate on June 30, 2022, unless otherwise terminated early as provided hereunder or extended longer by mutual agreement of the Parties."

5. The definition of "Temporary Consumable" is hereby deleted in its entirety and replaced with the following:

   1.53. "**Temporary Consumable(s)**" means Non-TG Consumables that Illumina has authorized in writing Customer to purchase under the Agreement and Amendment #8 for Customer Use. Illumina understands that Customer is not currently purchasing TG Consumables. In the event Customer wishes to purchase TG Consumables or Temporary Consumables, the Parties will discuss in good faith and add any agreed-upon Consumables to the Agreement via a signed amendment.

6. The definition of "Territory" is hereby deleted in its entirety and replaced with the following:

1.55. "**Territory**" means [***].

7. The last sentence of Section 2.1 is deleted in its entirety and replaced with the following:

For the avoidance of doubt, this Agreement is made with and is personal to Customer and the rights and obligation regarding purchase and supply do not extend to Affiliates of Customer or any other third party except in the event of an authorized assignment in accordance with Section 12.5 of this Agreement or as expressly follows: Avero Diagnostics, a limited liability partnership ("**Avero**") may exercise the rights granted to Customer under this Agreement provided that (i) Avero remains wholly owned or controlled by Customer, (ii) Avero is bound by all restrictions, limitations, and obligations of Customer under this Agreement, including but not limited to payment of a Test Fee and exclusivity under Section 2.2, (iii) Avero and Customer are jointly and severally liable for all acts and omissions of both Customer and Avero, and (iv) Customer represents and warrants that it has the authority to bind and hereby does bind Avero to all restrictions, limitations, and obligations of Customer under this Agreement, including without limitation payment of a Test Fee and exclusivity under Section 2.2.

8. Section 2.2(a) of the Agreement is hereby deleted in its entirety and replaced with the following:

a. **Supplied Products**. The Supplied Products and any applicable Service Contracts, along with pricing and [***] are set forth on Exhibit A. [***] If no price for a Supplied Product or Service Contract is set forth in Exhibit A, then the Parties will agree to the price [***]. All prices and amounts payable under this Agreement shall be [***].

9. Section 2.2(d) of the Agreement is hereby deleted in its entirety and replaced with the following:

d. **Exclusivity**. In exchange for [***] under this Agreement, Customer agrees to exclusively use only the Illumina Consumables (for example, [***]) and Instruments for all NIPT Tests performed by Customer during the Term. Not withstanding the foregoing, the Parties agree that Customer can purchase [***]. In the event of any breach by Customer of the foregoing exclusivity provisions in this Section 2.2(d), Illumina's sole and exclusive right and remedy, and Customers sole and exclusive liability, shall be for Illumina to [***] set forth on Exhibit A (following written notice to Customer and failure of Customer to cure such breach within [***] of such notice). Such [***] shall go into effect (absent a cure by Customer) with respect to [***]. In the event [***], the Parties would negotiate in good faith [***].

10. Section 3.1(c) of the Agreement is hereby deleted in its entirety and replaced with the following:

c. **NIPT Use Rights**. Subject to the terms and conditions of this Agreement, including payment of a Test Fee, Customer's purchase of a Consumable under this Agreement confers upon Customer [***] to use that particular unit of Consumable with Hardware and Software for NIPT Use in Customer's facility in the Territory, [***], and only in accordance with all terms and conditions pertaining to Supplied Products that are set forth in this Amendment #8 and the Agreement (including in Documentation and Specifications). The Parties agree that the preceding sentence is designed to and does alter the effect of the exhaustion of patent rights that would otherwise result if the sale was made without restriction.

11. Section 3.2(b) of the Agreement is hereby deleted in its entirety and replaced with the following:

b. **Consumables; On-Instrument Consumables; Off-Instrument Consumables**. Consumables and Hardware were specifically designed and manufactured to operate together. Customer acknowledges and agrees that (i) with respect to Off-Hardware Consumables used with Hardware and Software to perform tests within Clinical Use and Research Use it will use Consumables; (ii) with respect to On-Hardware Consumables used with Hardware and Software to perform tests within NIPT Use and Research Use it will use Consumables; (iii) with respect to Clinical Use the only On-Hardware Consumables it will use with Hardware and Software are TG Consumables or Temporary Consumables; (iv) it will not use Non-TG Consumables for Clinical Use (except to the extent applicable to Temporary Consumables); and (v) Customer is not granted any right under this Agreement to manufacture, or have manufactured, any reagent, Consumable or substitute therefor, even for use in place of an On-Hardware Consumable, even for its own use.

12. Section 5.5 of the Agreement is hereby deleted in its entirety and replaced with the following new Section 5.5:

**Availability of TG Version**. With respect to Non-TG Consumables for which Illumina does not have a corresponding TG version ("**TG Version**") generally available for purchase during the Term, and for which Illumina has authorized Customer to use as Temporary Consumables, at such time as Illumina does have a TG Version generally available for purchase, Illumina will give Customer notice of the availability of that TG Version and at that time Customer shall have the option to add that TG Version to Exhibit A to this Agreement. Notice may be by way of inclusion of the TG Version on a quote. Customer agrees that within [***] of Customer receiving such notification, Customer will cease using the applicable Non-TG Consumables as Temporary Consumables for Clinical Use (ii) it will promptly modify or cancel existing open Purchase Orders (without being subject to the charge set forth in Section 5.4) as needed so as to ensure that Customer will no longer receive the applicable Non-TG Consumables as Temporary Consumable after the date that is [***] after the date of the notice, unless Customer will use such Non-TG Consumables only for Research Use or NIPT Use, and (iii) Customer will not place additional Purchase Orders for the applicable Non-TG Consumables as Temporary Consumable for Clinical Use after receipt of such notice.

11. Section 5.6 of the Agreement is hereby deleted in its entirety and replaced with the following new Section 5.6:

**Temporary Consumables.** Subject to the terms and conditions of this Agreement, if Non-TG Consumables are supplied under this Agreement as Temporary Consumables, then those Non-TG Consumables shall be considered to have the same Clinical Use rights as TG Consumables.

12. The definition of "**Indemnified NIPT Test**" set forth in Section 10.1(a)(iv) is hereby deleted in its entirety and replaced with the following:

> An "**Indemnified NIPT Test**" is an NIPT Test (A) that is performed in the United States in accordance with the terms and conditions of this Agreement; (B) using Hardware and Consumables to prepare and sequence samples solely for NIPT Use; (C) is performed [***]; (D) that is covered by at least one Valid Claim; and (E) for which a Test Fee was paid. For the avoidance of doubt, if an NIPT Test does not meet every one of (A), (B), (C), (D) and (E) then it is not an Indemnified NIPT Test. By way of example and not limitation, the following tests are not Indemnified NIPT Tests: [***]. A "Valid Claim" means a claim in an issued U.S. patent within NIPT Application Specific IP that has not expired, lapsed or been declared invalid by a final order (for which all appeal periods have passed and with respect to which there is no pending appeal) of a court of competent jurisdiction, the United States Patent and Trademark Office.

13. Section 10.1(a)(i)(C) is hereby deleted in its entirety and replaced with the following:

> (C) alleged infringement of any Intellectual Property Rights of any third party that pertain to or cover aspects or features of any Supplied Product(s) (or use thereof) without regard to (i.e., that is not particular to) any specific field(s) of use or specific application(s), as a result of Customer's use of the Hardware, Software, and Consumables when used in the Territory for NIPT Use, with specimens from the Collection Territory, in accordance with all the terms and conditions of this Agreement,

14. Exhibit A is deleted in its entirety and replaced the new Exhibit A contained in Attachment 1 to this Amendment #8.

15. Exhibit B is deleted in its entirety and replaced the new Exhibit B contained in Attachment 2 to this Amendment #8.

Except as modified in this Amendment #8, all other terms and conditions of the Agreement shall remain in effect as written.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment #8 to be executed by their respective duly authorized officers.

| Illumina: | | Customer: | |
|---|---|---|---|
| By: | /s/ Mark Van Oene | By: | /s/ Howard Slutsky |
| Name: | Mark Van Oene | Name: | Howard Slutsky |
| Title: | Chief Commercial Officer | Title: | SVP |
| Date: | 8/30/2019 | Date: | 8/30/2019 |

**[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

# SETTLEMENT AGREEMENT

This Settlement Agreement is entered into by and between Progenity, Inc., on the one hand, and Aetna Health Management, Inc. ("**Aetna**") on the other hand (collectively, Progenity and Aetna are the "**Parties**" and each is a "**Party**" when reference is made in the singular).

WHEREAS, Aetna provides health insurance and administers employer-sponsored self-funded health plans;

WHEREAS, Progenity is a laboratory that provides diagnostic testing;

WHEREAS, Aetna has raised a dispute with Progenity about [***] (the "**Dispute**");

WHEREAS, [***];

WHEREAS, the Parties intend to enter into a Participating Provider Agreement pursuant to which Progenity will provide lab services to Aetna members;

WHEREAS, Progenity will receive substantial direct and indirect value in exchange for entering into this Settlement Agreement; and

WHEREAS, the Parties desire to resolve any and all disputes between them.

NOW, THEREFORE, in consideration of the covenants, promises, releases, and waivers set forth herein, the Parties each agree to settle on the following terms, conditions, and releases:

1. Settlement Payments:

   a. Progenity shall pay to Aetna the total sum of $15,000,000 as full and final payment to resolve the Dispute, subject to Paragraphs 2 and 3 hereof

   b. The foregoing sum shall be paid pursuant to the following schedule (collectively, the "**Settlement Payments**"):

   [***]

2. Participating Provider Agreement. Within [***] following execution of this Settlement Agreement, Progenity shall execute the Participating Provider Agreement with Aetna in the form attached hereto as Exh. A.

3. Release and Waivers.

a. Release by Aetna. Aetna on its own behalf and on behalf of its subsidiaries, affiliates, assigns and successors (the "**Aetna Releasors**"), and each of them, acknowledges that timely payment of all Settlement Payments and execution of the Participating Provider Agreement, shall satisfy Progenity's obligations regarding the Aetna Released Claims (as defined below) on the terms set forth herein. Upon timely payment of all Settlement Payments and execution of the Participating Provider Agreement, provided that Progenity has not become subject to any bankruptcy proceeding, receivership, assignment for the benefit of creditors, or other similar insolvency proceeding within [***] after the Final Payment Date, Aetna fully and forever releases, absolves and discharges Progenity and all of their parents, subsidiaries, affiliates current and former trustees, directors, officers, shareholders, partners, agents, employees, representatives, attorneys, and insurers, as well as the heirs, executors, administrators, predecessors, successors and assignees of all of the foregoing, and each of them (hereinafter respectively referred to as "**Progenity Releasees**") with respect to and from any and all claims, demands, rights, liens, agreements, contracts, covenants, causes of action, charges, obligations, debts, costs, expenses, attorneys' fees, damages, penalties, judgments, orders, and liabilities of whatever kind or nature in law, equity or otherwise, which the Aetna Releasors now own or hold or have at any time heretofore owned or held as against Progenity Releasees, or any of them, arising out of the Dispute (the "**Aetna Released Claims**"). For the avoidance of doubt, die Aetna Released Claims include [***]. Aetna will [***]. Nothing herein releases any Releasee from its obligations under this Settlement Agreement or the Participating Provider Agreement. This Settlement Agreement in no way waives the rights of the United States Government under any Federal statute to pursue civil and/or criminal fines, penalties, recoveries, etc., for claims submitted to Aetna under any federal health plan, including but not limited to, the Federal Employees Health Benefits Program.

b. Release by Progenity. Progenity on its behalf and on behalf of its parent, subsidiaries, affiliates, assigns and successors (the "**Progenity Releasors**"), and each of them, fully and forever releases, absolves and discharges Aetna and all of their parents, subsidiaries, affiliates current and former trustees, directors, officers, shareholders, partners, agents, employees, representatives, attorneys, plan sponsors, members, and insurers, as well as the heirs, executors, administrators, predecessors, successors and assignees of all of the foregoing, and each of them (hereinafter respectively referred to as "**Aetna Releasees**") with respect to and from any and all claims, demands, rights, liens, agreements, contracts, covenants, causes of action, charges, obligations, debts, costs, expenses, attorneys' fees, damages, penalties, judgments, orders, and liabilities of whatever kind or nature in law, equity or otherwise, which the Progenity Releasors now own or hold or have at any time heretofore owned or held as against Aetna Releasees, or any of them, arising out of the Dispute (the "**Progenity Released Claims**"). Subject to Aetna policies and procedures, Aetna agrees to process eligible claims submitted by Progenity for a covered service under the applicable health plan that has a date of service prior to the effective date of the Participating Provider Agreement as if Progenity was considered an authorized in-network provider for purposes of member benefit determinations. For the avoidance of doubt, nothing in this provision is intended to allow the Aetna Releasees to recover past overpayments resulting from services performed by Progenity as a result of a member's visit through a par provider as set forth in paragraph 3 a.

c. If Progenity fails to timely pay any of the Settlement Payments or execute the Participating Provider Agreement on or before the deadlines set out above, or seeks to avoid any of the Settlement Payments or any of its other obligations under this Settlement Agreement, Aetna does not and will not provide any release of any kind, any provision in this Settlement Agreement granting a release by the Aetna Releasors shall be null and void in its entirety automatically and without need for further notice, and Aetna shall be deemed to retain all rights to pursue Progenity for any amounts due under the Aetna Released Claims, including interest which will continue to accrue on those amounts after the date of this Settlement Agreement.

4. Integration Clause: This Settlement Agreement constitutes and contains the entire agreement and final understanding concerning the subject matters addressed herein between the Parties. This Settlement Agreement is intended by the parties as a complete and exclusive statement of the terms of their agreement.

5. Severability: If any term or provision of this Settlement Agreement or the application thereof is held to be invalid or unenforceable, the invalidity or unenforceability shall not affect any other terms or provisions or applications of this Settlement Agreement which can be given effect without the invalid terms or provisions or application, and to this end the terms and provisions of this Settlement Agreement are declared to be severable. In other words, if any mini or provision of this Settlement Agreement is held to be invalid or unenforceable, then the remaining terms and provisions of this Settlement Agreement shall continue to be valid and will be performed, construed, and enforced to the fullest extent permitted by law. Furthermore, the invalid or unenforceable term or provision shall be deemed amended and limited in accordance with the intent of the Parties, as determined from the face of this Settlement Agreement, to the extent necessary to permit the maximum enforceability or validation of the term or provision.

6. Notice: Any notices required to be given pursuant to this Settlement Agreement shall be deemed given if provided by overnight courier or U.S. certified mail to the following addresses:

If to Aetna:

Attention: Aetna Legal Dept
1425 Union Meeting Road, Mail Stop U23S
Blue Bell, PA 19422

With a copy to:

Aaron G. McCollough
McGuireWoods LLP
77 West Wacker Drive, Suite 4100
Chicago, IL 60601-1818

If to Progenity, Inc.:

Attention: Legal Dept
4330 La Jolla Village Drive #200
San Diego, CA 92122

7. Governing Law: This Agreement shall be deemed to have been executed and delivered within the State of Pennsylvania, and the rights and obligations of the parties hereunder shall be construed and enforced in accordance with, and governed by, the laws of the State of Pennsylvania without regard to principles of conflict of laws, except to the extent that federal law would govern.

8. Drafting of Agreement: Each Party has cooperated in the drafting and preparation of this Settlement Agreement. Hence, in any construction to be made of this Settlement Agreement, the same shall not be construed against any Party on the basis that the Party was the drafter.

9. Counterparts: This Settlement Agreement may be executed in counterparts, and each counterpart, when executed, shall have the efficacy of a signed original. Photographic copies, facsimile copies, and electronic copies of such signed counterparts may be used in lieu of the originals for any purpose.

10. Non-Waiver: No waiver of any breach of any term or provision of this Settlement Agreement shall be construed to be, or shall be, a waiver of any other breach of this Settlement Agreement except as stated herein. No waiver shall be binding unless in writing and signed by the Party waiving the breach.

11. Representation: In entering into this Settlement Agreement, the Parties represent that they have obtained the advice of their attorneys, who are attorneys of their own choice, and that the terms of this Settlement Agreement have been completely read and explained to them by their attorneys, and that those terms are fully understood and voluntarily accepted by them.

12. Cooperation: The Parties agree to cooperate fully and to execute any and all supplementary documents and to take all additional actions that may be necessary or appropriate to give full force to the basic terms and intent of this Settlement Agreement and which are not inconsistent with its terms.

13. Attorneys' Fees: The Parties acknowledge and agree that they will each bear their own attorneys' fees and costs in connection with the matters referred to in this Settlement Agreement. However, in the event that Aetna must bring an action to enforce the terms of this Settlement Agreement, Aetna shall be entitled to recover all reasonable attorneys' fees and costs incurred in connection with that action in addition to any other relief to which Aetna may be entitled.

14. Warranty of Authorized Signatures: Each of the signatories hereto warrants and represents that they are competent and authorized to enter into this Settlement Agreement, that they have read this Settlement Agreement and knows the contents hereof that the terms hereof are contractual and not by way of recital, and that they have signed this Settlement Agreement of their own volition. Each Party represents and warrants that to the best of its knowledge and belief no other person or entity has or has had any interest in the claims, demands, obligations or causes of action referred to in this Settlement Agreement, and that it has the sole right and exclusive authority to execute this Settlement Agreement, and that it has not sold, assigned, transferred, conveyed or otherwise disposed of any of the claims, demands, obligations or causes of action referred to in this Settlement Agreement.

15. The existence, and the terms and conditions, of this Settlement Agreement shall be kept confidential, except as may be necessary to enforce the terms of the Settlement Agreement or as the non-disclosing Party may agree in writing. Disclosure shall be permitted to those legal, investment or business consultants of a Party who reasonably need to know the information in order to provide their services to such Party; the Party retaining such consultants shall be liable under this Agreement for any subsequent disclosure by such consultants. Disclosure shall also be permitted upon order of a court, government agency or as otherwise required by law.

IN WITNESS WHEREOF, the Parties sign below indicating their intent to be bound by the terms and conditions of this Settlement Agreement.

DATED: November 11, 2019

By: /s/ Paul Weller

AETNA HEALTH MANAGEMENT, INC.

By Paul Weller
Its Exec Dir, Sr. Counsel

DATED: November 7, 2019

By: /s/ Harry Stylli

PROGENITY, INC

By Harry Stylli
Its CEO

**[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

# AMENDMENT

This Amendment is made as of April 29, 2020 ("Effective Date"), between Progenity, Inc. (hereinafter referred to as "Progenity"), on the one hand, and Aetna Health Management, Inc. (hereinafter referred to as "Aetna"), on the other hand (collectively, Progenity and Aetna are referred to as the "Parties").

**WHEREAS**, the parties have entered into a Settlement Agreement, effective November 11, 2019 ("Agreement"), attached as Exhibit A, to resolve the Dispute as defined in the Agreement;

**WHEREAS**, pursuant to the Agreement, Progenity has agreed to pay to Aetna the total sum of $15,000,000 according to the payment schedule defined in paragraph 1 of the Agreement;

**WHEREAS**, Progenity has timely made payments required by paragraph 1(b)[***] to Aetna for $7,500,000 total, which leaves an additional $7,500,000 in payments outstanding according to paragraph 1(b)[***];

**WHEREAS**, due to the economic impact and extraordinary circumstances caused by the unprecedented COVID-19 pandemic, the Parties have agreed to this Amendment modifying the Agreement only as to the revised payment schedule defined by paragraph 1 of this Amendment;

**NOW, THEREFORE**, in consideration of the mutual promises and undertaking contained herein, the parties agree to be legally bound as follows:

**1.** Paragraph 1(b)[***] of the Agreement is deleted and amended as follows: [***]

**2.** If Progenity fails to make any payment listed in paragraph 1 of this Amendment on or by its respective due date, Progenity agrees that interest will accrue at [***] until the amount due is paid in full, including accrued interest. This provision shall govern instead of any prejudgment interest provisions, statute, or rule that would normally control in a litigation.

**3.** **Event of Default.**

**iii.** If Progenity fails to make any payment in accordance with the time requirements set forth in paragraph 1 of this Amendment, such failure shall constitute a default under the Agreement and Amendment ("Event of Default"). It is agreed that any Event of Default is material.

**iv.** Upon an Event of Default, the entire remaining balance of the Settlement Payments (net of payments already made to Aetna under the Agreement and Amendment) shall become immediately due and payable, plus interest as defined

in paragraph 2 of this Amendment. Aetna immediately shall be entitled to seek any remedies available under the law against Progenity.

**v.** Aetna's failure, or election not, to exercise its option to accelerate the balance of the remaining balance of the Settlement Payments at any time shall not be construed as a waiver of said right(s) as to any subsequent failure of Progenity to timely pay any Settlement Payments.

**4.** All other terms and provisions of the Agreement not amended hereby shall remain in full force and effect. In the event of any inconsistency between the terms of this Amendment and the Agreement, the terms of this Amendment shall govern and control.

**IN WITNESS WHEREOF,** the parties have caused this Amendment to be executed below.

**Accepted By:**

**Progenity, Inc.**

By: /s/ Clarke Neumann

Name: Clarke Neumann

Title: General Counsel and Secretary

Date: 4/29/2020

**Aetna Health Management, Inc.**

By: /s/ James J. McCarrie, II

Name: James J. McCarrie, II

Title: Director

Date: 4/29/2020

**[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

# CONFIDENTIAL SETTLEMENT AGREEMENT AND MUTUAL RELEASE

This Settlement Agreement and Mutual Release (the "Agreement") is entered into as of September 30, 2019 (the "Effective Date"), by and among United HealthCare Services, Inc. and UnitedHealthcare Insurance Company (collectively, with their affiliates and subsidiaries, "United"), and Progenity, Inc. ("Progenity"). Each party to this Agreement is referred to as a "Party" and together as the "Parties."

## RECITALS

WHEREAS, [***] (collectively, the "Claims").

WHEREAS, on or before the Effective Date of this Agreement, the Parties will execute a Corrective Action Plan (the "CAP"), which will govern future benefit claims submitted for reimbursement by Progenity to United.

WHEREAS, [***].

WHEREAS, the Parties desire to finally resolve all Claims [***] to avoid the expense and uncertainty of litigation.

WHEREAS, each Party may have defenses relating to the Claims, and the Parties mutually agree that the terms and conditions of this Agreement are not to be construed as an admission of liability by any of the Parties.

WHEREAS, the Parties acknowledge that this Agreement is entered into in good faith and for no collusive purpose.

**SETTLEMENT**

NOW, THEREFORE, in consideration of the mutual promises, conditions, representations, and agreements set forth herein, the receipt and sufficiency of which hereby are acknowledged, the Parties agree as follows:

1. Settlement Payments by Progenity. In consideration for the General Release described in Section 7 below and the other terms of this Agreement, Progenity has agreed to and shall pay to UnitedHealthcare Insurance Company a total amount of Thirty Million United States Dollars ($30,000,000.00) (the "Settlement Amount"), which amount, unless otherwise agreed by United in writing, shall be paid in installments as set forth below. Progenity shall make the following installment payments of the Settlement Amount to UnitedHealthcare Insurance Company on or before the following dates, subject to Section 4(b):

[***]

Unless otherwise specified in writing by United, all payments shall be made via wire transfer of immediately available funds to the following account: [***].

If Progenity fails to pay any of the above installment payments by the applicable date specified above, subject to Section 4, without a written extension of time provided by United, or upon the commencement of any proceeding under any bankruptcy, insolvency, receivership, dissolution, liquidation, or similar law by or against Progenity or other written admission by Progenity of inability to pay debts as they become due or assignment by Progenity for the benefit of creditors, and subject to a [***] notice and cure period in the case of late payment, [***], and interest thereon shall thereafter accrue at the rate of [***] per annum, compounded daily from the date of default on the remaining unpaid Settlement Amount. Progenity will indemnify United for all reasonable expenses and costs, including outside counsel attorneys' fees, incurred by United to recover the remaining unpaid Settlement Amount plus any accrued interest.

Progenity will perform its obligations under this Agreement, including the payment obligations set forth in this Section 1, without setoff, deduction, recoupment, or with of any kind, whether for any amounts owed or payable, or claimed owed or payable, to Progenity by United.

2. [***]. Simultaneous with, and as part of, the execution of this Agreement, Progenity shall deliver to United a fully executed [***] in the form attached hereto as Exhibit B, together with a Certificate of Counsel in the form attached hereto as Exhibit C. In the event Progenity fails to [***], United is entitled to [***], in which case United shall at the same time [***]. If, for any reason, United elects not to [***], United shall [***].

3. Corrective Action Plan Will Govern Future Benefit Claims Submitted for Reimbursement to United by Progenity. In further consideration for the General Release described in Section 7 below, and expressly conditioned upon the Parties' understandings regarding Progenity's payments of the Settlement Amount set forth in Section 1 above, Progenity will execute the CAP on or before the Effective Date of this Agreement. The CAP will govern benefit claims submitted by Progenity relating to dates of service on or after the date on which the CAP takes effect pursuant to the terms of the CAP and for the length of time the CAP is in effect.

4. [***] by United. The [***] is in process and ongoing. United shall, according to the [***] Schedule set forth in Section 4(a) below, review in good faith each of the [***] Claims identified by Progenity in Exhibit A; in accordance with the applicable member's benefit plan; determine whether [***]; and [***], in accordance with the terms of the applicable member's benefit plan, those [***] Claims for which United [***]. With respect to any of the [***] Claims that are [***] as set forth in this Section 4, United shall make additional [***] to Progenity in accordance with the [***] rate that was applicable at the time of the original submission of the [***] under the member's benefit plan.

a. The [***] Schedule for [***] Claims. United agrees to complete the [***] as described above in this Section 4 as follows:

   i. Review at least [***] of [***] Claims and, as applicable in accordance with Section 4 above, [***] and make any corresponding [***] to Progenity with respect to such [***] Claims by [***];

   ii. Review at least [***] of [***] Claims and, as applicable in accordance with Section 4 above, [***] and make any corresponding [***] to Progenity with respect to such [***] Claims by [***];

   iii. Review at least [***] of [***] Claims and, as applicable in accordance with Section 4 above, [***] and make any corresponding [***] to Progenity with respect to such [***] Claims by [***]; and

   iv. Review [***] of [***] Claims and, as applicable in accordance with Section 4 above, [***] and make any corresponding [***] to Progenity with respect to such [***] Claims by [***].

   United will provide written notice to Progenity upon its completion of the [***] at each interval set forth in Section 4(a)(i) through (iii) above, and also upon final completion of the [***] (such final notice, "Notice of Completion").

b. Notices as Conditions Precedent. United's provision of written notices to Progenity upon completion of the [***] at each interval of the [***] Schedule and the Notice of Completion upon final completion of the [***] are conditions precedent to Progenity's payment of certain installment payments of the Settlement Amount as follows:

   i. United's provision of written notices to Progenity upon its completion of the [***] described in Sections 4(a)(i) and 4(a)(ii) are conditions precedent to Progenity's payment of the installment payments of the Settlement Amount set forth in Section 1(b).

ii. United's provision of a written notice to Progenity upon its completion of the [***] described in Section 4(a)(iii) and the Notice of Completion are conditions precedent to Progenity's payment of the installment payments of the Settlement Amount set forth in Sections 1(c), 1(d), 1(e), and 1(f).

For the avoidance of doubt, the conditions precedent in this Section 4(b) are satisfied upon United's provision of written notices following its completion of the [***] as described above in this Section 4. If any written notice or the Notice of Completion is provided late, such notice will still be effective to satisfy the condition precedent under this Section 4(b), and Progenity's payment of the installment payments of the Settlement Amount shall be made on the applicable date set forth in Section 1 or [***] after provision of the written notice or written notices that satisfy the applicable condition precedent, whichever is later. Any disputes between the Parties regarding the [***]—including United's review of [***] Claims, United's reprocessing of [***] Claims, and the amount of any additional [***]—shall be resolved pursuant to Sections 4(c) and 4(d) below, and shall not relieve Progenity of any obligation to make the installment payments of the Settlement Amount in accordance with Section 1.

c. Notice of Noncompliance and Right to Cure. If United fails to comply with any condition outlined in this Section 4, then Progenity will provide written notice of such failure to United ("Notice of Noncompliance") within [***] of the Notice of Completion. The Notice of Noncompliance must identify [***]. If the Notice of Noncompliance identifies those [***], United will then have [***] from the receipt of such Notice of Noncompliance to remedy the failure described therein. Progenity shall not take any adverse action against United unless and until it provides a Notice of Noncompliance to United and [***] have elapsed since the receipt of that notice and the applicable failure has not been remedied. Notwithstanding the foregoing, the [***] shall not be excluded from any of the calculations that yield the percentages set forth in the [***] Schedule in Section 4(a) above.

d. Dispute Resolution. Any dispute related to the [***] which is not resolved by the Parties in accordance with this Section 4 shall be exclusively and finally resolved by arbitration, which shall be conducted on a confidential basis pursuant to the Federal Arbitration Act and the then-current Healthcare Payor Provider Arbitration Rules ("Rules") of the American Arbitration Association ("AAA"), and strictly in accordance with the terms of this Agreement and the laws of the State of Minnesota, excluding its principles of conflicts of laws. The Parties agree that any dispute related to the [***] shall be administered according to the Desk/Telephonic Track. All arbitration hearings shall be held in Minnesota.

i. The arbitration decision shall be made by a single arbitrator, who has no conflicts, meets the standards of R-17 of the Rules with respect to impartiality and independence, and is chosen by mutual agreement of the Parties through the Arbitrator Appointment procedure set forth in D-6 of the Rules.

ii. The arbitrator shall have the power to independently calculate the [***] amount and to award compensatory damages to Progenity for any amount of [***] still owed by United; provided, however, that the arbitrator shall not have the power to amend this Agreement, award punitive or exemplary damages, or award damages in excess of the amount of the [***] still owed by United. The arbitrator shall not have the power to calculate any amounts, award any damages, or grant any other relief related to any benefit claims other than the [***].

iii. [***].

5. No Other Payments. The Parties fully understand and are in agreement that the consideration paid pursuant to this Agreement, and subject to the conditions and terms expressly set forth herein, is in full and final satisfaction of all damages available to the Parties relating in any way to the Claims. Other than the Settlement Payments [***], neither Party will receive any further sums of money or other compensation of any kind from the other Party after the Effective Date related to the Claims. For purposes of clarity and notwithstanding anything to the contrary in this Agreement, United will process and pay in accordance with the member's benefit plan, including applicable United reimbursement policies, and the applicable terms and conditions of this Agreement (for example, Section 3 above with respect to benefit claims relating to dates of service on or after the date on which the CAP takes effect) (a) any benefit claims initially submitted to United by Progenity (that is, not including any corrected claims or other resubmissions) on or after the Effective Date of this Agreement regardless of the date of service; and (b) any benefit claims submitted to United by Progenity prior to the Effective Date of this Agreement with a date of service on or after [***].

6. Expenses. All Parties are fully responsible for their own fees and costs incurred in connection with this Agreement, including taxable court costs, fees, expenses, attorneys' fees, and all other expenses arising out of this Agreement.

7. General Release. Upon the Effective Date, except with respect to any rights, obligations or duties arising out of this Agreement, and in consideration of the Settlement Payments and promises set forth herein, each Party hereby releases, acquits, and discharges the other Party, and their past and present officers, directors, employees, shareholders, members, parents, representatives, agents, successors, and assigns, and all persons acting by or through either Party (collectively, the "Releasees") of and from any and all charges, complaints, lawsuits, actions, causes of action, suits, debts, obligations, liabilities, expenses, dues, sums of money, accounts, reckonings, bonds, bills, specialties, covenants, contracts, controversies, agreements, promises, variances, trespasses, damages, judgments, extents, executions, claims, and demands, of every kind and nature whatsoever, whether known or unknown, either at law, in equity, or mixed, that the Parties or their successors and assigns ever had, could have had, or now have against the Releasees, or any of them, arising out of any matter or thing that has happened before the signing of this Agreement, including, without limitation, those Claims expressly asserted by the Parties and those arising out of or relating to the facts, circumstances, or occurrences concerning those Claims.

8. Waiver of Unknown Claims. In waiving and releasing any and all claims against the Releasees, whether or not now known to either Party, each Party understands that if it later discovers facts different from or in addition to those facts currently known to the Party, or believed by the Party to be true, the waivers and releases of this Agreement will remain effective in all respects—despite such different and additional facts and the Party's later discovery of such facts, even if the Party would not have agreed to this Agreement if the Party had prior knowledge of such facts. The Parties expressly waive and relinquish any rights they may have under California Civil Code section 1542, and all similar federal or state laws, rights, rules, and legal principles of any other jurisdiction which may he applicable hereto.

9. No Admission of Liability. This Agreement shall not constitute or be construed as an admission by any Party of any wrongdoing or liability. Instead, this Agreement is to be construed solely as a reflection of the desire of the Parties hereto to facilitate a resolution of the disputed Claims—[***].

10. Notices. All notices under this Agreement will be made in writing and shall be deemed duly given (i) on the date of delivery if delivered personally; (ii) on the first business day following the date of dispatch if delivered utilizing a next-day service by a recognized next-day courier; or (iii) on the earlier of confirmed receipt or the fifth business day for the date of mailing if delivered by registered or certified mail, return receipt requested, postage prepaid. All notices hereunder shall be delivered to the addresses set forth below, or to such other representative or at such other address as such Party may furnish to the other Party in writing.

a. If to United, to

UnitedHealthcare
9700 Health Care Lane
Minnetonka, MN 55343

b. If to Progenity, to

Progenity, Inc.
4330 La Jolla Village Drive, Suite 200
San Diego, CA 92122
Attention: General Counsel

11. Covenant Not to Sue. The Parties, together with their agents, representatives, executors, administrators, beneficiaries, attorneys, heirs, and assigns, agree that they will not directly or indirectly, commence, prosecute, aid, or fund, or cause to commenced, prosecuted, aided, or funded, any suit, action, or other proceeding against any of the Parties, or their agents, representatives, executors, administrators, beneficiaries, attorneys, heirs, and assigns, related to the Claims or any of the underlying facts, events, or circumstances, before any adjudicative or other authority, including, but not limited to, any court of law, arbitration, administrative law judge, state or federal agency or program, or judicial tribunal of any kind.

12. Confidentiality. In further consideration of this Agreement and except as may be required by law, such as in required public filings, or necessary for purposes of effectuating the terms of this Agreement, each of the Parties and their counsel shall keep the fact, terms, and amount of the settlement embodied in this Agreement, strictly confidential and shall not disclose orally or in writing, directly or indirectly any of the terms of this Agreement, any non-public information concerning this settlement, and any discussions leading up to the resolution of the disputed Claims with this Agreement or its terms. The Parties further agree not to make any negative, disparaging, detrimental, or derogatory public remarks or statements about either Party or the employees, products, or services of either Party. The Parties agree that any breach of this confidentiality provision would cause irreparable harm to the other Party and shall entitle them to injunctive relief and attorneys' fees. Nothing in this provision will preclude the Parties from sharing, as required, this Agreement with their auditors, tax accountants, or similar third parties, or in response to a subpoena, court order, or other valid legal or administrative process.

13. Remedies for Breach. The Parties agree that, in the event one Party breaches any part or parts of this Agreement, legal proceedings may be commenced against that Party for breach of contract. In the event that a Party commences legal proceedings for breach of this Agreement, it is agreed that the sole remedy available to said Party shall be enforcement of the terms of this Agreement and/or a claim for damages resulting from a breach of this Agreement, but that under no circumstance shall any Party by entitled to revive, assert, or reassert any claims or defenses that they have released or abandoned under this Agreement.

14. Waiver. Failure by either Party to insist upon strict compliance with any of the terms, covenants, or conditions hereof, in whole or in part, in any one instance, shall not be deemed a waiver of such terms, covenants, or conditions. Waiver of any provision of this Agreement, in whole or in part, in any one instance shall not constitute a waiver of any other provision in the same instance, nor a waiver of the same provision in another instance, but each provision shall continue in full force and effect.

15. Governing Law. This Agreement shall be interpreted, construed, and enforced in accordance with and governed by the provisions of the laws of the State of Minnesota, without reference to conflicts-of-laws rules. Captions herein are inserted for convenience, do not constitute a part of this Agreement, and shall not be admissible for the purpose of proving the intent of the Parties.

16. Validity/Severability. The Parties agree that each provision of this Agreement is severable, and, should any such provision be determined by a court or arbitrator of competent jurisdiction or administrative agency to be illegal or invalid, the validity of the remaining provisions shall not be affected and the illegal or invalid provisions shall be deemed not to be a part of this Agreement.

17. No Interpretation in Favor of Any Party. In the event that any court or arbitrator of competent jurisdiction or administrative agency is called upon to interpret this Agreement, no Party shall be deemed to have drafted this Agreement, nor may any Party offer in evidence or otherwise use, for purposes of suggesting any interpretation of this Agreement, any prior drafts of this Agreement. The language used in this Agreement is the language chosen by the Parties to express their mutual intent, and no rule of strict construction will be applied against any Party.

18. Time to Consider Agreement and Acknowledgments. The Parties each acknowledge that they have been given the opportunity to consult an attorney of their choice before signing this Agreement. The Parties each acknowledge that they have signed this Agreement in a timely way voluntarily in order to facility resolution of the disputed Claims and so that they can obtain sooner the benefits of this Agreement. The Parties hereby acknowledge that they are voluntarily entering into and executing this Agreement, and that no Party, or agent or representative of any Party, has made any representations inconsistent with the terms and effects of this Agreement.

19. Authority to Sign. Each person signing this Agreement represents and warrants that she or he is authorized to sign on behalf of the party indicated below her or his signature.

20. Entire Agreement. This Agreement and the Corrective Action Plan represent the whole and complete agreements among the Parties and shall not be changed, modified, or abridged, except by subsequent written agreement executed by the Parties hereto. Furthermore, no Party shall be bound by any representations, warranties, promises, or statements of information, unless set forth herein. This Agreement is a full and complete integrated agreement.

21. Execution in Counterparts. This Agreement may be executed by the Parties in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[*Signature page follows*]

**IN WITNESS WHEREOF**, the undersigned, being duly authorized by the Parties, have caused this Agreement to be executed of the Effective Date above written.

Dated: September 27, 2019

/s/ Thad C. Johnson

Thad C. Johnson
Chief Legal Officer
FOR UNITED HEALTHCARE SERVICES, INC.
AND UNITED HEALTHCARE INSURANCE
COMPANY

Dated: September 27, 2019

/s/ Eric Fox

Print Name: Eric Fox
Title: VP Finance & Accounting, Treasurer
FOR PROGENITY, INC

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# SETTLEMENT AND GENERAL RELEASE AGREEMENT

This Settlement and General Release Agreement (the "Agreement") is entered into and made effective as of the 5th day of December, 2018, (the "Effective Date"), by and between **Connecticut General Life Insurance Company** and **Cigna Health and Life Insurance Company** (collectively, "Cigna"), with principal offices located at 900 Cottage Grove Road, Bloomfield, Connecticut 06002, and **Progenity, Inc.** ("Provider"), a Delaware Corporation with offices located at 4330 La Jolla Village Drive, Ste 200, San Diego, CA 92122. Cigna and Provider may hereinafter be referred to herein individually as a "Party" or collectively as the "Parties".

## RECITALS

**WHEREAS**, Cigna makes or arranges for payment to health care providers for the furnishing of health care services and supplies to members covered under applicable health benefit plans that were insured or administered by Cigna (the "Plans");

**WHEREAS**, Provider is a provider of molecular laboratory services to patients nationwide;

**WHEREAS**, Cigna conducted an audit of certain claims that Provider submitted to Cigna concerning patients who were members of the Plans and determined that these claims did not comply with the terms of the Plans at issue based on evidence that Provider was capping patient cost share responsibility at [***];

**WHEREAS**, as a result of the audit, Cigna placed a flag on Provider's TIN that capped payments at [***].

**WHEREAS**, a dispute arose between the Parties regarding whether Provider was in compliance with the terms of the Plans and whether Cigna was within its rights to cap payments to Provider (the "Progenity Dispute");

**WHEREAS**, A dispute has also arisen between Cigna and Mattison Pathology, LLP d/b/a Avero Diagnostics ("Avero"), a company which has an affiliation with Provider, regarding certain business practices related to patient billing and collections, coding, and other associated matters (the "Avero Dispute");

**WHEREAS**, the Parties mutually desire to fully and finally resolve all disputes between them, and all claims of any nature whatsoever arising prior to and including the Effective Date;

**NOW, THEREFORE**, in consideration of the foregoing premises and the mutual covenants and undertakings set forth herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

## TERMS

**1. INCORPORATION OF RECITALS**: The recitals set forth above are hereby incorporated into this Agreement as if fully set forth herein and are legally binding.

**2. CONSIDERATION**: Provider will guarantee payment of SIX MILLION ($6,000,000) DOLLARS in monthly installment payments to be made by Avero to CIGNA pursuant to that certain Settlement and General Release Agreement dated December 5th, 2018 between CIGNA and Avero (the "Avero Settlement Agreement").

**3. REMOVAL OF FLAG**: Within ten (10) business days of the mutual execution of this Settlement Agreement, Cigna will lift any current edit or flag on Provider's tax identification number as a result of the SIU investigation (hereinafter the "SIU Edit/Flag"). Cigna has various pre-existing claim and reimbursement edits, policies and procedures in place, and may create or adopt additional claim and reimbursement edits, policies and procedures in the future. Nothing in this Agreement should be construed to limit Cigna's ability to apply these current or future claim and reimbursement edits, policies and procedures, or the underlying terms and conditions of any applicable health benefits plans, to any claims submitted by or on behalf of Provider in the future, provided one of the following conditions is met: (1) such claim or reimbursement edit, flag, or policy and procedure is one of general applicability (i.e., it is applicable to providers that perform similar services as Provider); or (2) application of such claim or reimbursement edit, flag, or policy and procedure is specific to Provider and is based on conduct by Provider that occurs after the Effective Date. The Parties understand that the lifting of the flag, referenced in this Section 3 refers solely to the SIU Edit/Flag, and that this SIU Edit/Flag or its functional equivalent may not be placed again on Provider at any point in the future except in the event of breach of this Agreement or Provider's noncompliance with Cigna's plan terms and/or coverage policies. In the event that Provider and/or Avero fails to make timely payment to Cigna of any installment payment pursuant to Section 2 of the Avero Settlement Agreement, then the balance of the full Settlement Amount shall immediately become due and payable and Cigna shall have the right to place a flag on Provider's TIN that will deny all claims until the balance of the full Settlement Amount is paid.

**4. APPLICATION FOR IN-NETWORK STATUS**: Provider shall be permitted to apply for in-network status with Cigna. Provider shall be treated in the same manner as any other provider seeking in-network status, and nothing in this Agreement, the underlying disputes, or the fact of settlement shall be held against Provider in consideration of whether Provider shall be granted in-network status.

**5. PROVIDER BUSINESS PRACTICES**:

5.1 Provider agrees not to waive any portion of the cost share responsibility (i.e., copayment, deductible, and/or coinsurance) and/or balance amounts (i.e., any portion of Provider's billed charges that exceeds the allowed amounts under plan terms) of Cigna plan participants and shall bill and obligate Cigna plan participants who receive services from Provider for these amounts in a timely and good faith manner. Cigna acknowledges that, for a variety of reasons, it is not always possible to collect 100% of a patient's cost share and balance amounts. Therefore, on a patient-by-patient basis, after Provider bills, obligates and uses reasonable efforts to collect the required cost share and balance amounts from a patient, Provider may write off a patient's cost share and/or balance amount from Provider's accounting ledgers provided that (a) Provider has documented the efforts made to collect and the reasons supporting the write off (e.g., patient has insufficient assets to pay): and (b) the patient remains obligated to pay the full amount of his/her required cost share and balance amount (e.g., Provider does not relinquish its right to pursue the obligation in the future). Provider will submit claims to Cigna at rates or prices that are no greater than those quoted to Cigna plan participants, express or otherwise. Provider understands that, to the extent that Cigna pays future claims submitted by Provider, Cigna is relying on the promises, representations and terms of this Agreement.

5.2 Provider agrees not to engage in any kickback arrangements or patient brokering of any kind, which conduct includes, but is not limited to: (a) assisting patients in obtaining health insurance policies; (b) referring patients to health insurance policy brokers; (c) paying, directly or indirectly, in whole or part, the premiums for any patients' health insurance policies; (d) offering anything of value (e.g., airfare, money, tangible property, free housing) to patients to engage Provider's services; and (e) offering, giving or accepting anything of value to/from any other provider, entity or individual in exchange for patient referrals.

**6. AUDITS:** The Parties agree that Cigna has the right to audit Provider's claims in the ordinary course of business to ensure compliance with the terms of Cigna's health benefits plans, including, but not limited to Cigna's Medical Necessity Criteria and billing and collection criteria, except that Cigna shall not audit any claims submitted by Provider prior to the Effective Date. Provider agrees to cooperate and comply with Cigna's audits.

**7. REPRESENTATIONS AND WARRANTIES:**

Each Party makes the following covenants, representations and warranties to the other Party:

7.1 The Party is correctly named and described in this Agreement, and, to the extent applicable, is duly organized and existing under the laws of the applicable state, and is authorized and qualified to do all things required of it under this Agreement.

7.2 The Party has full power, authority, and legal right to execute, deliver, and perform its duties and obligations under this Agreement, and has taken all necessary action to authorize entering into this Agreement on the terms and conditions hereof and to authorize the execution, delivery, and performance of this Agreement. This Agreement has been duly executed by the Party, and constitutes a legal, valid, and binding obligation of the Party enforceable in accordance with its terms.

7.3 The Party is under no obligation, restriction or limitation, contractual, administrative, judicial, or otherwise, to any other individual, entity, or governmental agency that would prohibit or impede the Party from entering into this Agreement or performing under this Agreement, and the Party is free to and does freely and of its own volition enter into and perform hereunder. The Party has not made to the other Party any promise, representation or warranty, express or implied, not contained in this Agreement concerning the subject matter of this Agreement, and the Party has not executed this Agreement in reliance upon any promise, representation or warranty not contained in this Agreement. The Party assumes the risk of all mistakes of fact with regard to any and all facts which are known or unknown to it relating to the subject matter of this Agreement.

7.4 The signatories for each Party are fully authorized to enter into and execute this Agreement for and on behalf of the Party that he/she represents and they are duly authorized as such, as reflected on the attached signature page(s).

7.5 Each Party completely and fully owns all rights to the causes of action that it releases in this Agreement and has not assigned, pledged, or in any other manner sold, transferred, or alienated any right, title, or interest in any such causes of action.

7.6 Cigna has authority to bind its affiliates and subsidiaries.

**8. RELEASES / COVENANT NOT TO SUE:**

8.1 By Provider: Upon executing this Agreement, except for the duties and obligations set forth in this Agreement, Provider, its affiliates and subsidiaries, and each of their owners, officers, directors, managers, partners, shareholders, members, employees, agents, and representatives (as the **"Provider-Releasor"**) irrevocably releases, forever discharges and covenants not to sue Cigna and its agents, employees, servants, directors, officers, attorneys, assigns, successors, partnerships, associations, all their parents, subsidiaries, affiliates, related partnerships, and corporations, and any self-funded payors whose plans are administered by Cigna and the Plans and plan participants, beneficiaries and dependents covered under the Plans (individually and collectively, the "**Payor-Releasee**"), and each Payor-Releasee's fiduciaries, heirs, executors, administrators, attorneys, successors, and permitted assigns, from all actions, causes of action, suits, losses, debts, dues, sums of money, payments (including any additional payments claimed with respect to any underpaid claims), costs, expenses (including without limitation attorneys' fees), disbursements, accounts, reckonings, bonds, bills, proceedings, controversies, trespasses, damages, penalties, interest, judgments, extents, executions, claims or demands of any type or nature whatsoever, in law or equity, whether known or unknown, recorded or unrecorded, whether or not threatened or pending, or fixed, contingent, or otherwise, which against the Payor-Releasee, the Provider-Releasor, or the Provider-Releasor's heirs, executors, administrators, successors, and permitted assigns, ever had, now have, or hereafter can, shall, or may have for, upon, or by reason of any matter, cause, or thing whatsoever from the beginning of the world through and including the Effective Date of this Agreement.

8.2 By Cigna: Upon the execution of this Agreement by all Parties, except for the duties and obligations set forth in this Agreement, Cigna and its affiliates and subsidiaries (collectively as the "**Payor-Releasor**") irrevocably releases, forever discharges and covenants not to sue Provider and its affiliates and subsidiaries, and each of their owners, officers, directors, managers, partners, shareholders, members, and employees (individually and collectively, the "**Provider-Releasee**"), and each Provider-Releasee's heirs, executors, administrators, successors, and permitted assigns, from all actions, causes of action, suits, losses, debts, dues, sums of money, payments (including any additional payments claimed with respect to any overpaid claims), costs, expenses (including without limitation attorneys' fees), disbursements, accounts, reckonings, bonds, bills, proceedings, controversies, trespasses, damages, penalties, interest, judgments, extents, executions, claims or demands of any type or nature whatsoever, in law or equity, whether known or unknown, recorded or unrecorded, whether or not threatened or pending, or fixed, contingent, or otherwise, which against the Provider, the Payor-Releasor, or the Payor-Releasor's heirs, executors, administrators, successors, and permitted assigns, ever had, now have, or hereafter can, shall, or may have for, upon, or by reason of any matter, cause, or thing whatsoever from the beginning of the world through and including the Effective Date of this Agreement, which relates in any way to claims submitted by or services performed by Provider, or any acts or omissions of Provider that relate to Cigna. Any material breach of this Agreement by Provider that remains uncured after [***] shall render this release void, however, any amounts paid by Provider to Cigna pursuant to this Agreement shall be an offset to any damages that Cigna may be entitled to.

**9. NO ADMISSION OF LIABILITY:** The giving or acceptance of this Agreement, the payment of the sums provided herein, and the general releases contained herein, shall not constitute or be construed as an admission of any liability whatsoever by the Parties, or the admission of the validity of any claims that are the subject of this Agreement, it being the purpose of this Agreement to settle the same and not to admit liability.

**10. CONFIDENTIALITY:** Cigna and Provider and their respective attorneys represent and agree that they will not publish, publicize, or disseminate or cause to be published, publicized or disseminated in any manner, information regarding the dispute that is the subject of this Agreement, or any information obtained from Cigna or Provider regarding this matter, including, but not limited to, the contents of documents produced to Provider or Cigna or information about the details of the settlement or the terms of this Agreement. Notwithstanding the foregoing, the information covered by this section may be disclosed by any Party for the following purposes: (a) to the extent necessary to report income to appropriate taxing authorities; (b) to the extent required by federal or state laws and/or regulations; (c) to its accountants, contractors, lenders, Cigna clients or their employees whose claims are subject to this Agreement, attorneys or other professionals if such professionals agree to the same confidentiality restrictions; and (d) in response to an order of a court of competent jurisdiction or subpoena issued under authority thereof, or in response to any inquiry or subpoena issued by a state or federal government agency. The foregoing restrictions do not apply to applications made, to a court of competent jurisdiction or in arbitration, to enforce the terms of this Agreement.

**11. CHOICE OF LAW AND DISPUTE RESOLUTION:** This Agreement shall be governed exclusively by and construed in accordance with the laws of the State of Connecticut without reference to its conflicts of law rules. Any controversy, dispute or claim arising out of or relating to this Agreement or the performance, enforcement, breach, termination or validity thereof, including the determination of the scope of this arbitration provision, shall be resolved exclusively by arbitration before one arbitrator. The arbitration shall be administered by JAMS, or its successor, pursuant to JAMS Comprehensive Arbitration Rules and Procedures, and applying the laws of the State of Connecticut The arbitration shall be held at the JAMS hearing location nearest to Hartford, Connecticut.

Prior to filing a demand for arbitration under this clause, a Party must request mediation through JAMS. The Parties will cooperate with JAMS and with one another in selecting a mediator from the JAMS panel of neutrals and in scheduling the mediation proceedings. The Parties agree that they will participate in the mediation in good faith and that they will share equally in its costs. All offers, promises, conduct and statements, whether oral or written, made in the course of the mediation by any of the Parties, their agents, employees, experts and attorneys, and by the mediator or any JAMS employees, are confidential, privileged and inadmissible for any purpose, including impeachment, in any arbitration or other proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the mediation. Either Party may initiate arbitration with respect to the matters submitted to mediation by filing a written demand for arbitration at any time following the initial mediation session or at any time following 45 days from the date of filing the written request for mediation, whichever occurs first (“Earliest Initiation Date”). The mediation may continue after the commencement of arbitration if the Parties so desire. All applicable statutes of limitation and defenses based upon the passage of time shall be tolled until 15 days after the Earliest Initiation Date. The parties will take such action, if any, required to effectuate such tolling.

In the absence of an agreement by the Parties, selection of the arbitrator shall be governed by JAMS Comprehensive Arbitration Rules and Procedures. The compensation and expenses of the arbitrator shall initially be shared equally by the Parties. At the conclusion of the arbitration, the arbitrator shall, in good faith, approximate the extent to which each Party prevailed and shall award the costs of the arbitration process and reasonable attorney's fees and expenses consistent with this approximation. A Party that is determined to have fully prevailed on all its claims is entitled to all costs it incurred for the arbitration process and all reasonable attorney's fees and expenses. The arbitrator may not award punitive damages or consequential damages to either Party for any reason. The decision of the arbitrator shall be final, conclusive and binding, and no action at law or in equity may be instituted by any Party other than to enforce the award of the arbitrator. The Parties intend this alternative dispute resolution procedure to be a private undertaking and agree that an arbitration conducted under this provision will not be consolidated with an arbitration involving other healthcare providers or third parties, and that the arbitrator will be without power to conduct an arbitration on a class basis. Judgment upon the award rendered by the arbitrator may be entered in any court of competent jurisdiction.

**12. MISCELLANEOUS PROVISIONS:**

12.1 Voluntary Agreement: This Agreement is executed voluntarily and without duress or undue influence from or on behalf of any person, firm, or entity, whether public or private. Each Party acknowledges that he or it has been represented by independent counsel of his or its own choosing in the negotiation of this Agreement, and that it has been advised regarding the same before it executed this Agreement.

12.2 No Representations: No representations have been made by any Party to any other Party except for those contained in this Agreement.

12.3 Entire Agreement: This Agreement contains the entire agreement between the Parties with respect to the subject matters covered by it. This Agreement supersedes every representation, warranty, or agreement relating to any matter covered by this Agreement between or among the Parties, or any of them, which predates the execution hereof. Any such representation, warranty, or agreement which is not specifically referred to herein, whether written or oral, shall be void and will not bind any of the Parties hereto.

12.4 Settlement Agreement Binding Upon Successors: This Agreement shall bind and inure to the benefit of the respective heirs, executors, administrators, successors, and permitted assigns of the Parties.

12.5 No Assignment: Provider may not assign this Agreement without the prior written consent of the other Party. Any attempt by Provider to assign this Agreement in breach of this provision shall be null, void, and of no force and effect.

12.6 Modifications and Amendment: No amendment or modification of his Agreement shall be valid unless it is in writing and signed by all Parties.

12.7 Severability, No Waiver and Survival: If any term of this Agreement is held invalid or illegal, that term shall be severed from this Agreement and the remaining terms shall remain valid and enforceable and continue in full force and effect. No delay, omission, or failure by any Party to exercise any right or remedy provided to it in this Agreement shall be deemed to be any waiver or acquiescence, and the Parties may exercise such right or remedy in the manner it deems expedient. Any Agreement provision that may reasonably be interpreted as being intended by a Party to survive this Agreement's performance, termination, or expiration shall survive any such performance, termination, or expiration.

12.8 Interpretation: The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event that an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Headings, the title of this Agreement, and the terms used to reference each Party as used in this Agreement are for reference purposes only and in no way define, limit, construe or describe the scope or extent of such section or in any way affect this Agreement.

12.9 Further Assurances: Without further consideration, each of the Parties hereby agrees to execute such further documents and to take such further action as may reasonably be necessary to effectively carry out the purposes of his Settlement Agreement.

12.10 Counterparts and Facsimiles: This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The Parties agree that signatures transmitted electronically, whether sent via facsimile or via email as attached files (e.g. PDF), shall be acceptable to bind the Parties and shall not in any way affect this Agreement's validity.

**13. LEGAL COUNSEL**: THE PARTIES ACKNOWLEDGE THAT THEY HAVE BEEN REPRESENTED BY INDEPENDENT COUNSEL OF THEIR OWN CHOOSING IN THE NEGOTIATION OF THIS AGREEMENT AND THAT THEY HAVE BEEN FULLY ADVISED REGARDING ALL ASPECTS AND RAMIFICATIONS OF THE SAME BEFORE THEY EXECUTED IT.

**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK**

**IN WITNESS WHEREOF**, each Party executes this Agreement by a duly authorized representative and agrees to be bound by this Agreement's terms and conditions as of its Effective Date.

**Connecticut General Life Insurance Company**

By: /s/ John Bogan Date: 12/7/2018
John Bogan, VP Chief Counsel

**Cigna Health and Life Insurance Company**

By: /s/ John Bogan Date: 12/7/2018
John Bogan, VP Chief Counsel

**Progenity, Inc.**

By: /s/ Dan Visage Date: 12/6/2018
Name: Dan Visage
Title: Vice President of Managed Care

**[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE THE INFORMATION (I) IS NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

# SETTLEMENT AND GENERAL RELEASE AGREEMENT

This Settlement and General Release Agreement (the "Agreement") is entered into and made effective as of the 5th day of December 2018, (the "Effective Date"), by and between **Connecticut General Life Insurance Company** and **Cigna Health and Life Insurance Company** (collectively, "Cigna"), with principal offices located at 900 Cottage Grove Road, Bloomfield, Connecticut 06002, and **Mattison Pathology, LLP d/b/a Avero Diagnostics** ("Provider"), a Texas Limited Liability Partnership with offices located at 6221 Riverside Drive, Suite 119, Irving, TX 75039. Cigna and Provider may hereinafter be referred to herein individually as a "Party" or collectively as the "Parties".

## RECITALS

**WHEREAS**, Cigna makes or arranges for payment to health care providers for the furnishing of health care services and supplies to members covered under applicable health benefit plans that were insured or administered by Cigna (the "Plans");

**WHEREAS**, Cigna conducted an audit of certain claims that Provider submitted to Cigna concerning patients who were members of the Plans and asserted that these claims and the services represented therein are not covered by, or are otherwise not reimbursable as billed under, the Plans at issue;

**WHEREAS**, as a result of the audit, Cigna [***];

**WHEREAS**, Cigna has [***];

**WHEREAS**, Provider disputes [***];

**WHEREAS**, a dispute arose between the Parties regarding [***] (the "Dispute");

**WHEREAS**, the Parties mutually desire to fully and finally resolve the Dispute and all claims of any nature whatsoever arising prior to and including the Effective Date;

**NOW, THEREFORE**, in consideration of the foregoing premises and the mutual covenants and undertakings set forth herein and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

## TERMS

**1. INCORPORATION OF RECITALS**: The recitals set forth above are hereby incorporated into this Agreement as if fully set forth herein and are legally binding.

**2. PAYMENT**: Provider will pay to Cigna the total sum of TWELVE MILLION ($12,000,000) U.S. DOLLARS (the "Settlement Amount"), to be paid as follows:

a. Within [***] days of the mutual execution of this Settlement Agreement, Provider shall pay to "Cigna" the total sum of [***] which shall be paid by bank check and sent to the following address with a cover letter referencing this Agreement:

[***]

b. The remaining [***] shall be paid in [***] installments of [***], which shall be paid by either a bank check sent to the above address, or by wire transfer. Each installment payment shall be due on the 1st day of each month beginning on [***], and ending on [***].

**3. REMOVAL OF FLAG**: Within ten (10) business days of the mutual execution of this Settlement Agreement, Cigna will lift any current edit or flag on Provider's tax identification number as a result of the SIU investigation (hereinafter the "SIU Edit/Flag"). Cigna has various pre-existing claim and reimbursement edits, policies and procedures in place, and may create or adopt additional claim and reimbursement edits, policies and procedures in the future. Nothing in this Agreement should be construed to limit Cigna's ability to apply these current or future claim and reimbursement edits, policies and procedures, or the underlying terms and conditions of any applicable health benefits plans, to any claims submitted by or on behalf of Provider in the future, provided one of the following conditions is met:(1) such claim or reimbursement edit, flag, or policy and procedure is one of general applicability (i.e., it is applicable to providers that perform similar services as Provider); or (2) application of such claim or reimbursement edit, flag, or policy and procedure is specific to Provider and is based on conduct by Provider that occurs after the Effective Date. The Parties understand that the lifting of the flag referenced in this Section 3 refers solely to the SIU Edit/Flag, and that this SIU Edit/Flag or its functional equivalent may not be placed again on Provider at any point in the future except in the event of breach of this Agreement or Provider's noncompliance with Cigna's plan terms and/or coverage policies. In the event that Provider breaches Section 2 of this Agreement by failing to timely make payment to Cigna, then the full Settlement Amount shall immediately become due and payable and Cigna shall have the right to place a flag on Provider's TIN that will deny all claims until the full Settlement Amount is paid.

**4. PROVIDER BUSINESS PRACTICES**:

4.1 Provider agrees not to waive any portion of the cost share responsibility (i.e., copayment, deductible, and/or coinsurance) and/or balance amounts if applicable (i.e., any portion of Provider's billed charges that exceeds the allowed amounts under plan terms, excepting services Provider renders pursuant to a participating-provider agreement) of Cigna plan participants and shall bill and obligate Cigna plan participants who receive services from Provider for these amounts in a timely and good faith manner. Cigna acknowledges that, for a variety of reasons, it is not always possible to collect 100% of a patient's cost share and balance amounts. Therefore, on a patient-by-patient basis, after Provider bills, obligates and uses reasonable efforts to collect the required cost share and balance amounts from a patient, Provider may write off a patient's cost share and/or balance amount from Provider's accounting ledgers provided that (a) Provider has documented the efforts made to collect and the reasons supporting the write off (e.g., patient has insufficient assets to pay); and (b) the patient remains obligated to pay the full amount of his/her required cost share and balance amount (e.g., Provider does not relinquish its right to pursue the obligation in the future). Provider will submit claims to Cigna at rates or prices that are no greater than those quoted to Cigna plan participants, express or otherwise. Provider understands that, to the extent that Cigna pays future claims submitted by Provider, Cigna is relying on the promises, representations and terms of this Agreement.

4.2 Provider agrees not to engage in any kickback arrangements or patient brokering of any kind, which conduct includes, but is not limited to: (a) assisting patients in obtaining health insurance policies; (b) referring patients to health insurance policy brokers; (c) paying, directly or indirectly, in whole or part, the premiums for any patients' health insurance policies; (d) offering anything of value (e.g., airfare, money, tangible property, free housing) to patients to engage Provider's services; and (e) offering, giving or accepting anything of value to/from any other provider, entity or individual in exchange for patient referrals.

**5. AUDITS**: The Parties agree that Cigna has the right to audit Provider's claims in the ordinary course of business to ensure compliance with the terms of Cigna's health benefits plans, including, but not limited to Cigna's Medical Necessity Criteria and billing and collection criteria, except that Cigna shall not audit any claims submitted by Provider prior to the Effective Date. Provider agrees to cooperate and comply with Cigna's audits.

**6. REPRESENTATIONS AND WARRANTIES**:

Each Party makes the following covenants, representations and warranties to the other Party:

6.1 The Party is correctly named and described in this Agreement, and, to the extent applicable, is duly organized and existing under the laws of the applicable state, and is authorized and qualified to do all things required of it under this Agreement.

6.2 The Party has full power, authority, and legal right to execute, deliver, and perform its duties and obligations under this Agreement, and has taken all necessary action to authorize entering into this Agreement on the terms and conditions hereof and to authorize the execution, delivery, and performance of this Agreement. This Agreement has been duly executed by the Party, and constitutes a legal, valid, and binding obligation of the Party enforceable in accordance with its terms.

6.3 The Party is under no obligation, restriction or limitation, contractual, administrative, judicial, or otherwise, to any other individual, entity, or governmental agency that would prohibit or impede the Party from entering into this Agreement or performing under this Agreement, and the Party is free to and does freely and of its own volition enter into and perform hereunder. The Party has not made to the other Party any promise, representation or warranty, express or implied, not contained in this Agreement concerning the subject matter of this Agreement, and the Party has not executed this Agreement in reliance upon any promise, representation or warranty not contained in this Agreement. The Party assumes the risk of all mistakes of fact with regard to any and all facts which are known or unknown to it relating to the subject matter of this Agreement.

6.4 The signatories for each Party are fully authorized to enter into and execute this Agreement for and on behalf of the Party that he/she represents and they are duly authorized as such, as reflected on the attached signature page(s).

6.5 Each Party completely and fully owns all rights to the causes of action that it releases in this Agreement and has not assigned, pledged, or in any other manner sold, transferred, or alienated any right, title, or interest in any such causes of action.

6.6 Cigna has authority to bind its affiliates and subsidiaries.

**7. RELEASES / COVENANT NOT TO SUE**:

7.1 By Provider: Upon executing this Agreement, except for the duties and obligations set forth in this Agreement, Provider, its affiliates and subsidiaries, and each of their owners, officers, directors, managers, partners, shareholders, members, employees, agents, and representatives (as the "**Provider-Releasor**") irrevocably releases, forever discharges and covenants not to sue Cigna and its agents, employees, servants, directors, officers, attorneys, assigns, successors, partnerships, associations, all their parents, subsidiaries, affiliates, related partnerships, and corporations, and any self-funded payors whose plans are administered by Cigna and the Plans and plan participants, beneficiaries and dependents covered under the Plans (individually and collectively, the "**Payor-Releasee**"), and each Payor-Releasee's fiduciaries, heirs, executors, administrators, attorneys, successors, and permitted assigns, from all actions, causes of action, suits, losses, debts, dues, sums of money, payments (including any additional payments claimed with respect to any underpaid claims), costs, expenses (including without limitation attorneys' fees), disbursements, accounts, reckonings, bonds, bills, proceedings, controversies, trespasses, damages, penalties, interest, judgments, extents, executions, claims or demands of any type or nature whatsoever, in law or equity, whether known or unknown, recorded or unrecorded, whether or not threatened or pending, or fixed, contingent, or otherwise, which against the Payor-Releasee, the Provider-Releasor, or the Provider-Releasor's heirs, executors, administrators, successors, and permitted assigns, ever had, now have, or hereafter can, shall, or may have for, upon, or by reason of any matter, cause, or thing whatsoever from the beginning of the world through and including the Effective Date of this Agreement.

7.2 By Cigna: Upon the execution of this Agreement by all Parties, except for the duties and obligations set forth in this Agreement, Cigna and its affiliates and subsidiaries (collectively as the "**Payor-Releasor**") irrevocably releases, forever discharges and covenants not to sue Provider and its affiliates and subsidiaries, and each of their owners, officers, directors, managers, partners, shareholders, members, and employees (individually and collectively, the "**Provider-Releasee**"), and each Provider-Releasee's heirs, executors, administrators, successors, and permitted assigns, from all actions, causes of action, suits, losses, debts, dues, sums of money, payments (including any additional payments claimed with respect to any overpaid claims), costs, expenses (including without limitation attorneys' fees), disbursements, accounts, reckonings, bonds, bills, proceedings, controversies, trespasses, damages, penalties, interest, judgments, extents, executions, claims or demands of any type or nature whatsoever, in law or equity, whether known or unknown, recorded or unrecorded, whether or not threatened or pending, or fixed, contingent, or otherwise, which against the Provider, the Payor-Releasor, or the Payor-Releasor's heirs, executors, administrators, successors, and permitted assigns, ever had, now have, or hereafter can, shall, or may have for, upon, or by reason of any matter, cause, or thing whatsoever from the beginning of the world through and including the Effective Date of this Agreement, which relates in any way to claims submitted by or services performed by Provider, or any acts or omissions of Provider that relate to Cigna. Any material breach of this Agreement by Provider that remains uncured after [***] shall render this release void, however, any amounts paid by Provider to Cigna pursuant to this Agreement shall be an offset to any damages that Cigna may be entitled to.

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In the absence of an agreement by the Parties, selection of the arbitrator shall be governed by JAMS Comprehensive Arbitration Rules and Procedures. The compensation and expenses of the arbitrator shall initially be shared equally by the Parties. At the conclusion of the arbitration, the arbitrator shall, in good faith, approximate the extent to which each Party prevailed and shall award the costs of the arbitration process and reasonable attorney’s fees and expenses consistent with this approximation. A Party that is determined to have fully prevailed on all its claims is entitled to all costs it incurred for the arbitration process and all reasonable attorney’s fees and expenses. The arbitrator may not award punitive damages or consequential damages to either Party for any reason. The decision of the arbitrator shall be final, conclusive and binding, and no action at law or in equity may be instituted by any Party other than to enforce the award of the arbitrator. The Parties intend this alternative dispute resolution procedure to be a private undertaking and agree that an arbitration conducted under this provision will not be consolidated with an arbitration involving other healthcare providers or third parties, and that the arbitrator will be without power to conduct an arbitration on a class basis. Judgment upon the award rendered by the arbitrator may be entered in any court of competent jurisdiction.

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11.7 Severability, No Waiver and Survival: If any term of this Agreement is held invalid or illegal, that term shall be severed from this. Agreement and the remaining terms shall remain valid and enforceable and continue in full force and effect. No delay, omission, or failure by any Party to exercise any right or remedy provided to it in this Agreement shall be deemed to be any waiver or acquiescence, and the Parties may exercise such right or remedy in the manner it deems expedient. Any Agreement provision that may reasonably be interpreted as being intended by a Party to survive this Agreement's performance, termination, or expiration shall survive any such performance, termination, or expiration.

11.8 Interpretation: The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event that an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Headings, the title of this Agreement, and the terms used to reference each Party as used in this Agreement are for reference purposes only and in no way define, limit, construe or describe the scope or extent of such section or in any way affect this Agreement.

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**12. LEGAL COUNSEL**: THE PARTIES ACKNOWLEDGE THAT THEY HAVE BEEN REPRESENTED BY INDEPENDENT COUNSEL OF THEIR OWN CHOOSING IN THE NEGOTIATION OF THIS AGREEMENT AND THAT THEY HAVE BEEN FULLY ADVISED REGARDING ALL ASPECTS AND RAMIFICATIONS OF THE SAME BEFORE THEY EXECUTED IT.

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**IN WITNESS WHEREOF**, each Party executes this Agreement by a duly authorized representative and agrees to be bound by this Agreement's terms and conditions as of its Effective Date.

**Connecticut General Life Insurance Company**

By: /s/ John Bogan Date: 12/7/2018
John Bogan, VP Chief Counsel

**Cigna Health and Life Insurance Company**

By: /s/ John Bogan Date: 12/7/2018
John Bogan, VP Chief Counsel

**Avero Diagnostics**

By: /s/ Eric Fox Date: 12/6/2018
Name: Eric Fox
Title: VP of Finance and Accounting

**Exhibit 10.21**

NEITHER THIS CREDIT AND SECURITY AGREEMENT NOR THE WARRANTS ISSUED HEREUNDER HAVE BEEN REGISTERED PURSUANT TO THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR QUALIFIED PURSUANT TO ANY APPLICABLE STATE SECURITIES LAW. THE WARRANTS ISSUED UNDER THIS CREDIT AND SECURITY AGREEMENT MAY BE RESOLD ONLY IF REGISTERED PURSUANT TO THE PROVISIONS OF THE SECURITIES ACT AND QUALIFIED PURSUANT TO APPLICABLE STATE SECURITIES LAWS OR IF AN EXEMPTION FROM SUCH REGISTRATION AND QUALIFICATION IS AVAILABLE.

# CREDIT AND SECURITY AGREEMENT

dated as of

October 27, 2017

among

**PROGENITY, INC.,**
as the Borrower,

and

**ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP,**
as the Collateral Agent and as a Lender,

and

**THE OTHER LENDERS PARTY HERETO**

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**CREDIT AND SECURITY AGREEMENT**

THIS CREDIT AND SECURITY AGREEMENT, dated as of October 27, 2017 (this "Agreement") is by and among PROGENITY, INC., a Delaware corporation, as the Borrower, the Guarantors from time to time party hereto, ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, a Delaware limited partnership, as a Lender and as Collateral Agent, and the other Lenders from time to time party hereto.

The parties hereto agree as follows:

## ARTICLE 1
## DEFINITIONS

1.1 Defined Terms. As used in this Agreement, the following terms have the meanings specified below:

"**Account**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Account Debtor**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Acquisition**", by any Person, means the acquisition by such Person, in a single transaction or in a series of related transactions, of (a) all or a portion of the Property of another Person, (b) all or a portion of a division or operating group of another Person, or (c) a majority of the voting stock or other controlling ownership interest in another Person (including the purchase of an option, warrant or convertible or similar type security to acquire such a controlling interest at the time it becomes exercisable by the holder thereof), whether by purchase of such equity or other ownership interest or upon the exercise of an option or warrant for, or conversion of securities into, such equity or other ownership interest, in each case, whether or not involving a merger or consolidation with such other Person and whether for cash, property, services, assumption of Indebtedness, securities or otherwise.

"**Advance Request**" means a written request signed by a Designated Financial Officer for the Term Loan in substantially the form of Exhibit B annexed hereto.

"**Affiliate**" means, with respect to a specified Person, another Person that Controls or is Controlled by or is under common Control with the Person specified.

"**Agreement**" has the meaning assigned to such term in the preamble hereto.

"**AOF III Co-Invest**" means Athyrium Opportunities III Co-Invest 1 LP, a Delaware limited partnership.

"**Applicable Rate**" means a rate per annum equal to 9.50%.

"**As-Extracted Collateral**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Athyrium Director**" means the director of the Borrower appointed by the Lenders and/or their Controlled Investment Affiliates (in each case making such appointment in their respective capacities as holders of the capital stock or other equity interests of the Borrower).

"**Avero**" means Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership.

"**Avero Acquisition Agreement**" means that certain Purchase Agreement dated June 8, 2015 by and among Thomas R. Mattison, M.D., P.A., Michael T. Mattison, M.D., P.A., and Tanner L. Mattison, M.D., P.A., each a Texas professional association (collectively, the "Practices"), and Thomas R. Mattison, M.D., Michael T. Mattison, M.D., and Tanner L. Mattison, M.D., each a resident of the State of Texas (collectively, the "Owners" and, together with the Practices, the "Owner Parties"), Avero Holdings, and Avero.

"**Avero Contracts**" means, collectively, the Avero Acquisition Agreement, the Avero Management Services Contract and the Avero Nominee Agreement.

"**Avero Earn-Out Payments**" means any additional consideration in an aggregate amount up to $2,250,000 during the 2017 and 2018 fiscal years to be paid pursuant to the Avero Acquisition Agreement.

"**Avero Holdings**" means Avero Laboratory Holdings LLC, a Delaware limited liability company and a Wholly Owned Domestic Subsidiary of the Borrower.

"**Avero Management Services Contract**" means that certain Management Services Agreement, dated June 8, 2015 by and between Avero Holdings and Avero.

"**Avero Nominee Agreement**" means that certain Nominee Agreement, dated June 8, 2015 by and among Avero Holdings, Avero, and the Owner Parties.

"**Board**" means the Board of Governors of the Federal Reserve System of the United States of America.

"**Borrower**" means Progenity, Inc., a Delaware corporation.

"**Business Day**" means any day that is not a Saturday, Sunday or other day on which commercial banks in New York, New York are authorized or required by law to remain closed.

"**Capital Expenditures**" means, for any period, the sum for the Credit Parties and their respective Subsidiaries (determined on a consolidated basis without duplication in accordance with GAAP) of the aggregate amount of expenditures made during such period (including the aggregate amount of Capital Lease Obligations incurred during such period) to acquire or construct fixed assets, plant and Equipment (including renewals, improvements and replacements, but excluding repairs) computed in accordance with GAAP; *provided*, *that*, such term shall not include any such expenditures in connection with (a) a replacement or repair of Property affected by a Casualty Event, (b) Permitted Acquisitions, or (c) the purchase of property, tools or Equipment to the extent financed with Net Cash Payments of a Disposition of obsolete or worn-out property (including leasehold interests), tools or Equipment as contemplated in Section 2.4(b)(i).

"**Capital Lease Obligations**" of any Person, means the obligations of such Person to pay rent or other amounts under any lease of (or other arrangement conveying the right to use) real or personal

property, or a combination thereof, which obligations are required to be classified and accounted for as capital leases on a balance sheet of such Person under GAAP, and the amount of such obligations shall be the capitalized amount thereof determined in accordance with GAAP.

"**Carmenta**" means Carmenta Bioscience, Inc., a Delaware corporation and Wholly Owned Domestic Subsidiary of the Borrower as of immediately prior to the Effective Time.

"**Carmenta Earn-Out Payments**" means any additional consideration in the aggregate amount of up to $4,000,000 during the 2017 and 2018 fiscal years, to be paid in connection with Borrower's acquisition of Carmenta.

"**Casualty Event**" means, with respect to any Property of any Person, any loss of or damage to, or any condemnation or other taking of, such Property for which such Person or any of its Subsidiaries receives insurance proceeds, or proceeds of a condemnation award or other compensation.

"**CCP**" has the meaning assigned to such term in Section 7.8(d).

"**Certificated Security**" has the meaning assigned to such term in Article 8 of the UCC as in effect in the State of New York.

"**CFC**" means a "controlled foreign corporation" as defined in Section 957 of the Code.

"**CHAMPVA**" means, collectively, the Civilian Health and Medical Program of the Department of Veterans Affairs, a program of medical benefits covering certain dependents of former members of the armed services administered by the United States Department of Veterans Affairs, and all laws, rules, regulations, manuals, orders, or requirements pertaining to such program.

"**Change in Law**" means the occurrence, after the Closing Date, of any of the following: (a) the adoption or taking effect of any law, rule, regulation or treaty, (b) any change in any law, rule, regulation or treaty or in the administration, interpretation, implementation or application thereof by any Governmental Authority or (c) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority; *provided*, *that*, notwithstanding anything herein to the contrary, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (y) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to be a "Change in Law", regardless of the date enacted, adopted or issued.

"**Change of Control**" means the occurrence of any of the following events:

(a) at any time prior to the consummation of a Qualified IPO, the Existing Owners shall cease to own and control, of record and beneficially, directly or indirectly, capital stock of the Borrower representing greater than 50% of the aggregate Total Voting Power represented by the issued and outstanding capital stock of the Borrower on a fully diluted basis; or

(b) at any time after the consummation of a Qualified IPO, any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934), other than the Existing Owners, is or becomes the "beneficial owner" (as defined in Rules 13d-3 and 13d-5 under the Securities Exchange Act of 1934, except that a person or group shall be deemed to have "beneficial ownership" of all securities that such person or group has the right to acquire (such right, an "option

right"), whether such right is exercisable immediately or only after the passage of time), directly or indirectly, of capital stock or other equity interests of the Borrower representing 35% or more of the aggregate Total Voting Power represented by the issued and outstanding capital stock and other equity interests of the Borrower on a fully diluted basis (and taking into account all such securities that such person or group has the right to acquire pursuant to any option right); or

(c) at any time prior to the consummation of a Qualified IPO, a majority of the seats (other than vacant seats) on the board of directors of the Borrower shall cease to be occupied by Persons who were appointed by the Existing Owners; or

(d) the Borrower shall fail to own, directly or indirectly, 100% of the outstanding capital stock or other equity interests of each of the other Credit Parties, unless such transaction constitutes a Permitted Disposition or a dissolution or liquidation otherwise permitted under this Agreement; or

(e) (i) the sale of all or substantially all of the business or assets of the Borrower in one transaction or a series of transactions; or (ii) the sale of all or substantially all of the business or assets of any Guarantor in one transaction or a series of transactions, unless such transactions constitute Permitted Dispositions.

"**Chattel Paper**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**CLIA**" means the Federal Clinical Laboratory Improvement Amendments of 1988, as the same may be amended, modified or supplemented from time to time, and any successor statute thereto, and any and all rules or regulations promulgated from time to time thereunder.

"**Closing Date**" means the date of this Agreement.

"**Code**" means the Internal Revenue Code of 1986, as amended from time to time.

"**Collateral**" means, collectively, all of the Property in which Liens are purported to be granted hereunder and under the other Loan Documents as security for the Obligations (but, for the avoidance of doubt, not including any Excluded Collateral).

"**Collateral Agent**" has the meaning assigned to such term in Section 11.1.

"**Collections**" means all amounts received or deemed received by the Credit Parties and their respective Subsidiaries with respect to any accounts, including, without limitation, any Health-Care-Insurance Receivable.

"**Comerica**" means Comerica Bank.

"**Comerica Real Estate Loan Documents**" means, collectively, the Comerica Real Estate Note, the Comerica Real Estate Security Documents, and each other document, instrument, agreement and certificate entered into in connection therewith from time to time, each as amended, modified, supplemented, extended, renewed, refinanced, refunded, replaced or restated from time to time.

"**Comerica Real Estate Note**" means that certain Installment Note, dated as of January 28, 2014, by the Borrower in favor of Comerica, in the original principal amount of $1,750,000, as amended, modified, supplemented, extended, renewed, refinanced, refunded, replaced or restated from time to time.

"**Comerica Real Estate Security Documents**" means, collectively, that certain Continuing Collateral Mortgage, dated as of January 27, 2014, by the Borrower in favor of Comerica, that certain Letter Agreement, dated as of January 28, 2014, by and between the Borrower and Comerica, and each other document and instrument entered into in connection therewith purporting to grant a Lien on the Borrower's real property to secure the Comerica Real Estate Note, each as amended, modified, supplemented, extended, renewed, refinanced, refunded, replaced or restated from time to time.

"**Commercial Tort Claim**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Compliance Certificate**" means a certificate signed by a Designated Financial Officer, in substantially the form of Exhibit D annexed hereto.

"**Connection Income Taxes**" means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

"**Control**" means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise. "**Controlling**" and "**Controlled**" have meanings correlative thereto. A Person who owns or holds capital stock, beneficial interests or other securities representing ten percent (10%) or more of the Total Voting Power of another Person shall be deemed, for purposes of this Agreement, to "**control**" such other Person.

"**Control Agreement**" means with respect to any Controlled Account, an agreement in form and substance reasonably satisfactory to the Lenders, executed and delivered by the Credit Parties, the depository institution at which such Controlled Account is maintained and the Collateral Agent, for the benefit of the Lenders, as such agreement may be amended, supplemented or otherwise modified from time to time.

"**Controlled Account**" means a Deposit Account which is not an Excluded Account.

"**Controlled Investment Affiliate**" means, as to any Person, any other Person that (a) directly or indirectly, is controlled by such Person and (b) is organized by such Person primarily for the purpose of making equity investments in one or more companies. For purposes of this definition, "control" of a Person means the power, directly or indirectly, to direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

"**Copyrights**" means all copyrights, whether statutory or common law, owned by or assigned to the Credit Parties and their respective Subsidiaries, and all exclusive and nonexclusive licenses to the Credit Parties and their respective Subsidiaries from third parties or rights to use copyrights owned by such third parties, including, without limitation, the registrations, applications and licenses listed on Schedule 5.5 hereto, along with any and all (a) renewals and extensions thereof, (b) income, royalties, damages, claims and payments now and hereafter due and/or payable with respect thereto, including, without limitation, damages and payments for past, present or future infringements thereof, (c) rights to sue for past, present and future infringements thereof, and (d) foreign copyrights and any other rights corresponding thereto throughout the world.

"**Co-Sale Agreement**" means that certain Third Amended and Restated Co-Sale Agreement, dated as of the Closing Date, by and among the Borrower, the Investors (as defined therein) and the Key Holders (as defined therein).

"**Credit Parties**" means the Borrower and each Guarantor.

"**Debtor Relief Laws**" means the Bankruptcy Code of the United States of America, and all other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief laws of the United States or other applicable jurisdictions from time to time in effect.

"**Default**" means any event or condition which constitutes an Event of Default or which upon notice, lapse of time or both would, unless cured or waived, become an Event of Default.

"**Defaulting Lender**" means, any Lender that (a) has failed to (i) fund all or any portion of its Loans within two (2) Business Days of the date such Loans were required to be funded hereunder unless such Lender notifies the Collateral Agent and the Borrower in writing that such failure is the result of such Lender's determination that one or more conditions precedent to funding (each of which conditions precedent, together with any applicable default, shall be specifically identified in such writing) has not been satisfied, or (ii) pay to the Collateral Agent or any other Lender any other amount required to be paid by it hereunder within two (2) Business Days of the date when due, (b) has notified the Borrower or the Collateral Agent in writing that it does not intend to comply with its funding obligations hereunder, or has made a public statement to that effect (unless such writing or public statement relates to such Lender's obligation to fund a Loan hereunder and states that such position is based on such Lender's determination that a condition precedent to funding (which condition precedent, together with any applicable default, shall be specifically identified in such writing or public statement) cannot be satisfied), (c) has failed, within three (3) Business Days after written request by the Collateral Agent or the Borrower, to confirm in writing to the Collateral Agent and the Borrower that it will comply with its prospective funding obligations hereunder (*provided*, *that*, such Lender shall cease to be a Defaulting Lender pursuant to this clause (c) upon receipt of such written confirmation by the Collateral Agent and the Borrower), or (d) has, or has a direct or indirect parent company that has, (i) become the subject of a proceeding under any Debtor Relief Law, or (ii) had appointed for it a receiver, custodian, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or assets, including the Federal Deposit Insurance Corporation or any other state or federal regulatory authority acting in such a capacity; *provided*, *that*, a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any equity interest in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Collateral Agent that a Lender is a Defaulting Lender under any one or more of clauses (a) through (d) above shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender upon delivery of written notice of such determination to the Borrower and each Lender.

"**Deposit Account**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Designated Financial Officer**" means an individual holding one or more of the following offices with each of the Credit Parties or otherwise" having executive responsibilities for financial matters: chief financial officer, vice president of finance, principal accounting officer, treasurer, assistant treasurer or controller.

"**Designated Jurisdiction**" means any country or territory to the extent that such country or territory is the subject of any Sanction.

"**Direction Letter**" means that certain Direction Letter, dated as of the Closing Date, made by the Borrower to the Lenders.

"**Disclosed Matters**" means the environmental matters disclosed in Schedule 5.6(b).

"**Disposition**" means any sale, assignment, transfer, license, lease or other disposition of any property or assets, in each case, whether now owned or hereafter acquired, by any Credit Party or any Subsidiary, in each case to any Person other than to a Credit Party.

"**Distributions**" means, collectively, with respect to each Credit Party, all dividends, cash, options, warrants, rights, instruments, distributions, returns of capital or principal, income, interest, profits and other property, interests (debt or equity) or proceeds, including as a result of a split, revision, reclassification or other like change of the Pledged Collateral, from time to time received, receivable or otherwise distributed to such Credit Party in respect of or in exchange for any or all of the Pledged Collateral.

"**Document**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Dollar**" and "**$**" mean lawful money of the United States.

"**Domestic Subsidiary**" means any Subsidiary incorporated or organized under the laws of the United States, any State thereof or the District of Columbia.

"**Effective Time**" means the time when the conditions specified in Section 6.1 are satisfied (or waived in accordance with Section 10.2).

"**Electronic Chattel Paper**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Eligible Assets**" means assets (other than current assets) that are used or useful in the same or a related line of business as the Credit Parties and their respective Subsidiaries were engaged in on the Closing Date (or any business substantially related or incidental thereto).

"**Environmental Laws**" means all applicable laws, rules, regulations, codes, ordinances, orders, decrees, judgments, injunctions, notices or binding agreements issued, promulgated or entered into by any Governmental Authority, relating in any way to the environment, preservation or reclamation of natural resources, the handling, treatment, storage, disposal, release or threatened release of any Hazardous Material or to health and safety matters.

"**Environmental Liability**" means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities), of any Credit Party or any Subsidiary directly or indirectly resulting from or based upon (a) violation of any Environmental Law, (b) the generation, use, handling, transportation, storage, treatment or disposal of any Hazardous Materials, (c) exposure to any Hazardous Materials, (d) the release or threatened release of any Hazardous Materials into the environment or (e) any contract, agreement or other consensual arrangement pursuant to which liability is assumed or imposed with respect to any of the foregoing.

"**Equipment**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Equity Rights**" means, with respect to any Person, any subscriptions, options, warrants, commitments, preemptive rights or agreements of any kind (including any stockholders' or voting trust agreements) for the issuance or sale of, or securities convertible into, any additional shares of capital stock or other equity interests of any class, or partnership or other ownership interests of any type in, such Person.

"**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended from time to time.

"**ERISA Affiliate**" means any trade or business (whether or not incorporated) that, together with the Credit Parties and their respective Subsidiaries, is treated as a single employer within the meaning of Section 414(b), (c), (m) or (o) of the Code. Notwithstanding the foregoing, for purposes of any liability related to a Multiemployer Plan under Title IV of ERISA, the term "**ERISA Affiliate**" means any trade or business that, together with the Credit Parties and their respective Subsidiaries, is treated as a single employer within the meaning of Section 4001(b) of ERISA.

"**ERISA Event**" means (a) a "**reportable event**", as defined in Section 4043 of ERISA or the regulations issued thereunder for which the notice requirement has not been waived with respect to any Pension Plan, (b) the failure to make the minimum required contributions (as defined in Section 412 of the Code or Section 302 of ERISA) to any Pension Plan, (c) the filing pursuant to Section 412(d) of the Code or Section 303(d) of ERISA of an application for a waiver of the minimum funding standard with respect to any Pension Plan, (d) the incurrence by any Credit Party, any Subsidiary or any ERISA Affiliate of any liability under Title IV of ERISA with respect to the termination of any Pension Plan, (e) the receipt by any Credit Party, any Subsidiary or any ERISA Affiliate from the PBGC or plan administrator of any notice relating to an intention to terminate any Pension Plan or Pension Plans or to appoint a trustee to administer any Pension Plan, or (f) the receipt by any Credit Party, any Subsidiary or any ERISA Affiliate of any notice, or the receipt by any Multiemployer Plan from any Credit Party, any Subsidiary or any ERISA Affiliate of any notice of Withdrawal Liability or a determination that a Multiemployer Plan is, or is expected to be, insolvent, within the meaning of Title IV of ERISA.

"**Event of Default**" has the meaning assigned to such term in Section 9.1.

"**Excluded Account**" has the meaning assigned to such term in Section 7.13.

"**Excluded Collateral**" has the meaning assigned to such term in Section 4.1.

"**Excluded Subsidiary**" means (a) any FSHCO and (b) any Foreign Subsidiary.

"**Excluded Taxes**" means, any of the following Taxes imposed on or with respect to, or required to be withheld or deducted from a payment to, a Recipient, (a) Taxes imposed on (or measured by) net income (however denominated), franchise Taxes, and branch profits Taxes, in each case, (i) imposed by the jurisdiction (or any political subdivision thereof) under the laws of which such Lender is organized or in which its principal office is located or in which its lending office is located or (ii) that are Other Connection Taxes, (b) U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or commitment pursuant to a law in effect on the date on which (i) such Lender acquires such interest in the Loan or commitment (other than pursuant to an assignment request by the Borrower under Section 2.8) or (ii) such Lender changes its lending office, except in each case to the extent that, pursuant to Section 2.6, amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its lending office, (c) Taxes attributable to

Lender's failure to comply with Section 2.6(d), and (d) any U.S. federal withholding Taxes imposed under FATCA.

"**Existing Debt**" means (a) Indebtedness of the Credit Parties and their respective Subsidiaries existing as of the Effective Time which is being repaid in full with the proceeds of the Term Loan and (b) Indebtedness of the Credit Parties and their respective Subsidiaries existing as of the Effective Time which is permitted to remain outstanding after the Effective Time under Section 8.1(b).

"**Existing Owners**" means Stylli, Athyrium Opportunities Fund (A) LP, Athyrium Opportunities Fund (B) LP, Beaver Creek Intermediate Fund, Ltd., MAK Capital Management, LLC, The Moses Trust and any Controlled Investment Affiliates of any such Person.

"**FAC Regulations**" has the meaning assigned to such term in Section 5.20.

"**FATCA**" means Sections 1471 through 1474 of the Code, as of the Closing Date (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code and any intergovernmental agreement entered into in connection with the implementation of the foregoing.

"**First Priority**" means, with respect to any Lien purported to be created in any Collateral pursuant to any Loan Document, that such Lien is the most senior Lien (other than Permitted Liens) to which such Collateral is subject.

"**Fixtures**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Foreign Subsidiary**" means any Subsidiary that is not a Domestic Subsidiary.

"**FSHCO**" means any Domestic Subsidiary (including but not limited to any entity that is treated as a disregarded entity for U.S. federal income tax purposes) substantially all of the assets of which consist, directly or indirectly, of capital stock or other equity interests of one or more CFCs or Indebtedness of such CFCs (or are treated as consisting of such assets for U.S. federal income tax purposes).

"**GAAP**" means generally accepted accounting principles in the United States of America, consistently applied and subject to Section 1.3.

"**General Intangible**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Goods**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Government Depository Account**" means a Deposit Account in the name of a Credit Party maintained at a bank that is reasonably acceptable to the Lenders (it being agreed that Comerica Bank is acceptable to the Lenders), to which all Government Receivables are sent.

"**Government Investigation**" has the meaning set forth in Section 5.6(c) hereto.

"**Government Receivable**" means any Health-Care-Insurance Receivable that is payable by a Governmental Payor.

"**Governmental Authority**" means the government of the United States of America, any other nation or any political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government.

"**Governmental Payor**" means Medicare, Medicaid, TRICARE, CHAMPVA, any state health plan adopted pursuant to Title XIX of the Social Security Act, any other state or federal health care program and any other Governmental Authority which presently or in the future maintains a Third Party Payor Program.

"**Guarantee**" means a guarantee, an endorsement, a contingent agreement to purchase or to furnish funds for the payment or maintenance of, or otherwise to be or become contingently liable under or with respect to, Indebtedness, other obligations, net worth, working capital or earnings of any Person, or a guarantee of the payment of dividends or other distributions upon the capital stock or other equity interests of any Person, or an agreement to purchase, sell or lease (as lessee or lessor) property, products, materials, supplies or services primarily for the purpose of enabling a debtor to make payment of such debtor's obligations or an agreement to assure a creditor against loss, and including, without limitation, causing a bank or other financial institution to issue a letter of credit or other similar instrument for the benefit of another Person, but excluding endorsements for collection or deposit in the ordinary course of business. The terms "**Guarantee**" and "**Guaranteed**" used as a verb shall have a correlative meaning.

"**Guarantor**" means, collectively, (a) each Person identified as a "Guarantor" on the signature pages hereto, (b) each Wholly Owned Domestic Subsidiary as may from time to time become party to this Agreement pursuant to Section 7.10 or otherwise deliver a guaranty of the Obligations in accordance with the provisions of Section 7.10 and (c) the successors and permitted assigns of the foregoing, in each case, until such time as the respective Subsidiary is released from all of its obligations in accordance with the terms and provisions of this Agreement; *provided*, *that*, no Excluded Subsidiary shall be a Guarantor.

"**Hazardous Materials**" means all explosive or radioactive substances or wastes and all hazardous or toxic substances, wastes or other pollutants, including petroleum or petroleum distillates, asbestos or asbestos containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other substances or wastes of any nature.

"**Health-Care-Insurance Receivable**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Health Care Laws**" means all federal, state or local laws, rules, codes, statutes, regulations, ordinances, statutes, as the same may be amended, modified or supplemented from time to time, and any successor statute thereto relating to the regulation, provision or administration of, or billing or payment for, health care products or services, including, without limitation, (a) fraud and abuse laws (including the following statutes, as amended, modified or supplemented from time to time and any successor statutes thereto and regulations promulgated from time to time thereunder: the federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)); the Stark Law (42 U.S.C. § 1395nn and §1395(q)); the civil False Claims Act (31 U.S.C. § 3729 et seq.); Sections 1320a-7, 1320a-7a and 1320a-7b of Title 42 of the United States Code; the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (Pub. L. No. 108-173)); (b) Medicare, Medicaid, CHAMPVA or TRICARE or other Governmental Party Payor Programs; (c) laws relating to the licensure or regulation of healthcare providers, suppliers, professionals, facilities or payors; (d) laws relating to quality, safety certification and accreditation standards and requirements;

(e) laws relating to the billing, coding or submission of claims or collection of accounts receivable or refund of overpayments under Third Party Payor Programs; (f) Health Information Privacy Laws; (g) laws relating to the practice of medicine and other health care professions or the organization of medical or professional entities; (h) laws relating to fee-splitting prohibitions; (i) charitable trusts or charitable solicitation laws; (j) health planning or rate-setting laws, including laws regarding certificates of need and certificates of exemption; (k) laws relating to certificates of operations and authority; (l) laws regulating the provision of free or discounted care or services; (m) CLIA; and (n) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301 et seq.).

"**Health Care Permits**" means any and all permits, licenses and authorizations issued to or required for any Credit Party or any Subsidiary by a Governmental Authority under applicable Health Care Laws.

"**Health Information Privacy Laws**" means the (a) Health Insurance Portability and Accountability Act of 1996; (b) the Health Information Technology for Economic and Clinical Health Act (Title XIII of the American Recovery and Reinvestment Act of 2009); (c) Genetic Information Non-Discrimination Act of 2008 (GINA); and (d) any state and local laws to which any Credit Party or any Subsidiary is subject regulating the privacy and/or security of genetic information or individually identifiable information, including state laws providing for notification of breach of privacy or security of individually identifiable information, in each case with respect to the laws described in clauses (a), (b), (c) and (d) of this definition, as the same may be amended, modified or supplemented from time to time, any successor statutes thereto, any and all rules or regulations promulgated from time to time thereunder.

"**Hedging Agreement**" means any interest rate protection agreement, foreign currency exchange agreement, commodity price protection agreement or other interest or currency exchange rate or commodity price hedging arrangement.

"**HMT**" has the meaning assigned to such term in the definition of "Sanctions".

"**Indebtedness**" means, for any Person, without duplication: (a) obligations created, issued or incurred by such Person for borrowed money (whether by loan, advance, the issuance and sale of debt securities or the sale of Property to another Person subject to an understanding or agreement, contingent or otherwise, to repurchase such Property from such Person); (b) obligations of such Person to pay the deferred purchase or acquisition price of Property or services, other than trade accounts payable (other than for borrowed money) arising, and accrued expenses and deferred taxes incurred and paid, in the ordinary course of business and, with respect to trade accounts payable, not past due for more than 60 days after the date on which such trade account payable was created; (c) Capital Lease Obligations of such Person; (d) obligations of such Person in respect of Hedging Agreements; and (e) obligations of such Person in respect of letters of credit or similar instruments issued or accepted by banks and other financial institutions for the account of such Person. The Indebtedness of any Person shall include the Indebtedness of any other entity (including any partnership in which such Person is a general partner) to the extent such Person is liable therefor as a result of such Person's ownership interest in or other relationship with such entity, except to the extent the terms of such Indebtedness provide that such Person is not liable therefor.

"**Indemnified Taxes**" means (a) all Taxes imposed on or with respect to any payment made by or on account of any obligation of any Credit Party under any Loan Document other than Excluded Taxes and (b) to the extent not otherwise described in the foregoing clause (a), Other Taxes.

"**Instrument**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Investors' Rights Agreement**" means that certain Third Amended and Restated Investors' Rights Agreement, dated as of the Closing Date, by and among the Borrower, the Investors (as defined therein) and the Founders (as defined therein).

"**Inventory**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Intellectual Property**" means all of the Credit Parties' right, title, and interest in and to the following:

(a) their respective Copyrights, Trademarks and Patents;

(b) any and all trade secrets and trade secret rights, including, without limitation, any rights to unpatented inventions, know-how, operating manuals;

(c) any and all source code;

(d) any and all design rights which may be available to any Credit Party;

(e) any and all claims for damages by way of past, present and future infringement of any of the foregoing, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the Intellectual Property rights identified above; and

(f) all amendments, renewals and extensions of any of such Copyrights, Trademarks or Patents.

"**Intercompany Indebtedness**" has the meaning assigned to such term in Section 10.9.

"**Investment**" means, for any Person: (a) any Acquisition; (b) any acquisition (whether for cash, Property, services or securities or otherwise) of capital stock or other equity interests, bonds, notes, debentures, partnership, limited liability company or other ownership interests or other securities of any other Person or any agreement to make any such acquisition (including, without limitation, any "**short sale**" or any sale of any securities at a time when such securities are not owned by the Person entering into such short sale); (c) the making of any deposit with, or advance, loan or other extension of credit to, any other Person (including the purchase of Property from another Person subject to an understanding or agreement, contingent or otherwise, to resell such Property to such Person, but excluding any such advance, loan or extension of credit representing the purchase price of Inventory or supplies sold by such Person in the ordinary course of business; *provided*, *that*, in no event shall the term of any such Inventory or supply advance, loan or extension of credit exceed 180 days); or (d) the entering into of any Guarantee of, or other contingent obligation with respect to, Indebtedness or other liability of any other Person and (without duplication) any amount committed to be advanced, lent or extended to such Person. Notwithstanding the foregoing, Capital Expenditures shall not be deemed "**Investments**" for purposes hereof.

"**Investment Documents**" means, collectively, the Loan Documents and the Warrants.

"**Investment Property**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Landlord's Waiver and Consent**" means, with respect to any Leasehold Property, a letter, certificate or other instrument in writing from the lessor under the related lease, or ground lease, in form reasonably satisfactory to the Lenders.

"**Leasehold Property**" means any leasehold interest of any Credit Party or any Subsidiary, in each case, as lessee under any lease of real property, other than any such leasehold interest designated from time to time by the Collateral Agent in its reasonable discretion as not being required to be included in the Collateral and not being of material importance to the business or operations of the Credit Parties and their respective Subsidiaries.

"**Lenders**" means each of the Persons identified as a "Lender" on the signature pages hereto, each other Person that becomes a Lender in accordance with this Agreement and their respective successors and assigns. The Lenders party hereto as of the Closing Date are set forth on Schedule A hereto.

"**Letter-of-Credit Right**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Licensed Personnel**" means any Person (including any physician) involved in the delivery of health care or medical items, services or supplies, employed or retained by any Credit Party or any Subsidiary.

"**Lien**" means, with respect to any asset, (a) any mortgage, deed of trust, lien, pledge, hypothecation, encumbrance, charge or security interest in, on or of such asset, (b) the interest of a vendor or a lessor under any conditional sale agreement, capital lease or title retention agreement (or any financing lease having substantially the same economic effect as any of the foregoing), other than an operating lease, relating to such asset and (c) in the case of securities, any purchase option, call or similar right of a third party with respect to such securities.

"**Loans**" means an extension of credit by a Lender to the Borrower under Section 2.1(a).

"**Loan Documents**" means this Agreement, the Term Note, the Control Agreements, the Perfection Certificate(s), any Pledge Amendment, the Direction Letter and any other instruments or documents executed and delivered or to be delivered to the Lenders from time to time pursuant to this Agreement (other than, for the avoidance of doubt, the Warrants), as the same may be supplemented and amended from time to time in accordance with their respective terms.

"**Lubbock Mortgage**" means a mortgage with respect to the Lubbock Property.

"**Lubbock Property**" means the real property located at tract EE-1, Physicians Surgicenter of Lubbock, an Addition of the City of Lubbock, Lubbock County, Texas, as recorded in Document No. 2007047498 of the Official Public Records of Lubbock County, Texas.

"**Material Adverse Effect**" means a material adverse change in, or a material adverse effect on, (a) the business, assets or financial condition of the Credit Parties and their respective Subsidiaries, taken as a whole, (b) the ability of any Credit Party to pay or perform any of its obligations under this Agreement or the other Loan Documents or (c) any of the rights of or benefits available to the Collateral Agent or the Lenders under this Agreement and the other Loan Documents.

"**Material Indebtedness**" means Indebtedness (other than the Loans), including, without limitation, obligations in respect of one or more Hedging Agreements, in an aggregate principal amount exceeding $2,000,000. For purposes of determining Material Indebtedness, the "**principal amount**" of

the obligations of any Person in respect of a Hedging Agreement at any time shall be the maximum aggregate amount (giving effect to any netting agreements) that such Person would be required to pay if such Hedging Agreement were terminated at such time.

"**Material Leasehold Property**" means a Leasehold Property reasonably determined by the Lenders in their reasonable discretion to be of material value or of material importance to the business operations of the Credit Parties and their respective Subsidiaries, including, without limitation, a Leasehold Property where any Credit Party or any Subsidiary operates a clinical laboratory or keeps the books and records of any Credit Party or any Subsidiary.

"**Material Rental Obligations**" means obligations of the Credit Parties and their respective Subsidiaries to pay rent under any one or more operating leases with respect to any real or personal property that is material to the business of the Credit Parties and their respective Subsidiaries.

"**Maturity Date**" means October 27, 2022; *provided*, *that*, if such day is not a Business Day, the Maturity Date shall be the next preceding Business Day.

"**Maximum Rate**" has the meaning assigned to such term in Section 10.15.

"**Medicaid**" means, collectively, the health care assistance program established by Title XIX of the Social Security Act (42 U.S.C. § 1396 et seq.) and any statutes succeeding thereto, and all laws, rules, regulations, manuals, orders or requirements pertaining to such program, including (a) all federal statutes affecting such program; (b) all state statutes and plans for medical assistance enacted in connection with such program and federal rules and regulations promulgated in connection with such program; and (c) all applicable provisions of all rules, regulations, manuals, orders and administrative, reimbursement, and requirements of all Governmental Authorities promulgated in connection with such program (whether or not having the force of law), in each case as the same may be amended, supplemented or otherwise modified from time to time.

"**Medicare**" means, collectively, the health insurance program for the aged and disabled established by Title XVIII of the Social Security Act (42 U.S.C. § 1395 et seq.) and any statutes succeeding thereto, and all laws, rules, regulations, manuals, orders or requirements pertaining to such program including (a) all federal statutes (whether set forth in Title XVIII of the Social Security Act (42 U.S.C. § 1395 et seq.) or elsewhere) affecting such program; and (b) all applicable provisions of all rules, regulations, manuals, orders and administrative, reimbursement and requirements of all Governmental Authorities promulgated in connection with such program (whether or not having the force of law), in each case as the same may be amended, supplemented or otherwise modified from time to time.

"**Multiemployer Plan**" means a multiemployer plan as defined in Section 4001(a)(3) of ERISA.

"**Net Cash Payments**" means,

(a) with respect to any Casualty Event, the aggregate amount of cash proceeds of insurance, condemnation awards and other compensation received by the Credit Parties and their respective Subsidiaries in respect of such Casualty Event net of (i) reasonable expenses incurred by the Credit Parties and their respective Subsidiaries in connection therewith, (ii) contractually required repayments of Indebtedness to the extent secured by a Lien on such property and (iii) any income and transfer taxes payable by the Credit Parties and their respective Subsidiaries in respect of such Casualty Event;

(b) with respect to any Disposition, the aggregate amount of all cash payments received by the Credit Parties and their respective Subsidiaries directly or indirectly in connection with such Disposition, whether at the time of such Disposition or after such Disposition under deferred payment arrangements or Investments entered into or received in connection with such Disposition, net of (i) the amount of any legal, title, transfer and recording tax expenses, commissions and other fees and expenses payable by the Credit Parties and their respective Subsidiaries in connection therewith, (ii) any Federal, state and local income or other Taxes estimated to be payable by the Credit Parties and their respective Subsidiaries as a result thereof, (iii) any repayments by the Credit Parties and their respective Subsidiaries of Indebtedness to the extent that such Indebtedness is secured by a Lien on the property that is the subject of such Disposition and the underlying transaction documents creating such Lien require, or the transferee thereof requires, that such Indebtedness be repaid as a condition to the purchase of such property and (iv) any repayments by the Credit Parties and their respective Subsidiaries to minority stockholders if and to the extent permitted hereby; and

(c) with respect to any incurrence of Indebtedness or offering of capital stock or other equity securities, the aggregate amount of all cash proceeds received by the Credit Parties and their respective Subsidiaries therefrom less all legal, underwriting and similar discounts, commissions, fees, costs and expenses associated or incurred in connection therewith.

"**Non-Consenting Lender**" means any Lender that does not approve any consent, waiver or amendment that (a) requires the approval of all or all affected Lenders in accordance with the terms of Section 10.2 and (b) has been approved by the Required Lenders.

"**Obligations**" means (a) the aggregate outstanding principal balance of and all interest on, and Prepayment Premium with respect to, the Loans made by the Lenders (including, for the avoidance of doubt, the Term Loan) to the Borrower (including any interest accruing after the commencement of any proceeding by or against the Borrower under the federal bankruptcy laws, as now or hereafter constituted, or any other applicable federal or state bankruptcy, insolvency or other similar law, and any other interest that would have accrued but for the commencement of such proceeding, whether or not any such interest is allowed as a claim enforceable against the Borrower in any such proceeding), and (b) all, fees, costs, charges, expenses and other obligations from time to time owing to the Lenders by the Credit Parties hereunder or under any other Loan Document.

"**OFAC**" means the Office of Foreign Assets Control of the United States Department of the Treasury.

"**Organization Documents**" means (a) for any corporation, the certificate or articles of incorporation, the bylaws, any certificate of designation or other instrument relating to the rights of preferred shareholders or stockholders of such corporation, (b) for any partnership, the partnership agreement and, if applicable, the certificate of limited partnership, and (c) for any limited liability company, the operating agreement and articles or certificate of formation or organization.

"**Other Connection Taxes**" means, with respect to any Lender, Taxes imposed as a result of a present or former connection between such Lender and the jurisdiction imposing such Tax (other than connections arising from such Lender having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

"**Other Taxes**" means any and all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes arising from any payment made hereunder or from the execution,

delivery or enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, this Agreement and the other Loan Documents except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to Section 2.8(b)).

"**Participant**" has the meaning assigned to such term in Section 10.4(c).

"**Participant Register**" has the meaning assigned to such term in Section 10.4(c).

"**Patents**" means all patents issued or assigned to and all patent applications made by the Credit Parties and their respective Subsidiaries and all exclusive and nonexclusive licenses to the Credit Parties and their respective Subsidiaries from third parties or rights to use patents owned by such third parties, including, without limitation, the patents, patent applications and licenses listed on Schedule 5.5 hereto, along with any and all (a) inventions and improvements described and claimed therein, (b) reissues, divisions, continuations, extensions and continuations-in-part thereof, (c) income, royalties, damages, claims and payments now and hereafter due and/or payable under and with respect thereto, including, without limitation, damages and payments for past or future infringements thereof, (d) rights to sue for past, present and future infringements thereof, and (e) any other rights corresponding thereto throughout the world.

"**Pension Plan**" means any Plan that is a defined benefit pension plan subject to the provisions of Title IV of ERISA or Section 412 of the Code or Section 302 of ERISA, and in respect of which any Credit Party or any ERISA Affiliate is (or, if such plan were terminated, would under Section 4069 of ERISA be deemed to be) an "**employer**" as defined in Section 3(5) of ERISA.

"**Perfection Certificate**" means, individually and collectively, certificates, in substantially the form attached as Exhibit C hereto.

"**Permitted Acquisitions**" means Investments consisting of an Acquisition by any Credit Party; *provided*, *that*: (a) the Property acquired (or the Property of the Person acquired) in such Acquisition is used or useful in the businesses of the Credit Parties and their respective Subsidiaries, (b) the Lenders shall have received not less than five (5) Business Days prior notice of such Acquisition, which notice shall contain copies or drafts of the Acquisition transaction documents, (c) at or prior to the closing of such Permitted Acquisition, the Collateral Agent for the benefit of the Lenders shall be granted a first priority perfected Lien (subject to Permitted Liens) in the assets and capital stock or other equity interests of such acquisition target or Subsidiary and such acquisition target or Subsidiary shall join this Agreement and the other Loan Documents as a Credit Party pursuant to the terms of Section 7.10, (d) in the case of an Acquisition of the capital stock or other equity interests of another Person, the board of directors (or other comparable governing body) of such other Person shall have duly approved such Acquisition, (e) the Credit Parties shall have delivered to the Lenders a Compliance Certificate demonstrating that no Event of Default exists or would be caused by such Acquisition, (f) after giving effect thereto, the representations and warranties made by the Credit Parties in each Loan Document taken as a whole shall be true and correct in all material respects (except to the extent that such representation and warranty is qualified by materiality or reference to Material Adverse Effect, in which case such representation and warranty shall be true and correct in all respects) at and as if made as of the date of such Acquisition, except to the extent such representations and warranties expressly relate to an earlier date in which case such representations and warranties shall be true and correct in all material respects as of such earlier date (except to the extent that such representation and warranty is qualified by materiality or reference to Material Adverse Effect, in which case such representation and warranty shall be true and correct in all respects as of such earlier date)), (g) the Total Consideration paid by the Credit Parties for all such Acquisitions (x) occurring in any fiscal year shall not exceed $10,000,000 and (y) in the

aggregate prior to the Maturity Date shall not exceed $30,000,000 (*provided*, *that*, the Avero Earn-Out Payments and the Carmenta Earn-Out Payments shall be excluded from the calculations of each of the baskets set forth in clauses (x) and (y) above), and (h) the business and assets acquired by a Credit Party, or in the case of an equity interest, formed, in such Acquisition shall be free and clear of all Liens (other than Permitted Liens).

"**Permitted Dispositions**" has the meaning assigned to such term in Section 8.4(b).

"**Permitted Post-IPO Dividends**" means Restricted Junior Payments payable from time to time after a Qualified IPO on account of the capital stock of the Borrower, in an aggregate amount not to exceed six percent (6.00%) per annum of the net cash proceeds received by the Borrower from such Qualified IPO.

"**Permitted Pre-IPO Dividends**" means Restricted Junior Payments payable from time to time prior to a Qualified IPO on account of the capital stock of the Borrower; *provided*, *that*, (a) at least a pro rata portion of such dividends and distributions are paid to the holders of the then-outstanding shares of Series A-1 Preferred Stock and the Series B Preferred Stock in their respective capacities as such, on an as converted basis, and (b) the aggregate amount of such dividends and distributions during any fiscal year (or, with respect to the fiscal year in which the Qualified IPO occurs, for the period from the beginning of such fiscal year to the date immediately preceding the date of such Qualified IPO) shall not exceed an amount equal to two thirds of the Borrower's net income for such fiscal year (or, with respect to the fiscal year in which the Qualified IPO occurs, for the period from the beginning of such fiscal year to the date immediately preceding the date of such Qualified IPO) without the prior written consent of the Lenders.

"**Permitted Investments**" means:

(a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America (or by any agency thereof to the extent such obligations are backed by the full faith and credit of the United States of America), in each case maturing within one year from the date of acquisition thereof;

(b) investments in commercial paper maturing within 90 days from the date of acquisition thereof and having, at such date of acquisition, the highest credit rating obtainable from S&P or from Moody's Investors Service, Inc.;

(c) investments in certificates of deposit, banker's acceptances and time deposits maturing within 180 days from the date of acquisition thereof issued or guaranteed by or placed with, and money market Deposit Accounts issued or offered by, any domestic office of any commercial bank organized under the laws of the United States of America or any State thereof which has a combined capital and surplus and undivided profits of not less than $250,000,000;

(d) fully collateralized repurchase agreements with a term of not more than 30 days for securities described in clause (a) above and entered into with a financial institution satisfying the criteria described in clause (c) above;

(e) investments in money market mutual funds that are rated AAA by S&P; and

(f) instruments equivalent to those referred to in clauses (a) through (e) above denominated in any foreign currency and comparable in credit quality and tenor to those referred to above and commonly used by corporations for cash management purposes in any jurisdiction outside the United

States to the extent reasonably required in connection with any business conducted by any Subsidiary organized in such jurisdiction.

"**Permitted Liens**" has the meaning assigned to such term in Section 8.2.

"**Person**" means any natural person, corporation, limited liability company, trust, joint venture, association, company, partnership, Governmental Authority, or other entity.

"**Plan**" means any employee benefit plan within the meaning of Section 3(3) of ERISA in which any Credit Party, any Subsidiary or any ERISA Affiliate is an "**employer**" as defined in Section 3(5) of ERISA, including, but not limited to, any Pension Plan or Multiemployer Plan.

"**Pledge Amendment**" has the meaning assigned to such term in Section 4.5(a).

"**Pledged Collateral**" means, collectively, with respect to each Credit Party, (a) the capital stock or other equity interests set forth on Schedule 4.3 hereto and all options, warrants, rights, agreements and additional capital stock or other equity interests of whatever class of any Subsidiary or other Person now existing or hereafter acquired by such Credit Party (including by issuance), together with all rights, privileges, authority and powers of such Credit Party relating to such capital stock or other equity interests in each such Subsidiary or other Person or under any Organization Document of each such Subsidiary or other Person, and the certificates, instruments and agreements representing such capital stock or other equity interests and any and all interest of such Credit Party in the entries on the books of any financial intermediary pertaining to such capital stock or other equity interests, (b) all capital stock or other equity interests of any issuer, which capital stock or other equity interests are hereafter acquired by such Credit Party (including by issuance) and all options, warrants, rights, agreements and additional equity interests of whatever class of any such issuer acquired by such Credit Party (including by issuance), together with all rights, privileges, authority and powers of such Credit Party relating to such capital stock or other equity interests or under any Organization Document of any such issuer, and the certificates, instruments and agreements representing such capital stock or other equity interests and any and all interest of such Credit Party in the entries on the books of any financial intermediary pertaining to such capital stock or other equity interests, from time to time acquired by such Credit Party in any manner, and (c) all capital stock or other equity interests issued in respect of the capital stock or other equity interests referred to in clause (a) or (b) upon any consolidation or merger of any issuer of such capital stock or other equity interests; *provided*, *that*, "Pledged Collateral" shall not include any Excluded Collateral.

"**Post-Default Rate**" means, a rate per annum equal to the Applicable Rate plus two percent (2%).

"**Prepayment Premium**" has the meaning assigned to such term in Section 2.5(b).

"**Pro Rata**" means in respect of the Term Loan, with respect to any Lender at any time, the percentage (carried out to the ninth decimal place) of the Term Loan represented by the outstanding principal amount of such Lender's portion of the Term Loan at such time.

"**Proceeds**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Promissory Note**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Property**" means any interest of any kind in property or assets, whether real, personal or mixed, and whether tangible or intangible.

"**Proprietary Rights**" has the meaning assigned to such term in Section 5.5(b).

"**Qualified IPO**" means the issuance by the Borrower of its capital stock in an underwritten primary public offering (other than a public offering pursuant to a registration statement on Form S-8) pursuant to an effective registration statement filed with the Securities and Exchange Commission in accordance with the Securities Act, and any successor statute (whether alone or in connection with a secondary public offering).

"**Real Property Asset**" means, at any time of determination, any and all real property owned or leased by the Credit Parties and their respective Subsidiaries.

"**Register**" has the meaning assigned to such term in Section 10.4(g).

"**Recipient**" means any Lender or the Collateral Agent.

"**Registered Proprietary Rights**" has the meaning assigned to such term in Section 5.5(c).

"**Related Parties**" means, with respect to any specified Person, such Person's Affiliates and the respective partners, directors, officers, employees, agents, administrators, managers, representatives, advisors and sub-advisors of such Person and such Person's Affiliates.

"**Required Lenders**" means, at any time, Lenders having Total Credit Exposures representing more than 50% of the Total Credit Exposures of all Lenders.

"**Restricted Junior Payment**" means (a) any dividend or other distribution, direct or indirect, on account of any shares of any class of stock of, or other equity interest in, any Credit Party or any Subsidiary now or hereafter outstanding, except a dividend payable solely in shares of stock or other equity interests, (b) any redemption, retirement, sinking fund or similar payment, purchase or other acquisition for value, direct or indirect, of any shares of any class of stock of, or other equity interest in, any Credit Party or any Subsidiary now or hereafter outstanding, (c) any payment made to retire, or to obtain the surrender of, any outstanding warrants, options or other rights to acquire shares of any class of stock of, or other equity interest in, any Credit Party or any Subsidiary, (d) any payment or prepayment of principal of, premium, if any, or interest on, or redemption purchase, retirement, defeasance (including economic or legal defeasance), sinking fund or similar payment with respect to, any subordinated indebtedness, and (e) any payment made to any Affiliate of any Credit Party or any Subsidiary in respect of management, consulting or other similar services provided to any Credit Party or any Subsidiary.

"**Restrictive Agreements**" has the meaning assigned to such term in Section 5.13(b).

"**Sanctions**" means any sanction administered or enforced by the United States Government (including OFAC), the United Nations Security Council, the European Union, Her Majesty's Treasury ("HMT") or other relevant sanctions authority.

"**Securities Act**" means the Securities Act of 1933, including all amendments thereto and regulations promulgated thereunder.

"**Securities Account**" has the meaning assigned to such term in Article 8 of the UCC as in effect in the State of New York.

"**Security**" has the meaning assigned to such term in Article 8 of the UCC as in effect in the State of New York.

"**Series A-1 Preferred Stock**" means the series of preferred stock of the Borrower designated as Series A-1 Preferred Stock, par value $0.001.

"**Series A-2 Preferred Stock**" means the series of preferred stock of the Borrower designated as Series A-2 Preferred Stock, par value $0.001.

"**Series B Preferred Stock**" means the series of preferred stock of the Borrower designated as Series B Preferred Stock, par value $0.001.

"**Series B Preferred Stock Purchase Agreement**" means that certain Series B Preferred Stock Purchase Agreement, dated as of the Closing Date, by and among the Borrower and AOF III Co-Invest.

"**S&P**" means Standard & Poor's Ratings Services LLC, a subsidiary of McGraw Hill Financial, Inc.

"**Specified Acceleration Event**" means (a) an event of the type described in clause (g), (h) or (i) of Section 9.1, (b) an event of the type described in clause (l) of Section 9.1, (c) an event of the type described in clause (a)(i) of Section 9.1, (d) an event of the type described in clause (a)(ii) of Section 9.1, to the extent that the Athyrium Director has not voted in favor of such non-payment at a meeting of the board of directors of the Borrower and (e) an event of the type described in clause (c)(i) of Section 9.1 relating to the Borrower's declaration or making of a Restricted Junior Payment in violation of Section 8.6, to the extent that the Athyrium Director has not voted in favor of such action at a meeting of the board of directors of the Borrower.

"**Stylli**" means Harry Stylli, an individual.

"**Subsidiary**" means any corporation, limited liability company, partnership, association or other entity (a) of which securities or other ownership interests representing more than 50% of the ordinary voting power or, in the case of a partnership, more than 50% of the general partnership interests are, as of such date, owned, controlled or held, or (b) that is, as of such date, otherwise Controlled, by the parent and/or one or more Subsidiaries of the parent. References herein to "**Subsidiaries**" shall, unless the context requires otherwise, be deemed to be references to Subsidiaries of the Borrower.

"**Supporting Obligation**" has the meaning assigned to such term in Article 9 of the UCC as in effect in the State of New York.

"**Taxes**" means any and all present or future taxes, levies, imposts, duties, deductions, charges or withholdings, assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

"**Term Loan**" means the $75,000,000 in aggregate principal amount of Loans funded on the Closing Date by the Lenders pursuant to Section 2.1(a). The amount of the portions of the Term Loan to be funded on the Closing Date by each Lender is set forth on Schedule A.

"**Term Note**" means any promissory note, substantially in the form of Exhibit A-1 annexed hereto, issued by the Borrower in favor of a Lender and evidencing the Borrower's obligations in respect of the portion of the Term Loan made by such Lender.

"**Third Party**" means any Person, other than the parties hereto and their respective Affiliates.

"**Third Party Payor**" means any Third Party which presently or in the future sponsors or maintains any Third Party Payor Program, including without limitation, any Governmental Payors, private insurers, and managed care plans.

"**Third Party Payor Authorizations**" means all participation agreements, provider or supplier agreements, enrollments, accreditations and billing numbers necessary to participate in and receive reimbursement from a Third Party Payor Program, including all Government Payor participation agreements.

"**Third Party Payor Programs**" means all payment or reimbursement programs maintained by a Third Party that pay or insure health or medical expenses on behalf of beneficiaries or recipients, in which any Credit Party or any Subsidiary participates.

"**Total Credit Exposure**" means, as to any Lender at any time, the outstanding portion of the Term Loan held by such Lender at such time.

"**Total Consideration**" means, with respect to any Acquisition, the sum of (a) all cash and non-cash consideration, including the amount of Indebtedness assumed by the buyer and the amount of Indebtedness issued by the buyer to the seller, (b) the maximum amount payable in connection with any deferred purchase price obligation (including any earn-out obligation) and (c) the value of any capital stock or other equity interests of any Credit Party or any Subsidiary issued to the seller in connection with such Acquisition.

"**Total Voting Power**" means, with respect to any Person, the total number of votes which holders of securities having the ordinary power to vote, in the absence of contingencies, are entitled to cast in the election of directors of such Person.

"**Trademarks**" means all trademarks (including service marks), federal and state trademark registrations and applications made by the Credit Parties and their respective Subsidiaries, common law trademarks and trade names owned by or assigned to the Credit Parties and their respective Subsidiaries, all registrations and applications for the foregoing and all exclusive and nonexclusive licenses from third parties of the right to use trademarks of such third parties, including, without limitation, the registrations, applications, unregistered trademarks, service marks and licenses listed on Schedule 5.5 hereto, along with any and all (a) renewals thereof, (b) income, royalties, damages and payments now and hereafter due and/or payable with respect thereto, including, without limitation, damages, claims and payments for past or future infringements thereof, (c) rights to sue for past, present and future infringements thereof, and (d) foreign trademarks, trademark registrations, and trade name applications for any thereof and any other rights corresponding thereto throughout the world.

"**Treasury Regulations**" means the regulations, including temporary regulations, promulgated by the United States Treasury Department under the Code, as such regulations may be amended from time to time (including the corresponding provisions of any future regulations).

"**TRICARE**" means, collectively, a program of medical benefits covering former and active members of the uniformed services and certain of their dependents, financed and administered by the United States Departments of Defense, Health and Human Services and Transportation, and all laws applicable to such programs.

"**U.S. Person**" means any Person that is a "United States person" as defined in Section 7701(a)(30) of the Code.

"**UCC**" means the Uniform Commercial Code (or any similar or equivalent legislation) as in effect in any applicable jurisdiction.

"**USA Patriot Act of 2001**" has the meaning assigned to such term in Section 5.20.

"**Voting Agreement**" means that certain Third Amended and Restated Voting Agreement, dated as of the Closing Date, by and among the Borrower, the Investors (as defined therein) and the Key Holders (as defined therein).

"**Warrants**" means those certain Series B Preferred Stock warrants of the Borrower purchased by the Lenders, substantially in the form of Exhibit A-2. The Warrants shall have the rights set forth therein and shall be in the respective amounts set forth on Schedule A.

"**Wholly Owned Domestic Subsidiary**" means a Wholly Owned Subsidiary that is a Domestic Subsidiary. References herein to "**Wholly Owned Domestic Subsidiaries**" shall, unless the context requires otherwise, be deemed to be references to Wholly Owned Domestic Subsidiaries of the Borrower.

"**Wholly Owned Subsidiary**" means, with respect to any Person at any date, any corporation, limited liability company, partnership, association or other entity of which securities or other ownership interests representing 100% of the equity or ordinary voting power (other than directors' qualifying shares) or, in the case of a partnership, 100% of the general partnership interests are, as of such date, directly or indirectly owned, controlled or held by such Person or one or more Wholly Owned Subsidiaries of such Person or by such Person and one or more Wholly Owned Subsidiaries of such Person. References herein to "**Wholly Owned Subsidiaries**" shall, unless the context requires otherwise, be deemed to be references to Wholly Owned Subsidiaries of the Borrower.

"**Withdrawal Liability**" means liability to a Multiemployer Plan as a result of a complete or partial withdrawal from such Multiemployer Plan, as such terms are defined in Part I of Subtitle E of Title IV of ERISA.

1.2 Terms Generally. The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation". The word "will" shall be construed to have the same meaning and effect as the word "shall". Unless the context requires otherwise (a) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein), (b) any reference herein to any Person shall be construed to include such Person's successors and assigns, (c) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (d) all references herein to Articles, Sections, Exhibits and Schedules shall be construed to refer to Articles and Sections of, and Exhibits and Schedules to, this Agreement and (e) the words "asset" and "property" shall be construed to have the same meaning and effect and to refer to any and all tangible and intangible assets and properties, including cash, securities, accounts and contract rights.

1.3 Accounting Terms; GAAP. Except as otherwise expressly provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP, as in effect from time to

time; *provided*, *that*, if the Borrower notifies the Lenders that the Borrower requests an amendment to any provision hereof to eliminate the effect of any change occurring after the Closing Date in GAAP or in the application thereof on the operation of such provision (or if the Lenders notify the Borrower that the Lenders request an amendment to any provision hereof for such purpose), regardless of whether any such notice is given before or after such change in GAAP or in the application thereof, then such provision shall be interpreted on the basis of GAAP as in effect and applied immediately before such change shall have become effective until such notice shall have been withdrawn or such provision shall have been amended in accordance herewith.

1.4 Joint and Several Obligations; Designated Financial Officers.

(a) All Obligations of the Credit Parties hereunder shall be joint and several. Any notice, request, waiver, consent or other action made, given or taken by any Credit Party shall bind all Credit Parties.

(b) Each Credit Party hereby authorizes each of the Designated Financial Officers to act as agent for each Credit Party and to execute and deliver on behalf of each Credit Party such notices, requests, waivers, consents, certificates and other documents, and to take any and all actions, required or permitted to be delivered or taken by any Credit Party hereunder. The Borrower may replace any of the Designated Financial Officers or add any additional Designated Financial Officers by delivering written notice to the Lenders specifying the names of each new Designated Financial Officer and the offices held by each such Person. Each Credit Party hereby agrees that any such notices, requests, waivers, consents, certificates and other documents executed, delivered or sent by any Designated Financial Officer and any such actions taken by any Designated Financial Officer shall bind each Credit Party.

## ARTICLE 2
## THE CREDITS

2.1 The Term Loan and the Warrants.

(a) Term Loan. On the Closing Date, subject to the terms and conditions set forth herein, the Lenders agree to fund, on a *pro rata* basis, the full amount of the Term Loan. Principal amounts of the Term Loan that have been repaid or prepaid may not be reborrowed.

(b) [Reserved].

(c) Interest on the Term Loan. The outstanding principal amount of the Term Loan shall bear interest at a rate per annum equal to the Applicable Rate. Notwithstanding the foregoing, (i) any portion of the Term Loan which is not paid when due shall automatically bear interest until paid in full at the Post-Default Rate, (ii) during the period when any Event of Default of the type described in clauses (g), (h) or (i) of Section 9.1 shall have occurred and be continuing, the outstanding principal balance of the Term Loan shall automatically bear interest, after as well as before judgment, at the Post-Default Rate, and (iii) if there shall occur and be continuing any Event of Default (other than an Event of Default of the type described in clauses (g), (h) or (i) of Section 9.1), following written notice delivered to the Borrower from the Lenders, the outstanding principal balance of the Term Loan shall bear interest, after as well as before judgment, at the Post-Default Rate during the period beginning on the date such Event of Default first occurred, and ending on the date such Event of Default is cured or waived. Accrued and unpaid interest on the outstanding principal balance of the Term Loan shall be payable quarterly in arrears on March thirty-first (31st), June thirtieth (30th), September thirtieth (30th) and December thirty-first (31st) of each year; *provided*, *that*, interest accrued at the Post-Default Rate shall be payable on demand, and all accrued and unpaid interest on any portion of the principal of the Term Loan

shall be payable on each date that such portion of the principal of the Term Loan shall be payable hereunder and on the Maturity Date. All interest hereunder shall be computed on the basis of a year of 360 days, and in each case shall be payable for the actual number of days elapsed (including the first day but excluding the last day).

(d) Repayment of Term Loan. To the extent not previously paid, the Term Loan shall be due and payable in full on the Maturity Date.

(e) Loan Account. The Lenders shall maintain in accordance with their usual practice an account evidencing the indebtedness of the Borrower to the Lenders in respect of the Term Loan, including the amounts of principal and interest payable and paid to the Lenders from time to time hereunder. The entries made in the account maintained pursuant to this Section 2.1(e) shall be prima facie evidence of the existence and amounts of the obligations recorded therein; *provided*, *that*, the failure of the Lenders to maintain such account or any error therein shall not in any manner affect the obligation of the Borrower to repay the Term Loan in accordance with the terms of this Agreement.

(f) Term Note. Prior to the Closing Date, the Borrower shall prepare, execute and deliver to each Lender a Term Note evidencing the Borrower's obligations in respect of the portion of the Term Loan to be made by such Lender.

(g) Warrants. The Borrower and the Lenders hereby acknowledge and agree that, for United States income tax purposes, for an aggregate purchase price of $74,250,000, (i) the Lenders shall make the Term Loan to the Borrower and (ii) the Borrower shall sell to, and the Lenders shall purchase from the Borrower, the Warrants, in each case, in the respective amounts and purchase prices set forth opposite each Lender's name on Schedule A. Furthermore, the Borrower and the Lenders hereby acknowledge and agree that (i) the issue price (within the meaning of Section 1273(b) of the Code) of the Term Loan is determined pursuant to Section 1272-1275 of the Code and the Treasury Regulations thereunder and (ii) for United States federal income tax purposes, the issue price of the Warrants within the meaning of Section 1273(b) of the Code, which issue price was determined pursuant to Section 1.1273-2(h)(1) of the Treasury Regulations, is equal to $2,255,083.05. The parties hereto agree to report all income tax matters with respect to the Warrants consistent with the provisions of this Section 2.1(g) unless otherwise required by applicable law.

2.2 Payments.

(a) Generally. The Borrower shall be obligated to make each payment required to be made by the Borrower hereunder (whether of principal, interest, fees or otherwise) to the Lenders at their offices in New York, New York, prior to 3:00 p.m., New York, New York time, on the date when due (except that (i) if any payment of accrued and unpaid interest payable pursuant to Section 2.1(c) (other than the payment of accrued and unpaid interest payable on the Maturity Date) shall be due on a day that is not a Business Day, the date for payment shall be the last Business Day immediately preceding the date on which such payment would otherwise be due, and such payment shall include accrued and unpaid interest through the date on which such payment would otherwise be due, and (ii) if any other payment shall be due on a day that is not a Business Day, the date for payment shall be extended to the next succeeding Business Day, and, in the case of any such payment accruing interest, interest thereon shall be payable for the period of such extension). All payments shall be made in immediately available funds, in Dollars without set-off or counterclaim (unless otherwise required under Section 2.6), Pro Rata to the Lenders. Any amounts received after 3:00 p.m., New York, New York time on any date may, in the discretion of the Lenders, be deemed to have been received on the next succeeding Business Day for purposes of calculating interest thereon.

(b) Application of Payments. If at any time insufficient funds are received by and available to the Lenders to pay fully all amounts of principal, interest, Prepayment Premium and fees then due hereunder under any circumstances, including, without limitation, during, or as a result of, the exercise by the Lenders of remedies hereunder or under any other Loan Document and applicable law, such funds shall be applied, on a Pro Rata basis, (i) first, to pay interest, Prepayment Premium, fees, costs and expenses then due hereunder, (ii) second, to pay principal then due hereunder, and (iii) third, to any other Obligations then due from the Credit Parties to the Lenders or any other Affiliate of the Lenders.

2.3 [Reserved].

2.4 Prepayment of Term Loan.

(a) Optional Prepayments of Term Loan. The Borrower shall have the right at any time and from time to time to prepay the Term Loan in whole or in part, subject to prior notice in accordance with Section 2.4(d) and payment of any amounts due under Section 2.5(b). Each optional prepayment of the Term Loan shall be in an amount that is at least equal to $500,000 or any greater multiple of $250,000.

(b) Mandatory Prepayments. Subject to prior notice in accordance with Section 2.4(d) and subject to the payment of any amounts due under Section 2.5(b), the Borrower shall be obligated to, and shall, make prepayments of the Term Loan hereunder as follows:

(i) Sale of Assets. Without limiting the obligation of the Borrower to obtain the consent of the Lenders to any Disposition not otherwise permitted hereunder, the Borrower agrees, within two (2) Business Days after any Disposition by any Credit Party or any Subsidiary (other than a Permitted Disposition consummated in reliance on any of clauses (i) through (viii) of Section 8.4(b)), to prepay the Term Loan hereunder, in an aggregate amount equal to 100% of the amount of the Net Cash Payments from such Disposition received by such Credit Party or such Subsidiary, such payment to be effected in each case in the manner specified in Section 2.4(c) below. Notwithstanding the forgoing, the Borrower shall not be required to make any prepayment of the Term Loan under this Section 2.4(b)(i) with Net Cash Payments received by the Credit Parties and their respective Subsidiaries from Dispositions to the extent such Credit Party or such Subsidiary reinvests such Net Cash Payments in Eligible Assets within three hundred sixty-five (365) days of the date of such Disposition; *provided*, *that*, if such Net Cash Payments shall have not been so reinvested, such Net Cash Payments shall be immediately applied to prepay the Term Loan.

(ii) Proceeds of Casualty Events. Within two (2) Business Days after the date of receipt by the Lenders or the Credit Parties or any of their respective Subsidiaries of the proceeds of insurance, condemnation award or other compensation in respect of any Casualty Event affecting any property of the Credit Parties or any of their respective Subsidiaries, the Borrower shall prepay the Term Loan, in an aggregate amount equal to 100% of the Net Cash Payments from such Casualty Event, such payment to be effected in each case in the manner specified in Section 2.4(c) below; *provided*, *that*, the Borrower shall not be required to make any prepayment pursuant to this Section 2.4(b)(ii) in respect of the proceeds of business interruption insurance. Notwithstanding the forgoing, the Borrower shall not be required to make any prepayment of the Term Loan under this Section 2.4(b)(ii) with respect to up to $4,000,000 of aggregate Net Cash Payments received by the Credit Parties and their respective Subsidiaries from Casualty Events in any fiscal year to the extent such Credit Party or such Subsidiary reinvests such Net Cash Payments in Eligible Assets within three hundred sixty-five (365) days of

the date of such Disposition; *provided*, *that*, if such Net Cash Payments shall have not been so reinvested, such Net Cash Payments shall be immediately applied to prepay the Term Loan.

(iii) Issuance of Indebtedness. In the event that any Credit Party or any Subsidiary receives Net Cash Payments from the issuance or incurrence of Indebtedness by a Credit Party or a Subsidiary that is not permitted under Section 8.1, the Borrower shall, substantially simultaneously with (and in any event not later than the next succeeding Business Day) the receipt of such Net Cash Payments by the applicable Credit Party or Subsidiary, prepay the Term Loan hereunder, in an aggregate amount equal to 100% of the amount of the Net Cash Payments from such issuance or incurrence of Indebtedness received by the applicable Credit Party or Subsidiary, such payment to be effected in each case in the manner specified in Section 2.4(c) below.

(iv) Change of Control. Upon the occurrence of a Change of Control, the Borrower shall, at the direction of the Required Lenders, prepay the aggregate outstanding amount of the Term Loan, such payment to be effected in the manner specified in Section 2.4(c) below.

Notwithstanding anything herein to the contrary, if the Borrower, in consultation with the Collateral Agent, reasonably determines in good faith that the repatriation to the Borrower of the Net Cash Payments of the relevant Disposition consummated by any Foreign Subsidiary or the proceeds of insurance, condemnation award or other compensation in respect of any Casualty Event received by any Foreign Subsidiary, as the case may be, that would otherwise be required to be paid pursuant to Sections 2.4(b)(i) or (ii) above would result in materially adverse tax consequences to any of the Credit Parties, the amount that the Borrower shall be required to mandatorily prepay pursuant to Sections 2.4(b)(i) or (ii) above, as applicable, shall be reduced by such amount; it being understood that if the Borrower, in consultation with the Collateral Agent, reasonably determines that the repatriation of the Net Cash Payments or the proceeds of insurance, condemnation award or other compensation, as the case may be, would no longer result in materially adverse tax consequences to any of the Credit Parties, the relevant Foreign Subsidiary will to the extent then available promptly repatriate the relevant Net Cash Payments or the proceeds of insurance, condemnation award or other compensation, as the case may be, apply the same after such repatriation (net of additional Taxes payable or reserved against as a result thereof) to the repayment of the Term Loan pursuant to this Section 2.4(b) to the extent required herein (without regard to this paragraph).

(c) Application. In the event of any prepayment of the Term Loan pursuant to this Section 2.4 or otherwise, such prepayment shall be applied to the portions of the Term Loan held by the Lenders Pro Rata.

(d) Notification of Certain Prepayments. The Borrower shall notify the Lenders by telephone (confirmed by telecopy) of any voluntary prepayment of the Term Loan not later than three (3) Business Days before the date of such prepayment. The Borrower shall notify the Lenders of any mandatory prepayment of the Term Loan pursuant to Section 2.4(b) hereunder as soon as practicable. Each such notice shall be irrevocable and shall specify the prepayment date and the principal amount of the Term Loan or portion thereof to be prepaid; *provided*, *that*, any notice of voluntary prepayment given by the Borrower may state that such notice is conditioned upon the effectiveness of other credit facilities or capital raising or the occurrence of a Change of Control, in which case such notice may be revoked by the Borrower (by notice to the Collateral Agent on or prior to the specified effective date) if such condition is not satisfied.

(e) Prepayments Accompanied by Interest and Prepayment Premium. All prepayments of the Term Loan shall be accompanied by accrued and unpaid interest through the date of

prepayment on the portion of the Term Loan being prepaid. All prepayments of the Term Loan made pursuant to the express terms of this Section 2.4 or Section 9.1 (solely to the extent set forth in the last paragraph of such Section) shall be accompanied by Prepayment Premium (if any) on the portion of the Term Loan being prepaid.

2.5 Fees.

(a) Original Issue Discount. The Borrower agrees that the Term Loan shall be issued on the Closing Date with original issue discount in an amount equal to 1.00% of the aggregate original principal amount of the Term Loan (i.e., $750,000).

(b) Prepayment Premium. The Term Loan may be prepaid in whole or in part so long as the Prepayment Premium (to the extent set forth in Section 2.4(e)), if any, is paid concurrently therewith on a Pro Rata basis to each Lender. In the event all or a portion of the Term Loan is prepaid, or required to be prepaid, in each case, pursuant to Section 2.4 or Section 9.1 (solely to the extent set forth in the last paragraph of such Section), such prepayments or required prepayments, as the case may be, shall require the Borrower to pay, on a Pro Rata basis to each Lender, a premium (the "Prepayment Premium") equal to (i) the prepayment amount or required prepayment amount, as the case may be, multiplied by (ii) the applicable Prepayment Percentage set forth below:

| Period during which Prepayment or Requirement for Prepayment Occurs | Applicable Prepayment Percentage |
|---|---|
| On or prior to the second anniversary of the Closing Date | 15% |
| After the second anniversary of the Closing Date but on or prior to the third anniversary of the Closing Date | 8% |
| After the third anniversary of the Closing Date but on or prior to the fourth anniversary of the Closing Date | 4% |
| After the fourth anniversary of the Closing Date | 0% |

2.6 Taxes.

(a) Any and all payments by or on account of any Obligations hereunder shall be made free and clear of and without deduction for any Taxes, except as required by applicable law; *provided*, *that*, if the Borrower shall be required by any applicable law to deduct any Indemnified Taxes from such payments, then (i) the sum payable shall be increased as necessary so that after making all required deductions (including deductions applicable to additional sums payable by the Borrower under this Section 2.6) the Lenders receive an amount equal to the sum they would have received had no such deductions been made, (ii) the Borrower shall make such deductions and (iii) the Borrower shall pay the full amount deducted to the relevant Governmental Authority in accordance with applicable law.

(b) In addition, the Borrower shall pay all Other Taxes to the relevant Governmental Authority in accordance with applicable law.

(c) The Borrower shall indemnify each Recipient, within ten (10) days after written demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this Section 2.6) payable or paid by, or required to be withheld or deducted from a payment to, such Recipient (and any reasonable expenses arising therefrom

or with respect thereto), whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Borrower by the Lenders shall be conclusive absent manifest error.

(d) (i) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Borrower, at the time or times reasonably requested by the Borrower, such properly completed and executed documentation reasonably requested by the Borrower as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the Borrower, shall deliver such other documentation prescribed by applicable law or reasonably requested by the Borrower as will enable the Borrower to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Sections 2.6(d)(ii)(A), (ii)(B) and (ii)(D) below) shall not be required if in the Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(ii) Without limiting the generality of the foregoing,

(A) any Lender that is a U.S. Person shall deliver to the Borrower on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), executed copies of IRS Form W-9 certifying that such Lender is exempt from U.S. federal backup withholding tax;

(B) any Lender that is not a U.S. Person shall, to the extent it is legally entitled to do so, deliver to the Borrower (in such number of copies as shall be requested by the Borrower) on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), whichever of the following is applicable:

(1) in the case of a non-U.S. Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN or W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN or W-8BEN-E establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;

(2) executed copies of IRS Form W-8ECI;

(3) in the case of a non-U.S. Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of Exhibit F-1 to the effect that such non-U.S. Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of the Borrower within the meaning of

Section 881(c)(3)(B) of the Code, or a "controlled foreign corporation" described in Section 881(c)(3)(C) of the Code (a "U.S. Tax Compliance Certificate") and (y) executed copies of IRS Form W-8BEN or W-8BEN-E; or

(4) to the extent a non-U.S. Lender is not the beneficial owner, executed copies of IRS Form W-8IMY, accompanied by IRS Form W-8ECI, IRS Form W-8BEN or W-8BEN-E, a U.S. Tax Compliance Certificate substantially in the form of Exhibit F-2 or Exhibit F-3, IRS Form W-9, and/or other certification documents from each beneficial owner, as applicable; *provided that* if the non-U.S. Lender is a partnership and one or more direct or indirect partners of such non-U.S. Lender are claiming the portfolio interest exemption, such non-U.S. Lender may provide a U.S. Tax Compliance Certificate substantially in the form of Exhibit F-4 on behalf of each such direct and indirect partner;

(C) any non-U.S. Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower (in such number of copies as shall be requested by the Borrower) on or prior to the date on which such non-U.S. Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower), executed copies of any other form prescribed by applicable law as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by applicable law to permit the Borrower to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower at the time or times prescribed by law and at such time or times reasonably requested by the Borrower such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower as may be necessary for the Borrower to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this clause (D), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

(e) Each Lender agrees that if any form or certification it previously delivered expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Borrower in writing of its legal inability to do so.

(f) If any Recipient determines, in its sole discretion exercised in good faith, that it has received a refund of any Taxes as to which it has been indemnified pursuant to this Section 2.6 (including by the payment of additional amounts pursuant to this Section 2.6), it shall pay to the Borrower an amount equal to such refund (but only to the extent of indemnity payments made under this Section with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) of such Recipient and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund). The Borrower, upon the request of such Recipient, shall repay to such indemnified party the amount paid over pursuant to this paragraph (e) (plus any penalties, interest or

other charges imposed by the relevant Governmental Authority) in the event that such Recipient is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this subsection, in no event will the applicable Recipient be required to pay any amount to the Borrower pursuant to this subsection the payment of which would place the Recipient in a less favorable net after-Tax position than such Recipient would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This subsection shall not be construed to require any Recipient to make available its tax returns (or any other information relating to its taxes that it deems confidential) to the Borrower or any other Person.

2.7 Increased Costs.

(a) Increased Costs Generally. If any Change in Law shall:

(i) impose, modify or deem any reserve, special deposit, compulsory loan, insurance charge or similar requirement against assets of, deposits with or for the account of, or credit extended or participated in by, any Lender;

(ii) subject any Recipient to any Taxes (other than (A) Indemnified Taxes, (B) Taxes described in clauses (b) through (d) of the definition of Excluded Taxes and (C) Connection Income Taxes) on its loans, loan principal, commitments, or other obligations, or its deposits, reserves, other liabilities or capital attributable thereto; or

(iii) impose on any other condition, cost or expense (other than Taxes) affecting this Agreement or the Loans made by such Lender or participation therein;

and the result of any of the foregoing shall be to increase the cost to such Lender of making, continuing or maintaining any Loan, or to reduce the amount of any sum received or receivable by such Lender hereunder (whether of principal, interest or any other amount) then, upon request of such Lender, the Borrower will pay to such Lender, such additional amount or amounts as will compensate such Lender, for such additional costs incurred or reduction suffered.

(b) Capital Requirements. If any Lender determines that any Change in Law affecting such Lender or any lending office of such Lender or such Lender's holding company, if any, regarding capital or liquidity requirements, has or would have the effect of reducing the rate of return on such Lender's capital or on the capital of such Lender's holding company, if any, as a consequence of this Agreement or the Loans made by such Lender to a level below that which such Lender or such Lender's holding company could have achieved but for such Change in Law (taking into consideration such Lender's policies and the policies of such Lender's holding company with respect to capital adequacy), then from time to time the Borrower will pay to such Lender such additional amount or amounts as will compensate such Lender or such Lender's holding company for any such reduction suffered.

(c) Certificates for Reimbursement. A certificate of a Lender setting forth the amount or amounts necessary to compensate such Lender or its holding company, as the case may be, as specified in paragraph (a) or (b) of this Section 2.7 and delivered to the Borrower, shall be conclusive absent manifest error. The Borrower shall pay such Lender the amount shown as due on any such certificate within ten (10) days after receipt thereof.

(d) Delay in Requests. Failure or delay on the part of any Lender to demand compensation pursuant to this Section 2.7 shall not constitute a waiver of such Lender's right to demand such compensation; *provided*, *that*, the Borrower shall not be required to compensate a Lender pursuant to

this Section 2.7 for any increased costs incurred or reductions suffered more than nine (9) months prior to the date that such Lender notifies the Borrower of the Change in Law giving rise to such increased costs or reductions, and of such Lender's intention to claim compensation therefor (except that, if the Change in Law giving rise to such increased costs or reductions is retroactive, then the nine-month period referred to above shall be extended to include the period of retroactive effect thereof).

2.8 Mitigation Obligations; Replacement of Lenders.

(a) Designation of a Different Lending Office. If any Lender requests compensation under Section 2.7, or requires the Borrower to pay any Indemnified Taxes or additional amounts to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.6, then such Lender shall (at the request of the Borrower) use reasonable efforts to designate a different lending office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder to another of its offices, branches or affiliates, if, in the judgment of such Lender, such designation or assignment (i) would eliminate or reduce amounts payable pursuant to Sections 2.6 or 2.7, as the case may be, in the future, and (ii) would not subject such Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender. The Borrower hereby agrees to pay all reasonable costs and expenses incurred by any Lender in connection with any such designation or assignment.

(b) Replacement of Lenders. If any Lender requests compensation under Section 2.7, or if the Borrower is required to pay any Indemnified Taxes or additional amounts to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.6 and, in each case, such Lender has declined or is unable to designate a different lending office in accordance with Section 2.8(a), or if any Lender is a Defaulting Lender or a Non-Consenting Lender, then the Borrower may, at its sole expense and effort, upon notice to such Lender and the Collateral Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, Section 10.4), all of its interests, rights (other than its existing rights to payments pursuant to Section 2.6 or 2.7) and obligations under this Agreement and the related Loan Documents to a permitted assignee that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment); *provided*, *that*:

(i) such Lender shall have received payment of an amount equal to the outstanding principal of its Loans, accrued interest thereon, accrued fees and all other amounts payable to it hereunder and under the other Loan Documents from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Borrower (in the case of all other amounts);

(ii) in the case of any such assignment resulting from a claim for compensation under Section 2.7 or payments required to be made pursuant to Section 2.6, such assignment will result in a reduction in such compensation or payments thereafter;

(iii) such assignment does not conflict with applicable law; and

(iv) in the case of any assignment resulting from a Lender becoming a Non-Consenting Lender, the applicable assignee shall have consented to the applicable amendment, waiver or consent.

A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

**ARTICLE 3**
**GUARANTEE BY GUARANTORS**

3.1 The Guarantee. The Guarantors hereby jointly and severally guarantee to the Lenders and their successors and assigns the prompt payment in full when due (whether at stated maturity, by acceleration or otherwise) of the Obligations. The Guarantors hereby further agree that if the Borrower shall fail to pay in full when due (whether at stated maturity, by acceleration or otherwise) any of the Obligations, the Guarantors will promptly pay the same, without any demand or notice whatsoever, and that in the case of any extension of time of payment or renewal of any of the Obligations, the same will be promptly paid in full when due (whether at extended maturity, by acceleration or otherwise) in accordance with the terms of such extension or renewal.

3.2 Obligations Unconditional. The obligations of the Guarantors under Section 3.1 are absolute and unconditional irrespective of the value, genuineness, validity, regularity or enforceability of this Agreement, the other Loan Documents or any other agreement or instrument referred to herein or therein, or any substitution, release or exchange of any other guarantee of or security for any of the Obligations, and, to the fullest extent permitted by applicable law, irrespective of any other circumstance whatsoever that might otherwise constitute a legal or equitable discharge or defense of a surety or guarantor (other than the payment in full of all the Obligations), it being the intent of this Section 3.2 that the obligations of the Guarantors hereunder shall be primary, absolute and unconditional under any and all circumstances. Without limiting the generality of the foregoing, it is agreed that the occurrence of any one or more of the following shall not alter or impair the liability of the Guarantors hereunder which shall remain absolute and unconditional as described above:

(a) at any time or from time to time, without notice to such Guarantors, the time for any performance of or compliance with any of the Obligations shall be extended, or such performance or compliance shall be waived;

(b) any of the acts mentioned in any of the provisions hereof or of the other Loan Documents or any other agreement or instrument referred to herein or therein shall be done or omitted;

(c) the maturity of any of the Obligations shall be accelerated, or any of the Obligations shall be modified, supplemented or amended in any respect, or any right hereunder or under the other Loan Documents or any other agreement or instrument referred to herein or therein shall be waived or any other guarantee of any of the Obligations or any security therefor shall be released or exchanged in whole or in part or otherwise dealt with; or

(d) any lien or security interest granted to, or in favor of, the Lenders or the Collateral Agent for the benefit of the Lenders as security for any of the Obligations shall fail to be perfected.

The Guarantors hereby expressly waive diligence, presentment, demand of payment, protest and all notices whatsoever, and any requirement that the Lenders exhaust any right, power or remedy or proceed against the Borrower hereunder or under the other Loan Documents or any other agreement or instrument referred to herein or therein, or against any other Person under any other guarantee of, or security for, any of the Obligations.

3.3 Reinstatement. The obligations of the Guarantors under this Article 3 shall be automatically reinstated if and to the extent that for any reason any payment by or on behalf of the Borrower in respect of the Obligations is rescinded or must be otherwise restored by any holder of any of the Obligations, whether as a result of any proceedings in bankruptcy or reorganization or otherwise, and

each Guarantor agrees that it will indemnify the Lenders on demand for all reasonable and documented out-of-pocket costs and expenses (including the reasonable and documented fees and expenses of outside counsel) incurred by the Lenders in connection with such rescission or restoration, including any such costs and expenses incurred in defending against any claim alleging that such payment constituted a preference, fraudulent transfer or similar payment under any bankruptcy, insolvency or similar law.

3.4 Subrogation. Until such time as the Obligations shall have been indefensibly paid in full (other than contingent indemnification obligations for which no claim has been asserted), each of the Guarantors hereby waives all rights of subrogation or contribution, whether arising by contract or operation of law (including, without limitation, any such right arising under the Federal Bankruptcy Code of 1978, as amended) or otherwise by reason of any payment by it pursuant to the provisions of this Article 3 and further agrees with the Borrower for the benefit of each creditor of the Borrower (including, without limitation, the Lenders) that any such payment by it shall constitute a contribution of capital by such Guarantor to the Borrower.

3.5 Remedies. The Guarantors agree that, as between the Guarantors and the Lenders, the Obligations hereunder may be declared to be forthwith due and payable as provided in Section 9.1 (and shall be deemed to have become automatically due and payable in the circumstances provided in Section 9.1) for purposes of Section 3.1 notwithstanding any stay, injunction or other prohibition preventing such declaration (or such Obligations from becoming automatically due and payable) as against the Borrower and that, in the event of such declaration (or such Obligations being deemed to have become automatically due and payable), such Obligations (whether or not due and payable) shall forthwith become due and payable by the Guarantors for purposes of Section 3.1.

3.6 Instrument for the Payment of Money. Each of the Guarantors hereby acknowledges that the guarantee in this Article 3 constitutes an instrument for the payment of money, and consents and agrees that the Lenders, at their sole option, in the event of a dispute by such Guarantor in the payment of any moneys due hereunder, shall have the right to summary judgment or such other expedited procedure as may be available for a suit on a note or other instrument for the payment of money.

3.7 Continuing Guarantee. The guarantee in this Article 3 is a continuing guarantee, and shall apply to all Obligations whenever arising.

3.8 General Limitation on Amount of Obligations Guaranteed. In any action or proceeding involving any state or non-U.S. corporate law, or any state or Federal or non-U.S. bankruptcy, insolvency, reorganization or other law affecting the rights of creditors generally, if the obligations of the Guarantors under Section 3.1 would otherwise be held or determined to be void, invalid or unenforceable, or subordinated to the claims of any other creditors, on account of the amount of its liability under Section 3.1, then, notwithstanding any other provision hereof to the contrary, the amount of such liability shall, without any further action by the Guarantors, the Lenders, or any other Person, be automatically limited and reduced to the highest amount that is valid and enforceable under applicable law and not subordinated to the claims of other creditors as determined in such action or proceeding.

## ARTICLE 4
## THE COLLATERAL

4.1 Grant of Security Interest. As security for the due and punctual payment and performance of the Obligations, each Credit Party hereby grants to the Collateral Agent, for the benefit of the Lenders, a continuing security interest in and lien on the following tangible and intangible property and assets of such Credit Party, whether now owned or existing or hereafter acquired or arising, together

with any and all additions thereto and replacements therefor and Proceeds and products thereof (collectively referred to for purposes of this Article 4 as "Collateral"):

(a) all present and future Goods, Inventory (including, without limitation, all merchandise, raw materials, work in process, finished Goods and supplies), machinery, Equipment, motor vehicles, rolling stock, tools, furniture, Fixtures, office supplies, computers, computer software and associated Equipment, whether now owned or hereafter acquired, including, without limitation, all Goods used in the operation of the business of such Credit Party and all As-Extracted Collateral;

(b) all rights under all present and future authorizations, permits, licenses and franchises issued, granted or licensed to such Credit Party for the operation of its business;

(c) the Pledged Collateral;

(d) all rights under all present and future vendor or customer contracts and all franchise, distribution, design, consulting, construction, engineering, management and advertising and related agreements;

(e) all rights under all present and future leases of real and personal property;

(f) all now owned and hereafter acquired, created, or arising Health-Care-Insurance Receivables;

(g) all Commercial Tort Claims indicated in the Perfection Certificate attached hereto as Exhibit C, as supplemented from time to time pursuant to Section 4.2(i); and

(h) all present and future Accounts, cash, cash equivalents, deposits, Deposit Accounts, Securities Accounts, loss carry back, tax refunds, insurance proceeds, premiums, rebates and refunds, choses in action, Investment Property, Securities, partnership interests, limited liability company interests, contracts, contract rights, General Intangibles, any information stored on any medium, including electronic medium, related to any of the personal property of such Credit Party, all financial books and records and other books and records relating, in any manner, to the business of such Credit Party, all proposals and cost estimates and rights to performance, all Instruments and Promissory Notes, Documents and Chattel Paper, and all debts, obligations and liabilities in whatever form owing to such Credit Party from any Person, firm or corporation or any other legal entity, whether now existing or hereafter arising, now or hereafter received by or belonging or owing to such Credit Party; and all guaranties and security therefor, and all letters of credit, Letter-of-Credit Rights, and other Supporting Obligations in respect of such debts, obligations and liabilities.

Notwithstanding the foregoing, the Collateral does not include any Intellectual Property or goodwill associated therewith; *provided*, *however*, for the avoidance of doubt, the Collateral shall include all Accounts and all Proceeds of Intellectual Property. If a judicial authority (including a U.S. Bankruptcy Court) would hold that a security interest in the underlying Intellectual Property is necessary to have a security interest in such Accounts and such property that are Proceeds of Intellectual Property, then the Collateral shall automatically, and effective as of the Effective Time, include the Intellectual Property to the extent necessary to permit perfection of the Lenders' security interest in such Accounts and such other property of the Credit Parties that are Proceeds of the Intellectual Property.

Notwithstanding the foregoing, the Collateral shall not include (a) any lease, license, contract, property rights or agreement to which any Credit Party is a party or any of its rights or interests thereunder if and for so long as the grant of such security interest shall constitute or result in (i) the

abandonment, invalidation or unenforceability of any right, title or interest of any Credit Party therein or (ii) a breach or termination pursuant to the terms of, or a default under, any such lease, license, contract property rights or agreement (other than to the extent that any such term would be rendered ineffective pursuant to the UCC (or any successor provision or provisions) of any relevant jurisdiction or any other applicable law (including Debtor Relief Laws) or principles of equity); *provided*, *however*, that the Collateral shall include and such security interest shall attach immediately at such time as the condition causing such abandonment, invalidation or unenforceability shall be remedied and to the extent severable, shall attach immediately to any portion of such lease, license, contract, property rights or agreement that does not result in any of the consequences specified in (i) or (ii) above, and to all Accounts, accounts receivable, money or other amounts due to a Credit Party thereunder or any Proceeds resulting from the Disposition thereof; (b) any property which, subject to the terms of Section 8.1(d), is subject to a Lien of the type described in Section 8.2(k) pursuant to documents that prohibit such Credit Party from granting any other Liens in such property (other than to the extent that any such prohibition would be rendered ineffective pursuant to the UCC (or any successor provision or provisions) of any relevant jurisdiction or any other applicable law (including Debtor Relief Laws) or principles of equity); (c) any owned real property of any Credit Party; (d) any bank accounts (other than any Controlled Account) and the deposits therein if (i) the terms of the documentation relating thereto require such bank accounts and the deposits therein to be pledged, the grant of a security interest or lien therein is prohibited under the terms of such documentation, and such prohibition has not been waived or the consent of the other party to such documentation has not been obtained, and (ii) such deposits are Permitted Liens under Section 8.2(j); (e) motor vehicles, airplanes and other assets subject to certificates of title in respect of which perfection of a Lien is not governed by the UCC; (f) any of the outstanding voting capital stock or other voting equity interests of a (1) Foreign Subsidiary or (2) FSHCO, in each case to the extent not required to be pledged pursuant to Section 7.10; (g) any authorizations, permits, licenses and franchises and other property to the extent that a grant of a security interest is prohibited by applicable law (other than to the extent that any such prohibition or consent would be rendered ineffective pursuant to the UCC (or any successor provision or provisions) of any relevant jurisdiction or any other applicable law (including Debtor Relief Laws) or principles of equity); *provided*, *however*, that the Collateral shall include and such security interest shall attach immediately at such time prohibition or requirement for consent shall no longer be in effect and to the extent severable, shall attach immediately to any portion of such property not subject to such prohibition or consent requirement; and (h) those assets as to which the Collateral Agent reasonably determines, in consultation with the Borrower, that the costs of obtaining such security interests in such assets or perfection thereof are excessive in relation to the benefit to the Lenders of the security to be afforded thereby (the excluded collateral referenced in the foregoing clauses (a) through (h) of this paragraph or otherwise excluded pursuant to this paragraph, together the "Excluded Collateral").

Any of the foregoing terms which are defined in the UCC shall have the meaning provided in the UCC, as amended and in effect from time to time, as supplemented and expanded by the foregoing.

4.2 Special Warranties and Covenants of the Credit Parties. Each Credit Party hereby warrants and covenants to the Lenders that:

(a) Such Credit Party has delivered to the Lenders a Perfection Certificate in substantially the form of Exhibit C hereto. All information set forth in such Perfection Certificate is true and correct in all material respects and the facts contained in such Perfection Certificate are accurate in all material respects as of the date of this Agreement and the date on which such Credit Party becomes a party hereto, respectively.

(b) No Credit Party will change its jurisdiction of organization, principal or any other place of business, or the location of any Collateral from the locations set forth in the Perfection Certificate delivered by such Credit Party, or make any change in its name, without, in any such case, at least ten

(10) days' prior written notice to the Lenders; *provided that* the Inventory and Equipment of such Credit Party may be (i) in transit between locations set forth in the Perfection Certificate, (ii) in transit to customers, (iii) not located in such locations in the ordinary course of business or as a result of a Casualty Event or (iv) in the possession of manufacturers or processors in any jurisdiction in which all necessary UCC financing statements have been filed by the Lenders and with respect to which the Lenders have received waiver letters from all landlords, warehousemen and processors in form and substance reasonably acceptable to the Lenders.

(c) Except for Collateral that is obsolete, no longer used in their business or *de minimis* Collateral, the Credit Parties will keep the Collateral in good order and repair (normal wear and tear excepted) and adequately insured at all times in accordance with the provisions of Section 7.5. The Credit Parties will pay promptly when due all material taxes and assessments on the Collateral or for its use or operation, except for taxes and assessments permitted to be contested as provided in Section 7.4. Following the occurrence and during the continuance of an Event of Default, the Lenders may at their option discharge any taxes or Liens to which any Collateral is at any time subject (other than Permitted Liens), and may, upon the failure of the Credit Parties to do so in accordance with this Agreement, purchase insurance on any Collateral and pay for the repair, maintenance or preservation thereof, and each Credit Party agrees to reimburse the Lenders on demand for any payments or expenses incurred by the Lenders pursuant to the foregoing authorization and any unreimbursed amounts shall constitute Obligations for all purposes hereof.

(d) The Lenders may from time to time (and in no event more than once per fiscal quarter so long as no Event of Default has occurred and is continuing) request and each Credit Party shall deliver copies of all customer lists and vendor lists.

(e) To the extent, if any, that such Credit Party's signature is required therefor, each Credit Party will promptly execute and deliver to the Collateral Agent such financing statements and amendments thereto, certificates and other documents or instruments as may be necessary to enable the Collateral Agent, for the benefit of the Lenders, to perfect or from time to time renew the security interest granted hereby, including, without limitation, such financing statements and amendments thereto, certificates and other documents as may be necessary to perfect a security interest in any additional Collateral hereafter acquired by such Credit Party or in any replacements or proceeds thereof. Each Credit Party authorizes and appoints the Collateral Agent, in case of need, to execute such financing statements, certificates and other documents pertaining to the Collateral Agent's security interest in the Collateral for the benefit of the Lenders, in its stead if such Credit Party's signature is required therefor and such Credit Party fails to so execute such documents, with full power of substitution, as such Credit Party's attorney in fact.

(f) Each Credit Party hereby irrevocably authorizes the Collateral Agent and the Lenders, at any time and from time to time, to file in any jurisdiction financing statements and amendments thereto that (i) indicate the Collateral (x) as all assets of such Credit Party or words of similar effect, regardless of whether any particular asset falls within the scope of Article 9 of the UCC of the State of New York or such jurisdiction or (y) as being of an equal or lesser scope or with greater detail and (ii) which contain any other information required by Article 9 of the UCC (including Part 5 thereof) for the sufficiency or filing office acceptance of any financing statement or amendment, including whether (A) any Credit Party is an organization, the type of organization and any organization identification number issued to such Credit Party and (B) in the case of a financing statement filed as a fixture filing or indicating Collateral as as-extracted collateral or timber to be cut, a sufficient description of the real property to which the Collateral relates. The Credit Parties agree to furnish any such information to the Lenders promptly upon request.

(g) To the extent any Credit Party shall, now or at any time hereafter, hold or acquire any Promissory Note or other Instrument or Chattel Paper the aggregate value of which exceeds $250,000, such Credit Party will promptly notify the Lenders thereof and, at the request and option of the Lenders, such Credit Party will deliver such Promissory Note or other Instrument or tangible Chattel Paper to the Lenders to be held as Collateral hereunder, together with an endorsement thereof reasonably satisfactory in form and substance to the Lenders.

(h) If, now or at any time hereafter, any Credit Party shall obtain or hold any Electronic Chattel Paper with an aggregate value exceeding $250,000 or any Investment Property, such Credit Party will promptly notify the Lenders thereof and, at the request and option of the Lenders, such Credit Party will take or cause to be taken such steps as the Lenders may reasonably request for the Collateral Agent to obtain "control" (as provided in Sections 9-105 and 9-106 of the UCC of the relevant jurisdiction, as amended and in effect from time to time) of such Collateral.

(i) No Credit Party holds on the date of this Agreement any Commercial Tort Claims, except as indicated in the Perfection Certificate attached hereto as Exhibit C and except for Commercial Tort Claims that the Credit Party has not elected to assert against the respective third party. If any of the Credit Parties shall at any time have or acquire a Commercial Tort Claim that the Credit Party has elected to assert against the respective third party, such Credit Party shall promptly notify the Lenders in a writing signed by such Credit Party of the brief details thereof and grant to the Collateral Agent, for the benefit of the Lenders, in such writing a security interest therein and in the Proceeds thereof, all upon the terms of this Agreement, with such writing to be in form and substance reasonably satisfactory to the Lenders.

(j) If any Credit Party has accounts receivable in respect of which the Account Debtor is located in Minnesota, the Credit Parties represent and warrant that the applicable Credit Party has filed and shall file all legally-required Notice of Business Activities Reports and comparable reports with the appropriate government authorities.

(k) Except to the extent that a Securities Account is an Excluded Account pursuant to Section 7.13(a), to the extent any Credit Party shall, now or at any time hereafter, maintain or acquire any Securities Accounts, such Credit Party will (within 60 days of the date that the applicable Credit Party acquired rights therein) execute and deliver (and, with respect to any Collateral consisting of a Securities Account, cause the applicable Securities Intermediary to execute and deliver) to the Collateral Agent all control agreements, assignments, instruments or other documents as reasonably requested by the Collateral Agent for the purposes of obtaining and maintaining "control" (as provided in Section 8-106 of the UCC of the relevant jurisdiction, as amended and in effect from time to time) of such Collateral.

4.3 Delivery of Pledged Collateral.

(a) Each Credit Party represents and warrants that all certificates, agreements or instruments representing or evidencing the Pledged Collateral in existence on the Closing Date (if any), as set forth on Schedule 4.3, have been delivered to the Collateral Agent, for the benefit of the Lenders, in suitable form for transfer by delivery or accompanied by duly executed instruments of transfer or assignment in blank. Each Credit Party hereby agrees that all certificates, agreements or instruments representing or evidencing Pledged Collateral acquired by such Credit Party after the Closing Date shall promptly (but in any event within five (5) Business Days after receipt thereof by such Credit Party) be delivered to and held by or on behalf of the Collateral Agent, for the benefit of the Lenders, pursuant hereto. All Pledged Collateral consisting of Certificated Securities shall be in suitable form for transfer by delivery or shall be accompanied by duly executed instruments of transfer or assignment in blank, all in form and substance reasonably satisfactory to the Collateral Agent or the Lenders. The Collateral

Agent shall have the right, at any time upon the occurrence and during the continuance of any Event of Default, to endorse, assign or otherwise transfer to or to register in the name of the Collateral Agent, the Lenders or any of their nominees or endorse for negotiation any or all of the Pledged Collateral, without any indication that such Pledged Collateral are subject to the security interest hereunder. In addition, upon the occurrence and during the continuance of an Event of Default, the Lenders shall have the right at any time to exchange certificates representing or evidencing Pledged Collateral for certificates of smaller or larger denominations.

4.4 Uncertificated Pledged Collateral.

(a) Each Credit Party hereby agrees that if any of the Pledged Collateral is at any time not evidenced by certificates of ownership, then each applicable Credit Party shall, to the extent permitted by applicable law, (i) cause (or, if the issuer is not a Subsidiary, use commercially reasonable efforts to cause) the issuer to (x) cause such Pledged Collateral to constitute an "uncertificated security" (as such term is defined in Article 9 of the UCC as in effect in the State of New York), and (y) execute and deliver to the Collateral Agent or the Lenders an acknowledgment of the pledge of such Pledged Collateral and an agreement that it will comply with instructions originated by the Collateral Agent without further consent of such Credit Party in a form that is reasonably satisfactory to the Collateral Agent or the Lenders, (ii) if necessary or desirable to perfect a security interest in such Pledged Collateral, execute any customary pledge forms or other documents necessary or appropriate to complete the pledge and give the Collateral Agent, for the benefit of the Lenders, the right to transfer such Pledged Collateral under the terms hereof, and (iii) after the occurrence and during the continuance of any Event of Default, upon written request by the Collateral Agent or the Lenders, (A) cause (or, if the issuer is not a Subsidiary, use commercially reasonable efforts to cause) the Organization Documents of each such issuer to be amended to provide that such Pledged Collateral shall be treated as "securities" for purposes of the UCC, and (B) cause (or, if the issuer is not a Subsidiary, use commercially reasonable efforts to cause) such Pledged Collateral to become certificated and delivered to the Collateral Agent, for the benefit of the Lenders, in accordance with the provisions of Section 4.3 hereof. At the reasonable request of the Collateral Agent, each Credit Party hereby agrees that if any of the Pledged Collateral are at any time not evidenced by certificates of ownership, such Credit Party shall, and shall cause the issuer thereof to (or if the issuer is not a Subsidiary, use commercially reasonable efforts to cause the issuer thereof to) enter agreements granting "control" to the Collateral Agent, for the benefit of the Lenders, with respect to such uncertificated Pledged Collateral or take any other action reasonably requested by the Collateral Agent or the Lenders in order to perfect the security interest therein prior to all other Liens on such Pledged Collateral except, with respect to any equity interests of Subsidiaries, for Permitted Liens which have priority over, or are *pari passu* with, the security interest on such Pledged Collateral by operation of law and with respect to any other uncertificated securities, except for Permitted Liens.

4.5 Certain Provisions Concerning Pledged Collateral. Until all Obligations have been paid in full each Credit Party covenants and agrees with the Lenders that:

(a) Pledge of Additional Pledged Collateral. Each Credit Party shall, upon obtaining any Pledged Collateral of any Person, accept the same in trust for the benefit of the Lenders and promptly (but in any event within five (5) Business Days after receipt thereof) deliver to the Collateral Agent, for the benefit of the Lenders, a pledge amendment, duly executed by such Credit Party, in substantially the form of Exhibit E hereto (each, a "Pledge Amendment"), and the certificates and other documents required under Section 4.3 and Section 4.4 hereof in respect of the additional Pledged Collateral which are to be pledged pursuant to this Agreement, and confirming the attachment of the Lien hereby created on and in respect of such additional Pledged Collateral. Each Credit Party hereby authorizes the Collateral Agent, for the benefit of the Lenders, to attach each Pledge Amendment to this Agreement and

agrees that all Pledged Collateral listed on any Pledge Amendment delivered to the Collateral Agent shall for all purposes hereunder be considered Collateral.

(b) Voting Rights; Distributions; etc.

(i) So long as no Event of Default shall have occurred and be continuing and the Lenders shall not have delivered the applicable notice under Section 4.5(b)(iii):

(A) Each Credit Party shall be entitled to exercise any and all voting and other consensual rights pertaining to the Pledged Collateral or any part thereof for any purpose not inconsistent with the terms of this Agreement or any other Loan Document; *provided, however*, that no Credit Party shall in any event exercise such rights in any manner which could reasonably be expected to result in a Material Adverse Effect.

(B) Each Credit Party shall be entitled to receive and retain, and to utilize free and clear of the Lien hereof, any and all Distributions, but only if and to the extent made in accordance with the provisions of this Agreement; *provided, however*, that any and all such Distributions consisting of rights or interests in the form of certificated securities shall be forthwith delivered to the Collateral Agent, for the benefit of the Lenders, to hold as Collateral and shall, if received by any Credit Party, be received in trust for the benefit of the Lenders, be segregated from the other property or funds of such Credit Party and be promptly (but in any event within five (5) Business Days after receipt thereof) delivered to the Collateral Agent, for the benefit of the Lenders, as Collateral in the same form as so received (with any necessary endorsement).

(ii) So long as no Event of Default shall have occurred and be continuing, the Lenders shall be deemed without further action or formality to have granted to each Credit Party all necessary consents relating to voting rights which do not violate this Agreement and shall, if necessary, upon written request of any Credit Party and at the sole cost and expense of the Credit Parties, from time to time execute and deliver (or cause to be executed and delivered) to such Credit Party all such instruments as such Credit Party may reasonably request in order to permit such Credit Party to exercise the voting and other rights which it is entitled to exercise pursuant to Section 4.5(b)(i)(A) hereof and to receive the Distributions which it is authorized to receive and retain pursuant to Section 4.5(b)(i)(B) hereof.

(iii) Upon the occurrence and during the continuance of any Event of Default and receipt by the Borrower of written notice from the Lenders to the Credit Parties that the Collateral Agent is exercising its rights under Section 4.5(b)(iii)(A) and/or (B):

(A) All rights of each Credit Party to exercise the voting and other consensual rights it would otherwise be entitled to exercise pursuant to Section 4.5(b)(i)(A) hereof shall immediately cease, and all such rights shall thereupon become vested in the Collateral Agent, for the benefit of the Lenders, which shall thereupon have the sole right to exercise such voting and other consensual rights.

(B) All rights of each Credit Party to receive Distributions which it would otherwise be authorized to receive and retain pursuant to Section 4.5(b)(i)(B) hereof shall immediately cease and all such rights shall thereupon become vested in the Collateral Agent, for the benefit of the Lenders, which shall thereupon have the sole right to receive and hold as Collateral such Distributions.

(iv) Each Credit Party shall, at its sole cost and expense, from time to time execute and deliver to the Collateral Agent or the Lenders appropriate instruments as the Collateral Agent or the Lenders may reasonably request in order to permit the Collateral Agent, for the benefit of the Lenders, to exercise the voting and other rights which it may be entitled to exercise pursuant to Section 4.5(b)(iii)(A) hereof and to receive all Distributions which it may be entitled to receive under Section 4.5(b)(iii)(B) hereof.

(v) All Distributions which are received by any Credit Party contrary to the provisions of Section 4.5(b)(i)(B) or Section 4.5(b)(iii)(B) hereof shall be received in trust for the benefit of the Lenders, shall be segregated from other funds of such Credit Party and shall immediately be paid over to the Collateral Agent, for the benefit of the Lenders, as Collateral in the same form as so received (with any necessary endorsement).

(c) Defaults, etc. Each Credit Party hereby represents and warrants that on the Closing Date, and any new Credit Party hereby represents and warrants that on and as of the date such Person becomes a Credit Party, (i) such Credit Party is not in default in any material respect in the payment of any portion of any mandatory capital contribution, if any, required to be made under any agreement to which such Credit Party is a party relating to the Pledged Collateral pledged by it and such Credit Party is not in violation of any other provisions of any such agreement to which such Credit Party is a party, or otherwise in default or violation thereunder, (ii) to each Credit Party's knowledge, no Pledged Collateral pledged by such Credit Party is subject to any defense, offset or counterclaim, nor have any of the foregoing been asserted or alleged against such Credit Party by any Person with respect thereto, and (iii) there are no certificates, instruments, documents or other writings (other than the Organization Documents and certificates representing such Pledged Collateral that have been delivered to the Collateral Agent) which evidence any Pledged Collateral of such Credit Party.

4.6 Fixtures, etc. It is the intention of the parties hereto that none of the Collateral shall become Fixtures and each Credit Party will take all such reasonable action or actions as may be necessary to prevent any of the Collateral from becoming Fixtures. Without limiting the generality of the foregoing, each Credit Party will, if requested by the Lenders, use commercially reasonable efforts to obtain a Landlord's Waiver and Consent from each lessor of a Material Leasehold Property on which any of the Collateral is or is to be located to the extent requested by the Lenders.

4.7 Right of Collateral Agent and Lenders to Dispose of Collateral, etc. Upon the occurrence and during the continuance of any Event of Default, but subject to the provisions of the UCC or other applicable law, in addition to all other rights under the UCC and any other applicable law and under the Loan Documents, the Lenders and the Collateral Agent, for the benefit of the Lenders, shall have the right to take possession of the Collateral and, in addition thereto, the right to enter upon any premises on which the Collateral or any part thereof may be situated and remove the same therefrom. The Collateral Agent or the Lenders may require the Credit Parties to make the Collateral (to the extent the same is moveable) available at a place to be designated by the Collateral Agent or the Lenders or transfer any information related to the Collateral to the Collateral Agent or the Lenders by electronic medium. Unless the Collateral is perishable or threatens to decline speedily in value or is of a type customarily sold on a recognized market, the Collateral Agent or the Lenders will give the Credit Parties at least ten (10) days' prior written notice of the time and place of any public sale thereof or of the time after which any private sale or any other intended disposition thereof is to be made. Any such notice shall be deemed to meet any requirement hereunder or under any applicable law (including the UCC) that reasonable notification be given of the time and place of such sale or other disposition.

4.8 Right of Lenders to Use and Operate Collateral, etc. Upon the occurrence and during the continuance of any Event of Default, subject to the provisions of the UCC or other applicable law, the

Lenders and the Collateral Agent, for the benefit of the Lenders, shall have the right and power to take possession of all or any part of the Collateral, and to exclude the Credit Parties and all persons claiming under the Credit Parties wholly or partly therefrom, and thereafter to hold, store, and/or use, operate, manage and control the same. Upon any such taking of possession, the Lenders and the Collateral Agent, for the benefit of the Lenders, may, from time to time, at the reasonable expense of the Credit Parties, make all such repairs, replacements, alterations, additions and improvements to and of the Collateral as the Collateral Agent or the Lenders may deem proper. In any such case the Lenders and the Collateral Agent, for the benefit of the Lenders, shall have the right to manage and control the Collateral and to carry on the business and to exercise all rights and powers of the Credit Parties in respect thereto as the Collateral Agent or the Lenders shall deem best, including the right to enter into any and all such agreements with respect to the operation of the Collateral or any part thereof as the Collateral Agent or the Lenders may see fit; and the Lenders and the Collateral Agent, for the benefit of the Lenders, shall be entitled to collect and receive all rents, issues, profits, fees, revenues and other income of the same and every part thereof. Such rents, issues, profits, fees, revenues and other income shall be applied to pay the expenses of holding and operating the Collateral and of conducting the business thereof, and of all maintenance, repairs, replacements, alterations, additions and improvements, and to make all payments which the Collateral Agent or the Lenders may be required or may reasonably elect to make, if any, for taxes, assessments, insurance and other charges upon the Collateral or any part thereof, and all other payments which the Collateral Agent or the Lenders may be required or authorized to make under any provision of this Agreement (including reasonable and documented out-of-pocket attorneys' fees, expenses and disbursements). The Lenders and the Collateral Agent, for the benefit of the Lenders, shall apply the remainder of such rents, issues, profits, fees, revenues and other income as provided in Section 4.9.

4.9 Proceeds of Collateral. After deducting all reasonable costs and expenses of collection, storage, custody, sale or other disposition and delivery (including reasonable and documented out-of-pocket attorneys' fees, expenses and disbursements) and all other charges against the Collateral, the Lenders and the Collateral Agent, for the benefit of the Lenders, shall apply the residue of the proceeds of any such sale or disposition to the Obligations in accordance with the terms hereof and any surplus shall be returned to the Credit Parties or to any Person or party lawfully entitled thereto. In the event the proceeds of any sale, lease or other disposition of the Collateral are insufficient to pay all of the Obligations in full, the Credit Parties will be liable for the deficiency, together with interest thereon at the Post-Default Rate, and the cost and expenses of collection of such deficiency, including (to the extent permitted by law), without limitation, reasonable and documented out-of-pocket attorneys' fees, expenses and disbursements.

## ARTICLE 5
## REPRESENTATIONS AND WARRANTIES

Each Credit Party represents and warrants to the Lenders and the Collateral Agent that:

5.1 Organization; Powers. Each Credit Party and each of its Subsidiaries has been duly formed or organized and is validly existing and in good standing under the laws of its jurisdiction of organization. Each Credit Party has all requisite power and authority to carry on its business as now conducted and is qualified to do business in, and is in good standing in, every jurisdiction where such qualification is required, except where the failure to have such power or authority or to be so qualified or in good standing, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

5.2 Authorization; Enforceability. The execution, delivery and performance of the Loan Documents, the borrowing of the Loans and the grant of the security interests pursuant to the Loan

Documents are within the power and authority of the Credit Parties and have been duly authorized by all necessary action on the part of the Credit Parties. This Agreement and the other Loan Documents have been duly authorized, executed and delivered by the Credit Parties and constitute legal, valid and binding obligations of the Credit Parties, enforceable in accordance with their respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

5.3 Governmental Approvals; No Conflicts. The execution, delivery and performance of the Loan Documents, the borrowing of the Loans and the grant of the security interests pursuant to the Loan Documents, in each case, by the Credit Parties: (a) do not require any material consent or approval of, registration or filing with, or any other action by, any Governmental Authority which has not been obtained, except as disclosed on Schedule 5.3, (b) will not violate any applicable law, policy, regulation, Health Care Permit or the Organization Documents of any Credit Party or any order of any Governmental Authority, (c) will not violate or result in a default under any indenture, agreement or other instrument binding upon the Credit Parties, or any assets, or give rise to a right thereunder to require any payment to be made by the Credit Parties, except to the extent that such violation or default or right to payment in each case under this clause (c), as the case may be, could not reasonably be expected to result in a Material Adverse Effect, and (d) except for the Liens created by the Loan Documents, will not result in the creation or imposition of any Lien on any asset of the Credit Parties or any of their respective Subsidiaries.

5.4 Financial Condition; No Material Adverse Change.

(a) The Borrower has heretofore delivered to the Lenders the following financial statements:

(i) the balance sheet and statement of operations, shareholders' equity and cash flow of the Borrower, as of and for the fiscal year ended December 31, 2016, audited and accompanied by an opinion of the Credit Parties' independent public accountants; and

(ii) the unaudited balance sheet and statement of operations, shareholders' equity and cash flows of the Borrower, as of and for the fiscal year-to-date period ended July 31, 2017, certified by a Designated Financial Officer that such financial statements fairly present, in all material respects, the financial condition of the Borrower as at such date and the results of the operations of the Borrower for the period ended on such date and that all such financial statements have been prepared in all material respects in accordance with GAAP applied consistently throughout the periods involved, except as disclosed on Schedule 5.4.

Except as disclosed on Schedule 5.4, the financial statements delivered pursuant to Section 5.4(a)(i) and (ii) present fairly, in all material respects, the financial position and results of operation and cash flow of the Borrower as of such respective dates and for such periods in accordance with GAAP applied consistently throughout the periods involved (except as expressly noted therein), subject to year-end audit adjustments and the absence of footnotes in the case of such unaudited statements.

(b) As of the Closing Date, since December 31, 2016, there has been no Material Adverse Effect.

(c) The Borrower does not have on the Closing Date any contingent liabilities, liabilities for material taxes, unusual forward or long-term commitments or unrealized or anticipated

losses from any unfavorable commitments in each case that are material and required to be set forth in financial statements or notes thereto in accordance with GAAP (except as indicated therein), except as referred to or reflected or provided for in the balance sheet as at the end of the fiscal year ended December 31, 2016, as provided for in Schedule 5.4, as otherwise permitted pursuant to this Agreement, or as referred to or reflected or provided for in the financial statements described in Section 5.4(a)(ii).

5.5 Properties.

(a) Each Credit Party and its Subsidiaries has good and marketable title to, or valid, subsisting and enforceable leasehold interests in, all its Property material to its business. All Equipment material to the business of the Credit Parties and their respective Subsidiaries is in good operating condition and repair, and all necessary replacements of and repairs thereto have be made so as to preserve and maintain the value and operating efficiency of such Equipment.

(b) Each Credit Party and each Subsidiary owns, or is licensed to use, all patents, trademarks, copyrights, trade secrets, know-how, and other intellectual property rights material to its business ("Proprietary Rights"), and to the knowledge of the Borrower, the use thereof by the Credit Parties and their respective Subsidiaries, and the conduct of their businesses, does not infringe upon the rights of any other Person, excepting any such infringement solely related to research and development activities of the Company that could not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. The Credit Parties and their respective Subsidiaries have not received any written communications or, to the knowledge of the Borrower, any oral communications within the prior two (2) years alleging that any Credit Party or any Subsidiary has violated or, by conducting their businesses, would violate any patents, trademarks, copyrights, trade secrets, know-how, or any other intellectual property rights of any other Person.

(c) As of the Closing Date, Schedule 5.5 identifies all Patents, Trademarks and Copyrights owned or exclusively licensed by any Credit Party or any Subsidiary, in each case, that have been duly registered in, filed and are pending in or issued by the United States Patent and Trademark Office or the United States Register of Copyrights and that are material to its business (collectively, the "Registered Proprietary Rights"). The Registered Proprietary Rights have been properly maintained and renewed in accordance with all applicable provisions of law and administrative regulations in the United States, as applicable, except to the extent that the failure to do so could not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. The Credit Parties and their respective Subsidiaries have taken commercially reasonable steps to protect their Registered Proprietary Rights and to maintain the confidentiality of all trade secrets included in the Proprietary Rights.

(d) As of the Closing Date, Schedule 5.5 contains a true, accurate and complete list of (i) all Real Property Assets, whether owned or leased, and (ii) all leases, subleases or assignments of leases (together with all amendments, modifications, supplements, renewals or extensions of any thereof) affecting each Leasehold Property, regardless of whether such Credit Party or such Subsidiary is the landlord or tenant (whether directly or as an assignee or successor in interest) under such lease, sublease or assignment. Except as specified in Schedule 5.5, each agreement listed in clause (ii) of the immediately preceding sentence is in full force and effect and the Credit Parties and their respective Subsidiaries have no knowledge of any default that has occurred and is continuing thereunder, and each such agreement constitutes the legal, valid and binding obligation of each applicable Credit Party and Subsidiary, enforceable against such Credit Party or such Subsidiary, as the case may be, in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or limiting creditors' rights generally or by equitable principles.

5.6 Litigation and Environmental Matters; Government Investigations.

(a) There are no actions, suits or proceedings at law, in equity, in arbitration or by or before any Governmental Authority, in each case, pending against or, to the knowledge of the Credit Parties, threatened against, any Credit Party or any Subsidiary (i) that purport to affect or pertain to this Agreement or any other Loan Document or any of the transactions contemplated hereby or (ii) as to which there is a reasonable possibility of an adverse determination and that, if adversely determined, could reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect (other than, solely with respect to this clause (ii), the Government Investigations). Set forth in Schedule 5.6(a) is a correct and complete list of each action, suit and proceeding at law, in equity, in arbitration or by or before any Governmental Authority, in each case, pending against or, to the knowledge of the Credit Parties, threatened against, any Credit Party or any Subsidiary which, on an individual basis, could reasonably be expected to result in liability of the Credit Parties and their respective Subsidiaries in excess of $1,000,000.

(b) Except for the Disclosed Matters set forth in Schedule 5.6(b) and except with respect to any other matters that, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect, the Credit Parties and their respective Subsidiaries: (i) have not failed to comply with any Environmental Law or to obtain, maintain or comply with any permit, license or other approval required in connection with the operation of the businesses of the Credit Parties and their respective Subsidiaries to be in compliance with all applicable Environmental Laws; (ii) have not, to their knowledge, become subject to any Environmental Liability; (iii) have not received notice of any claim with respect to any Environmental Liability or any inquiry, allegation, notice or other communication from any Governmental Authority which is currently outstanding or pending concerning its compliance with any Environmental Law or (iv) have not caused to exist circumstances reasonably likely to result in, and do not know of any basis for, any Environmental Liability.

(c) Except as set forth in Schedule 5.6(c) (each matter set forth therein, a "Government Investigation"), neither any Credit Party nor any Subsidiary has received any written or verbal notice, or has otherwise become aware, that any Governmental Authority, including without limitation the United States Department of Justice, has commenced, intends or threatens to initiate any investigation into, or any action against, any Credit Party, any Subsidiary or any key executive of a Credit Party or Subsidiary, any action to enjoin any Credit Party or any Subsidiary thereof, its officers, directors, employees, shareholders or its agents and Affiliates, from conducting its business at any facility owned or used by it or for any material civil penalty, injunction, seizure or criminal action. The Credit Parties have disclosed to the Lenders all material information and all material correspondence received from any Governmental Authority relating to each Government Investigation.

5.7 Compliance with Laws and Orders. Except with respect to the Government Investigations, each Credit Party and each Subsidiary is in compliance with all laws, regulations, policies and orders of any Governmental Authority applicable to it or its property, except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

5.8 Investment and Holding Company Status. Neither any Credit Party nor any Subsidiary is (a) an "investment company" as defined in, or subject to regulation under, the Investment Company Act of 1940, as amended or (b) a "bank holding company" as defined in, or subject to regulation under, the Bank Holding Company Act of 1956, as amended.

5.9 Taxes. Each Credit Party and each Subsidiary has timely filed or caused to be filed all Tax returns and reports required to have been filed and has paid or caused to be paid all Taxes required to

have been paid by it, except (a) for Taxes that are being contested in good faith by appropriate proceedings and for which such Credit Party or such Subsidiary, as the case may be, has set aside on its books adequate reserves with respect thereto in accordance with GAAP, or (b) to the extent that the failure to do so could not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect.

5.10 ERISA. Neither any Credit Party nor any Subsidiary has any Pension Plans. No ERISA Event has occurred or is reasonably expected to occur that, when taken together with all other such ERISA Events for which liability is reasonably expected to occur, could reasonably be expected to result in a Material Adverse Effect. Neither any Credit Party nor any Subsidiary has, as of the Closing Date, a present intention to terminate any Pension Plan with respect to which any Credit Party or any Subsidiary would incur a cost of more than $500,000 to terminate such Plan, including amounts required to be contributed to fund such Plan on Plan termination and all costs and expenses associated therewith, including, without limitation, attorneys' and actuaries' fees and expenses in connection with such termination and a reasonable estimate of expenses and settlement or judgment costs and attorneys' fees and expenses in connection with litigation related to such termination. To the extent that any Credit Party or any Subsidiary sponsors or maintains any program that pays or insures health or medical expenses on behalf of beneficiaries or recipients such programs comply with applicable Law in all material respects.

5.11 Disclosure. As of the Effective Time, the Credit Parties have disclosed to the Lenders all matters known to the Credit Parties that, individually or in the aggregate, could reasonably be expected to result in a Material Adverse Effect. The written information (other than projections, budgets and other forward looking information and information of a general economic or industry nature), reports, financial statements, exhibits and schedules furnished at or prior to the Effective Time in writing by or on behalf of the Credit Parties to the Lenders in connection with the negotiation, preparation or delivery of this Agreement and the other Loan Documents or included herein or therein or delivered pursuant hereto or thereto, at the Effective Time, when taken as a whole do not contain any untrue statement of material fact or omit to state any material fact necessary to make the statements herein or therein, in light of the circumstances under which they were made, not materially misleading. All written information furnished after the Effective Time by the Credit Parties to the Lenders in connection with this Agreement and the other Loan Documents and the transactions contemplated hereby and thereby when taken as a whole will be true, complete and accurate in every material respect, or (in the case of pro-forma information and projections) prepared in good faith based on reasonable assumptions, on the date as of which such information is certified. Schedule 5.6(c) accurately and fully describes all material information the Credit Parties have obtained regarding the Government Investigations and copies of all material documents received by the Credit Parties related to the Government Investigations have been delivered to the Lenders.

5.12 Capitalization. As of the Closing Date, the capital structure and ownership of the Credit Parties and their respective Subsidiaries are correctly described on Schedule 5.12. As of the Closing Date, the authorized, issued and outstanding capital stock or other equity interests, as applicable, of the Credit Parties and their respective Subsidiaries consists of the capital stock or other equity interests described on Schedule 5.12, all of which is duly and validly issued and outstanding, (and, in the case of any U.S. corporations) fully paid and nonassessable. Except (x) as set forth on Schedule 5.12, (y) as contemplated by the Series B Preferred Stock Purchase Agreement or (z) solely with respect to the following clause (a), as contemplated in the Co-Sale Agreement, the Investors' Rights Agreement or the Voting Agreement, as of the Closing Date, (a) there are no outstanding Equity Rights with respect to any Credit Party or any Subsidiary, and (b) there are no outstanding obligations of any Credit Party or any Subsidiary to repurchase, redeem, or otherwise acquire any shares of capital stock of or other equity interests in any Credit Party or any Subsidiary, nor are there any outstanding obligations of any Credit Party or any Subsidiary to make payments to any Person, such as "phantom stock" payments, where the

amount thereof is calculated with reference to the fair market value or equity value of any Credit Party or any Subsidiary.

5.13 Subsidiaries.

(a) Set forth on Schedule 5.13 is a complete and correct list of all Subsidiaries as of the Closing Date (with a designation of each Subsidiary that is an Excluded Subsidiary as of the Closing Date), together with, for each such Subsidiary, (i) the jurisdiction of organization of such Subsidiary, (ii) each Person holding ownership interests in such Subsidiary and (iii) the class of ownership interests held by each such Person and the number of shares of each class of ownership interest owned and the percentage of ownership of such Subsidiary represented by such ownership interests. Except as disclosed in Schedule 5.13, (x) each Credit Party and each Subsidiary owns, free and clear of Liens (other than Liens permitted hereunder), and has the unencumbered right to vote, all outstanding ownership interests in each Person shown to be held by it in Schedule 5.13, (y) all of the issued and outstanding capital stock or other equity interests of each such Person organized as a corporation is validly issued, fully paid and nonassessable and (z) there are no outstanding Equity Rights with respect to any such Person.

(b) Except as set forth on Schedule 8.8, as of the Closing Date neither any Credit Party not any Subsidiary is subject to any indenture, agreement, instrument or other arrangement containing any provision of the type described in Section 8.8 ("Restrictive Agreements"), other than any such provision the effect of which has been unconditionally, irrevocably and permanently waived.

5.14 Material Indebtedness, Liens and Agreements.

(a) Schedule 5.14 contains a complete and correct list, as of the Closing Date, of all Material Indebtedness of the Credit Parties and their respective Subsidiaries and any and all extensions of credit (or commitment for any extension of credit) to, or guarantees by, any Credit Party or any Subsidiary the aggregate principal or face amount of which equals or exceeds (or may equal or exceed) $250,000, and the aggregate principal or face amount outstanding or that may become outstanding with respect thereto is correctly described on Schedule 5.14.

(b) Schedule 5.14 contains a complete and correct list, as of the Closing Date, of each contract or arrangement to which any Credit Party or any Subsidiary is a party for which breach, nonperformance, cancellation or failure to renew could reasonably be expected to result in a Material Adverse Effect, other than purchase orders made in the ordinary course of business and subject to customary terms.

(c) To the extent requested by the Lenders, true and complete copies of each agreement listed on Schedule 5.14 have been delivered to the Lenders, together with all amendments, waivers and other modifications thereto. All such agreements are valid, subsisting, in full force and effect, and are currently binding upon each Credit Party and each Subsidiary that is a party thereto and, to the knowledge of the Credit Parties, binding upon the other parties thereto in accordance with their terms. The Credit Parties and their respective Subsidiaries are not in default under any such agreements, which default could reasonably be expected to result in a Material Adverse Effect.

5.15 Federal Reserve Regulations. Neither any Credit Party nor any Subsidiary is engaged principally or as one of its important activities in the business of extending credit for the purpose of purchasing or carrying "margin stock" (as defined in Regulation U of the Board). The making of the Loans hereunder, the use of the proceeds thereof as contemplated hereby, and the security arrangements contemplated by the Loan Documents, will not violate or be inconsistent with any of the provisions of Regulations T, U, or X of the Board.

5.16 Solvency. As of the Effective Time and after giving effect to the Term Loan hereunder, and the other transactions contemplated hereby:

(a) the aggregate value of all properties of the Credit Parties and their respective Subsidiaries (taken as a whole) at their present fair saleable value on a going concern basis, exceeds the amount of all the debts and liabilities (including contingent, subordinated, unmatured and unliquidated liabilities) of the Credit Parties and their respective Subsidiaries;

(b) the Credit Parties and their respective Subsidiaries will not, on a consolidated basis, have an unreasonably small capital with which to conduct their business operations as heretofore conducted; and

(c) the Credit Parties and their respective Subsidiaries will have, on a consolidated basis, sufficient cash flow to enable them to pay their debts as they mature.

5.17 Labor and Employment Matters.

(a) Except as set forth on Schedule 5.17 or with respect to which such representation, certification, recognition, obligation, contract, agreement, campaign, election, proceeding, strike, slowdown, work stoppage, practice, controversy or grievance, could not have, individually or in the aggregate, a Material Adverse Effect: (i) no employee of the Credit Parties and their respective Subsidiaries is represented by a labor union, no labor union has been certified or recognized as a representative of any such employee, and the Credit Parties and their respective Subsidiaries do not have any obligation under any collective bargaining agreement or other agreement with any labor union or any obligation to recognize or deal with any labor union, and there are no such contracts or other agreements pertaining to or which determine the terms or conditions of employment of any employee of the Credit Parties and their respective Subsidiaries; (ii) there are no pending or threatened representation campaigns, elections or proceedings; (iii) the Credit Parties and their respective Subsidiaries do not have knowledge of any strikes, slowdowns or work stoppages of any kind, or threats thereof; (iv) neither any Credit Party nor any Subsidiary has engaged in, admitted committing or been held to have committed any unfair labor practice; and (v) there are no controversies or grievances between any Credit Party or any Subsidiary and any of its employees or representatives thereof.

(b) Except as set forth on Schedule 5.17 or as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, the Credit Parties and their respective Subsidiaries have at all times since January 1, 2014 complied, and are in compliance with, all applicable laws, rules and regulations respecting employment, wages, hours, compensation, benefits, and payment and withholding of taxes in connection with employment.

(c) Except as set forth on Schedule 5.17 or as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, the Credit Parties and their respective Subsidiaries have at all times since January 1, 2014 complied with, and are in compliance with, all applicable laws, rules and regulations respecting occupational health and safety, including, without limitation, the Occupational Safety & Health Act of 1970, 29 U.S.C. Section 651 et seq. and the state analogies thereto, all as amended or superseded from time to time, and any common law doctrine relating to worker health and safety.

5.18 Deposit Accounts and Securities Accounts. Schedule 5.18 contains a complete and correct list of all banks and other financial institutions at which any Credit Party or any Subsidiary maintains Deposit Accounts and/or Securities Accounts as of the Closing Date, and such Schedule

correctly identifies the name and address of each depository, the name in which the account is held, a description of the purpose of the Deposit Account, and the complete account number.

5.19 Sanctions Concerns and Anti-Corruption Laws.

(a) Sanctions Concerns. No Credit Party, nor any Subsidiary, nor, to the knowledge of the Credit Parties and their respective Subsidiaries, any director, officer, employee, agent, affiliate or representative thereof, is a Person that is, or is owned or controlled by any Person that is (i) currently the subject or target of any Sanctions, (ii) included on OFAC's List of Specially Designated Nationals, HMT's Consolidated List of Financial Sanctions Targets and the Investment Ban List, or any similar list enforced by any other relevant sanctions authority or (iii) located, organized or resident in a Designated Jurisdiction.

(b) Anti-Corruption Laws. The Credit Parties and their respective Subsidiaries have conducted their business in compliance in all material respects with the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 and other similar anti-corruption legislation in other jurisdictions applicable to any Credit Party or any Subsidiary, and have instituted and maintained policies and procedures designed to promote and achieve compliance with such laws.

5.20 Patriot Act. The Credit Parties and their respective Subsidiaries are in compliance, in all material respects, with (a) the Trading with the Enemy Act, as amended, and each of the foreign assets control regulations of the United States Treasury Department (31 C.F.R., Subtitle B, Chapter V, as amended) and any other enabling legislation or executive order relating thereto (collectively, the "FAC Regulations"), and (b) the Uniting And Strengthening America By Providing Appropriate Tools Required To Intercept And Obstruct Terrorism (the "USA Patriot Act of 2001").

5.21 Healthcare Matters.

(a) Compliance with Health Care Laws. To its knowledge, each Credit Party is, and each Subsidiary is, and at all times since January 1, 2014, has been, in material compliance with all Health Care Laws and requirements of Third Party Payor Programs applicable to it. To the knowledge of each Credit Party, no circumstance exists or event has occurred which could reasonably be expected to result in a material violation by any Credit Party or any Subsidiary of any material Health Care Law or any requirement of any Third Party Payor Program. For the purpose of this Section 5.21, the term "knowledge" shall not be limited to actual knowledge of the information, and presumes that the Credit Party has performed reasonable due inquiry or diligence.

(b) Health Care Permits. Each Credit Party and each Subsidiary holds, and at all times since January 1, 2014, has held, all material Health Care Permits necessary for it to own, lease, sublease or operate its assets or to conduct its material business or operations as conducted at the applicable time (including to participate in and obtain reimbursement under all Third Party Payor Programs). All such Health Care Permits are, and at all times since January 1, 2014, have been, in full force and effect and there is and has been no material default under, material violation of, or other material noncompliance with the terms and conditions of any such Health Care Permit. To the knowledge of each Credit Party, no condition exists or event has occurred which, in itself or with the giving of notice or lapse of time or both, has resulted or could reasonably be expected to result in the suspension, revocation, termination, restriction, limitation, modification or non-renewal of any material Health Care Permit. No Governmental Authority has taken, or to the knowledge of any Credit Party intends to take, action to suspend, revoke, terminate, place on probation, restrict, limit, modify or not renew any material Health Care Permit of any Credit Party or any Subsidiary.

(c) Third Party Payor Authorizations. Each Credit Party and each Subsidiary holds, and at all times since January 1, 2014, has held, in full force and effect, all material Third Party Payor

Authorizations reasonably necessary to participate in and be reimbursed by all material Third Party Payor Programs in which such Credit Party or such Subsidiary participates. There is no investigation, audit, claim review, or other action pending, or to the knowledge of any Credit Party, threatened, which could reasonably be expected to result in a suspension, revocation, termination, restriction, limitation, modification or non-renewal of any Third Party Payor Authorization, result in any Credit Party's or any Subsidiary's exclusion from any Third Party Payor Program, or could reasonably be expected to have a Material Adverse Effect.

(d) Licensed Personnel. The Licensed Personnel (i) have complied at all times since January 1, 2014 when such Licensed Personnel have been performing services on behalf of any Credit Party or any Subsidiary, and currently are in compliance, in all material respects with all applicable Health Care Laws in the performance of such Licensed Personnel's duties for such Credit Party or such Subsidiary, and (ii) have held at all times since January 1, 2014 that such Persons have been Licensed Personnel performing services on behalf of any Credit Party or any Subsidiary, and currently hold (if still providing services on behalf of any Credit Party or any Subsidiary), all material professional licenses and other material Health Care Permits and all material Third Party Payor Authorizations required in the performance of such Licensed Personnel's duties for such Credit Party or such Subsidiary, and, each such Health Care Permit and Third Party Payor Authorization is in full force and effect and, to the knowledge of each Credit Party, no suspension, revocation, termination, impairment, modification or non-renewal of any such Permit or Third Party Payor Authorization is pending or threatened.

(e) Accreditation. Each Credit Party and each Subsidiary has obtained and maintains accreditation in good standing and without limitation or impairment by all applicable accrediting organizations, to the extent customary in the industry in which it is engaged or required by law (including any foreign law or equivalent regulation), except where the failure to have or maintain such accreditation in good standing or imposition of limitation or impairment could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(f) Proceedings and Audits. Except as set forth on Schedule 5.21(f), there are no pending (or, to the knowledge of any Credit Party, threatened) actions, suits, investigations, or proceedings against or affecting any Credit Party or any Subsidiary or, to the knowledge of any Credit Party, any Licensed Personnel, relating to any actual or alleged material non-compliance with any Health Care Law or requirement of any Third Party Payor Program. Schedule 5.21(f) sets forth any pending (or, to the knowledge of any Credit Party, threatened) dispute between any Third Party Payor Program and any Credit Party or any Subsidiary which may be reasonably expected to result in any Credit Party or any Subsidiary having responsibility to any Third Party Payor Program for any overpayment, liability, fines, penalties, or damages in excess of $1,000,000. To the knowledge of any Credit Party, there currently exist no material restrictions, deficiencies, required plans of correction or other such remedial measures with respect to any Health Care Permit of a Credit Party or a Subsidiary, or a Credit Party's or a Subsidiary's participation in any Third Party Payor Program. Without limiting the foregoing, to the knowledge of any Credit Party, no validation review, program integrity review, audit or other investigation related to any Credit Party or any Subsidiary or their respective operations, or the consummation of the transactions contemplated by the Loan Documents or related to the Collateral (i) has been conducted by or on behalf of any Governmental Authority since January 1, 2014, or (ii) is scheduled, pending or, to the knowledge of any Credit Party, threatened.

(g) Overpayments. Except as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, during the three (3) year period prior to the Closing Date, neither any Credit Party nor any Subsidiary has retained any payment received from, or failed to refund any amount due to, any Third Party Payor in violation in any respect of any Health Care Law or contract, after having identified any such overpayment or refunds due.

(h) Material Statements. To the knowledge of each Credit Party, neither any Credit Party nor any Subsidiary, nor any officer, affiliate, employee or agent of any Credit Party (in such capacity) or any Subsidiary (in such capacity), has made an untrue statement of a material fact or fraudulent statement to any Governmental Authority, failed to disclose a material fact that must be disclosed to any Governmental Authority, or committed an act, made a statement or failed to make a statement that, at the time such statement, disclosure or failure to disclose occurred, could reasonably be expected to constitute a material violation of any Health Care Law.

(i) Prohibited Transactions. To the knowledge of each Credit Party, neither any Credit Party nor any Subsidiary, nor any officer, affiliate, employee or agent of any Credit Party or any Subsidiary, directly or indirectly, has (i) offered or paid or solicited or received any material remuneration, in cash or in kind, or made any financial arrangements, in violation of any Health Care Law; (ii) given or agreed to give, or is aware that there has been made or that there is any agreement to make, any gift or gratuitous payment of any kind, nature or description (whether in money, property or services) in material violation of any Health Care Law; (iii) made or agreed to make, or is aware that there has been made or that there is any agreement to make, any material contribution, payment or gift of funds or property to, or for the private use of, any governmental official, employee or agent where either the contribution, payment or gift or the purpose of such contribution, payment or gift is or was illegal under the laws of any Governmental Authority having jurisdiction over such payment, contribution or gift; (iv) established or maintained any material unrecorded fund or asset for any purpose or made any materially misleading, false or artificial entries on any of its books or records for any reason; or (v) made, or agreed to make, or is aware that there has been made or that there is any agreement to make, any payment to any person with the intention or understanding that any part of such payment would be in violation of any Health Care Law or used or was given for any purpose other than that described in the documents supporting such payment. To the knowledge of each Credit Party, since January 1, 2014, no person has filed or has threatened to file against any Credit Party or their Affiliates an action under any federal or state whistleblower statute, including under the False Claims Act (31 U.S.C. § 3729 et seq.).

(j) Exclusion. Neither any Credit Party nor any Subsidiary, nor any owner, officer, director, partner, agent, managing employee or Person with a "direct or indirect ownership interest" (as that phrase is defined in 42 C.F.R. § 420.201) in any Credit Party or any Subsidiary, nor, to the knowledge of the Credit Parties, any Licensed Personnel of any Credit Party or any Subsidiary, has been (or, has been threatened to be) (i) excluded from any Third Party Payor Program pursuant to 42 U.S.C. § 1320a-7 and related regulations; (ii) "suspended" or "debarred" from selling products to the U.S. government or its agencies pursuant to the Federal Acquisition Regulation, relating to debarment and suspension applicable to federal government agencies generally (42 C.F.R. Subpart 9.4), or other applicable laws or regulations; (iii) debarred, disqualified, suspended or excluded from participation in any Third Party Payor Program or is listed on the General Services Administration list of excluded parties, nor, to the knowledge of the Credit Parties, is any such debarment, disqualification, suspension or exclusion threatened or pending; or (iv) made a party to any other action by any Governmental Authority that may prohibit it from selling products or providing services to any governmental purchaser or other purchaser pursuant to any federal, state or local laws or regulations.

(k) Corporate Integrity Agreement. Neither any Credit Party nor any Subsidiary, nor any owner, officer, director, partner, agent, managing employee or Person with a "direct or indirect ownership interest" (as that phrase is defined in 42 C.F.R. §1001.1001) in any Credit Party or any Subsidiary is a party to, or bound by, any order, individual integrity agreement, corporate integrity agreement, corporate compliance agreement, deferred prosecution agreement, or other formal or informal agreement with any Governmental Authority concerning compliance with Health Care Laws.

(l) Reimbursement Coding. To the extent any Credit Party or any Subsidiary provides to its customers or any other Persons reimbursement coding or billing advice, all such advice is and, as applicable, has been, materially complete and accurate, and materially conforms and, as applicable, has materially conformed, to the applicable American Medical Association's Current Procedural Terminology (CPT), the International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) or its successor, as applicable, and other applicable coding systems, except where such advice could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

5.22 Limited Offering of Warrants. Assuming the accuracy of the representations and warranties of the purchaser in the Series B Preferred Stock Purchase Agreement, the offer and sale of the Warrants are not required to be registered pursuant to the provisions of Section 5 of the Securities Act or the registration or qualification provisions of the blue sky laws of any state. Neither the Borrower nor any agent on the Borrower's behalf, has solicited or will solicit any offers to sell all or any part of the Warrants to any Person so as to bring the sale of the Warrants by the Borrower within the registration provisions of the Securities Act or any state securities laws.

5.23 Registration Rights. Except as described in the Investors' Rights Agreement, the Borrower is under no requirement to register under the Securities Act or the Trust Indenture Act of 1939, as amended, any of its presently outstanding securities or any of its securities that may subsequently be issued.

5.24 Perfection Matters. Set forth on Schedule 5.24 is the taxpayer identification number and organizational identification number of each Credit Party as of the Closing Date. The exact legal name, state of organization and address of the chief executive office of (a) the Borrower is (i) as set forth on the signature pages hereto or (ii) as may be otherwise disclosed by the Credit Parties in accordance with Section 8.15 and/or Section 4.2(b) and (b) each Guarantor is (i) as set forth on the signature pages hereto, (ii) as set forth on the signature pages to the supplement or other documentation pursuant to which such Guarantor became a party hereto or (iii) as may be otherwise disclosed by the Credit Parties in accordance with Section 8.15 and/or Section 4.2(b). Except as set forth on Schedule 5.24, no Credit Party has during the five years preceding the Closing Date (i) changed its legal name, (ii) changed its state of organization, or (iii) been party to a merger, consolidation or other change in structure.

## ARTICLE 6
## CONDITIONS PRECEDENT

6.1 Conditions; Term Loan and Purchase of Warrants. The obligations of the Lenders to make the Term Loan and to purchase the Warrants shall not become effective until the date on which each of the following conditions is satisfied (or waived in accordance with Section 10.2):

(a) Investment Documents. The Lenders shall have received executed counterparts of this Agreement and the other Investment Documents, each properly executed by a Designated Financial Officer of the signing Credit Party and each other party to such Investment Documents, including, without limitation, the Warrants duly executed and issued by the Borrower, in each case in form and substance satisfactory to the Lenders.

(b) Organizational Structure. The corporate organizational structure, capitalization and ownership of the Credit Parties and their respective Subsidiaries, shall be as set forth on Schedules 5.12 and 5.13 annexed hereto.

(c) Existence and Good Standing. The Lenders shall have received such documents and certificates as the Lenders may reasonably request relating to the organization, existence and good standing of each Credit Party and the authorization of the transactions contemplated hereby, all in form and substance reasonably satisfactory to the Lenders.

(d) Security Interests in Personal and Mixed Property. The Lenders shall have received evidence reasonably satisfactory to them that the Credit Parties shall have taken or caused to be taken all such actions, executed and delivered or caused to be executed and delivered all such agreements, documents and instruments and made or caused to be made all such filings and recordings (other than filings or recordings to be made by the Collateral Agent or the Lenders on or after the Closing Date) that may be necessary or are otherwise reasonably requested by the Lenders in order to create in favor of the Lenders, valid and (upon such filing and recording) perfected First Priority security interests in the entire personal and mixed property Collateral.

(e) [Reserved].

(f) Evidence of Insurance. The Lenders shall have received certificates from the Credit Parties' insurance brokers that all insurance required to be maintained pursuant to Section 7.5 is in full force and effect and that the Collateral Agent, for the benefit of the Lenders, has been named as additional insured or loss payee thereunder to the extent required under Section 7.5.

(g) Necessary Governmental Permits, Licenses and Authorizations and Consents, Etc. The Credit Parties and their respective Subsidiaries shall have received all governmental, shareholder and third party permits, licenses, authorizations, consents and approvals necessary in connection with the transactions contemplated by this Agreement and the other Investment Documents and all applicable waiting periods shall have expired without any action being taken by any Person that could reasonably be expected to restrain, prevent or impose any material adverse conditions on any Credit Party or any Subsidiary or such transactions or that could seek to threaten any of the foregoing, and no law or regulation shall be applicable which could reasonably be expected to have such effect.

(h) Existing Debt; Liens. The Lenders shall have received (if applicable) evidence that all principal, interest, and other amounts owing in respect of all Existing Debt of the Credit Parties and their respective Subsidiaries (other than Indebtedness permitted to remain outstanding in accordance with Section 8.1) will be repaid in full as of the Closing Date. The Lenders shall have received evidence that as of the Closing Date, the Property of the Credit Parties and their respective Subsidiaries is not subject to any Liens (other than Liens permitted to remain outstanding in accordance with Section 8.2).

(i) Financial Statements. The Lenders shall have received the certified financial statements referred to in Section 5.4.

(j) Financial Officer Certificate. The Lenders shall have received a certificate, dated the Closing Date and signed by a Designated Financial Officer, confirming compliance with the conditions set forth in Section 6.1(g), Section 6.1(m) and Section 6.2 at the Effective Time.

(k) Opinion of Counsel to Credit Parties. The Lenders shall have received favorable written opinions (addressed to the Lenders and dated the Closing Date) of Gibson, Dunn & Crutcher LLP, special counsel to the Credit Parties, covering such matters relating to the Credit Parties, this Agreement, the other Investment Documents or the transactions contemplated hereby as the Lenders shall reasonably request.

(l) Controlled Accounts. The Credit Parties shall have entered into Control Agreements with respect to the Controlled Accounts that have been established and are being maintained as of the Closing Date.

(m) Carmenta. Prior to or substantially concurrently with the Effective Time, the Borrower shall have (i) caused Carmenta to be dissolved and (ii) as a result thereof, by operation of law, all tangible and intangible property and assets of Carmenta to be assigned, transferred or otherwise disposed of to the Borrower or any other Credit Party, after payment of or provisions for all claims and obligations with respect thereto.

(n) Amendment to Comerica Real Estate Loan Documents. The Lenders shall have received such documents as the Lenders may reasonably request evidencing the amendment of all applicable Comerica Real Estate Loan Documents to permit the incurrence of the Obligations and the creation of Liens pursuant to the Loan Documents, in each case in form and substance reasonably satisfactory to the Lenders.

(o) Equity Matters. All transactions contemplated by the Series B Preferred Stock Purchase Agreement shall have been consummated, including, without limitation, the issuance by the Borrower to AOF III Co-Invest of 14,164,306 shares of Series B Preferred Stock, in accordance with the Series B Preferred Stock Purchase Agreement and Stylli shall have executed all necessary documentation to exchange all remaining shares of Series A-2 Preferred Stock into common stock of the Borrower (including the issuance by the Borrower of such common stock).

(p) Advance Request; Funding Direction Letter. The Lenders shall have received (i) a completed and executed Advance Request at least two (2) Business Days prior to the Effective Time and (ii) a letter of direction containing funds flow information, with respect to the proceeds of the Term Loan on the Closing Date.

(q) Fees and Expenses. The Lenders shall have received all fees and other amounts due and payable hereunder to the Lenders and/or Moore & Van Allen PLLC at or prior to the Effective Time, including, to the extent invoiced not fewer than two (2) Business Days prior to the Closing Date, reimbursement or payment of all out-of-pocket expenses required to be reimbursed or paid by the Borrower hereunder (*provided*, *that*, it is understood and agreed the Borrower shall only be required to reimburse or pay up to $100,000 of the reasonable and documented fees, costs and expenses of Moore & Van Allen PLLC incurred prior to the Effective Time).

6.2 Conditions; Term Loan. The obligation of the Lenders to make the Term Loan is subject to the additional conditions precedent that, both before and after giving effect to the Term Loan:

(a) Representations and Warranties. The representations and warranties of the Credit Parties and each Subsidiary set forth in this Agreement and the other Investment Documents shall be true and correct in all material respects (except to the extent that such representation and warranty is qualified by materiality or reference to Material Adverse Effect, in which case such representation and warranty shall be true and correct in all respects) with the same effect as if then made (except to the extent stated to relate to a specific earlier date, in which case such representations and warranties shall be true and correct in all material respects as of such earlier date (except to the extent that such representation and warranty is qualified by materiality or reference to Material Adverse Effect, in which case such representation and warranty shall be true and correct in all respects as of such earlier date)).

(b) No Default. No Event of Default or Default shall have then occurred and be continuing.

(c) No Material Adverse Effect. Since December 31, 2016, there shall have occurred no Material Adverse Effect.

The request by the Borrower for the making of the Term Loan shall be deemed to constitute a representation and warranty by the Borrower that the conditions precedent set forth in this Section 6.2 will be satisfied at the time of the making of the Term Loan.

## ARTICLE 7
## AFFIRMATIVE COVENANTS

Until all Obligations have been paid in full each Credit Party covenants and agrees with the Lenders that:

7.1 Financial Statements and Other Information. The Credit Parties will furnish to the Lenders:

(a) as soon as available and in any event within 120 days after the end of each fiscal year of the Credit Parties:

(i) consolidated statements of operations, shareholders' equity and cash flows of the Credit Parties and their respective Subsidiaries for such fiscal year and the related consolidated balance sheets of the Credit Parties and their respective Subsidiaries as at the end of such fiscal year, setting forth in each case in comparative form the corresponding consolidated figures for the preceding fiscal year, and

(ii) an opinion of independent certified public accountants of recognized national standing (without a "going concern" or like qualification or exception and without any qualification or exception as to the scope of such audit) stating that the consolidated financial statements referred to in the preceding clause (i) fairly present in all material respects the consolidated financial condition and results of operations of the Credit Parties and their respective Subsidiaries as at the end of, and for, such fiscal year in accordance with GAAP.

(b) as soon as available and in any event within 45 days after the end of each fiscal quarter of the Credit Parties:

(i) consolidated statements of operations and cash flows of the Credit Parties and their respective Subsidiaries for such fiscal quarter and for the period from the beginning of the respective fiscal year to the end of such quarter, and the related consolidated balance sheets of the Credit Parties and their respective Subsidiaries as at the end of such period, setting forth in each case in comparative form the corresponding consolidated figures for the corresponding period in the preceding fiscal year, and the corresponding figures for the forecasts most recently delivered to the Lenders for such period, and

(ii) a certificate of a Designated Financial Officer, which certificate shall state that said consolidated financial statements referred to in the preceding clause (i) fairly present in all material respects the consolidated financial condition and results of operations of the Credit Parties and their respective Subsidiaries, in each case in accordance with GAAP, consistently applied, as at the end of, and for, such period (subject to normal year-end audit adjustments and the omission of footnotes);

(c) as soon as available and in any event within (i) 45 days after the end of each fiscal quarter, a Compliance Certificate duly executed by a Designated Financial Officer with respect to the quarterly financial statements delivered pursuant to Section 7.1(b) above, and (ii) 120 days after the end of each fiscal year, a Compliance Certificate duly executed by a Designated Financial Officer with respect to the annual financial statements delivered pursuant to Section 7.1(a) above; and

(d) as soon as available and in any event within 45 days after the beginning of each fiscal year of the Credit Parties, statements of forecasted consolidated income and cash flows for the Credit Parties and their respective Subsidiaries for each fiscal month in such fiscal year and a forecasted consolidated balance sheet of the Credit Parties and their respective Subsidiaries as of the last day of each fiscal month in such fiscal year together with supporting assumptions which were reasonable when made, all prepared in good faith in reasonable detail and consistent with the Credit Parties' past practices in preparing projections and otherwise reasonably satisfactory in scope to the Lenders;

(e) upon written request of the Collateral Agent, within 45 days after the end of each fiscal quarter, a written report providing in reasonable detail a summary of the recent material developments over the last quarter in connection with each Government Investigation and the then current status of each Government Investigation; provided that the Lenders may in their discretion request an oral report instead of a written report; *provided*, *that*, the Borrower shall not be obligated to provide information to the Collateral Agent pursuant to this Section 7.1(e) to the extent such information has previously been provided to the Athyrium Director in his capacity as such;

(f) promptly, and in any event within 5 Business Days after receipt thereof by any Credit Party or any Subsidiary, copies of the following, in each case with respect to any Government Investigation, to the extent such items are material (as determined in good faith by the Borrower) and are not otherwise subject to a confidentiality obligation or any law, rule or regulation prohibiting disclosure thereof: (i) any subpoena, civil investigative demand or other similar request for documentation, settlement demand or other written request that is received by (A) any Credit Party or any Subsidiary or (B) any other Person and about which any Credit Party, any Subsidiary or any officer thereof has actual knowledge; (ii) any notice or other substantive written communication from, by or with any Governmental Authority, including without limitation the United States Department of Justice and specifically including any written communications of proposals for resolution of any Government Investigation; and (iii) any presentation made by any Credit Party or Subsidiary to any Governmental Authority regarding a Government Investigation or by any Governmental Authority to any Credit Party or Subsidiary regarding a Government Investigation, including without limitation presentations to or by the United States Department of Justice;

(g) promptly upon receipt thereof, copies of all management letters and accountants' letters received by the Credit Parties and their respective Subsidiaries; and

(h) promptly following any request therefor, such other information regarding the operations, business affairs and financial condition of the Credit Parties and their respective Subsidiaries, or compliance with the terms of this Agreement and the other Loan Documents, as the Lenders may reasonably request.

7.2 Notices of Material Events. The Credit Parties will furnish to the Lenders prompt written notice of the following:

(a) the occurrence of any Default;

(b) the filing or commencement of any action, suit or proceeding at law, in equity, in arbitration or by or before any Governmental Authority against any Credit Party or Affiliate thereof that could reasonably be expected to result in a Material Adverse Effect, including, without limitation, any such action, suit or proceeding that alleges potential or actual violations of any Health Care Law by a Credit Party or any Subsidiary or any of their respective Licensed Personnel;

(c) the occurrence of any ERISA Event related to the Plan of any Credit Party or any Subsidiary or knowledge after due inquiry of any ERISA Event related to a Plan of any other ERISA Affiliate that, alone or together with any other ERISA Events that have occurred, could reasonably be expected to result in liability of the Credit Parties and their respective Subsidiaries in an aggregate amount exceeding $1,000,000;

(d) (i) the voluntary disclosure by any Credit Party or any Subsidiary to any Governmental Authority or any Third Party Payor Program (including to any intermediary, carrier or contractor of such Third Party Payor Program), of an actual or potential overpayment matter involving the submission of claims to a Third Party Payor that could reasonably result in damages (including an assessment or civil monetary penalty) or a settlement amount in excess of $2,000,000; (ii) that any Credit Party or any Subsidiary, an owner, officer, manager, employee or Person with a "direct or indirect ownership interest" (as that phrase is defined in 42 C.F.R. §420.201) in any Credit Party or any Subsidiary: (A) has had a civil monetary penalty assessed against him or her pursuant to 42 U.S.C. §1320a-7a or is the subject of a proceeding seeking to assess such penalty; (B) has been excluded from participation in a Federal Health Care Program (as that term is defined in 42 U.S.C. §1320a-7b) or is the subject of a proceeding seeking to assess such penalty; (C) has been convicted (as that term is defined in 42 C.F.R. §1001.2) of any of those offenses described in 42 U.S.C. §1320a-7b or 18 U.S.C. §§669, 1035, 1347, 1518 or is the subject of a proceeding seeking to assess such penalty; or (D) has been involved or named in a complaint filed pursuant to the False Claims Act under 31 U.S.C. §3729 et seq. by any individual or by the United States Department of Justice; (iii) receipt by any Credit Party or any Subsidiary of any notice or written communication from an accrediting organization that such Person is (A) subject to or is required to file a plan of correction with respect to any accreditation survey where the failure to file such plan could lead to loss of accreditation, or (B) in danger of losing its accreditation due to a failure to comply with a plan of correction; (iv) any health care survey, report or other communication related to licensure, accreditation, or participation in any Third Party Payor Program that includes any statement of material deficiencies pertaining to any Credit Party or any Subsidiary; (v) any material and adverse validation review, material and adverse program integrity review or material reimbursement audits related to any Credit Party or any Subsidiary in connection with any Third Party Payor Program; (vi) any claim to recover any alleged overpayments with respect to any receivables that could result in damages (including an assessment or civil monetary penalty) or a settlement amount in excess of $2,000,000; (vii) notice of any material reduction in the level of reimbursement expected to be received with respect to receivables; (viii) any material licensure violations or fraudulent acts or omissions involving any Credit Party or any Subsidiary, or, to the knowledge of any Credit Party, any Licensed Personnel; (ix) the pending or threatened (in writing) imposition of any material fine or penalty by any Governmental Authority under any Health Care Law against any Credit Party, or, to the knowledge of any Credit Party, any Licensed Personnel; (x) notice of any Credit Party's or any Subsidiary's fees in excess of $2,000,000 being contested or disputed; (xi) any pending revocation, suspension, termination, probation, restriction, limitation, denial, or non-renewal with respect to any material Health Care Permit or material Third Party Payor Authorization, including without limitation (A) any correspondence from any Governmental Authority which gives notice of, or (B) the occurrence of, any event which in the case of either (A) or (B) could reasonably be expected to result in any Credit Party, any Subsidiary or key executive of a Credit Party or Subsidiary becoming excluded, suspended or debarred from participation, or becoming otherwise ineligible to participate, in any Third Party Payor Program with a Government Payor; (xii) any non-routine and material inspection of any facility of a

Credit Party or a Subsidiary by any Governmental Authority; (xiii) notice of the occurrence of any reportable event as defined in any corporate integrity agreement, corporate compliance agreement or deferred prosecution agreement pursuant to which any Credit Party or any Subsidiary has to make a submission to any Governmental Authority or other Person under the terms of such agreement, if any; and (xiv) without duplication, any failure of any Credit Party or any Subsidiary to comply with the covenants and conditions of Section 7.8; and

(e) any other development that results in, or could reasonably be expected to result in, a Material Adverse Effect.

Each notice delivered under this Section 7.2 shall be accompanied by a statement of a Designated Financial Officer setting forth the details of the event or development requiring such notice and any action taken or proposed to be taken with respect thereto.

7.3 Existence; Conduct of Business. Each Credit Party shall, and shall cause each Subsidiary to, do or cause to be done all things necessary to preserve, renew and keep in full force and effect its legal existence and good standing under the laws of the jurisdiction of its organization (except in a transaction permitted by Section 8.4) and the rights, licenses, permits, privileges and franchises material to the conduct of its business; *provided*, *that*, the foregoing shall not prohibit any merger, consolidation, liquidation, dissolution or any discontinuance or sale of such business permitted under Section 8.4.

7.4 Payment of Obligations. Each Credit Party shall, and shall cause each Subsidiary to, pay its obligations, including Tax liabilities, that, if not paid, could reasonably be expected to result in a Material Adverse Effect, before the same shall become delinquent or in default, except where the validity or amount thereof is being contested in good faith by appropriate proceedings and such Credit Party or such Subsidiary, as the case may be, has set aside on its books adequate reserves with respect thereto in accordance with GAAP.

7.5 Maintenance of Properties; Insurance. Each Credit Party shall, and shall cause each Subsidiary to, (a) keep and maintain all property material to the conduct of its business in good working order and condition, ordinary wear and tear excepted, and (b) maintain insurance, with financially sound and reputable insurance companies, as may be required by law and such other insurance in such amounts, on such terms and against such risks as are customarily maintained by companies engaged in the same or similar businesses operating in the same or similar locations, including, without limitation, business interruption and product liability insurance. Without limiting the generality of the foregoing, the Credit Parties will, and will cause each Subsidiary to, maintain or cause to be maintained replacement value casualty insurance on the Collateral under such policies of insurance, in each case with such insurance companies, in such amounts, with such deductibles, and covering such terms and risks as are at all times reasonably satisfactory to the Lenders in their commercially reasonable judgment. All general liability and other liability policies with respect to the Credit Parties and their respective Subsidiaries shall name the Collateral Agent, for the benefit of the Lenders, as an additional insured thereunder as its interests may appear, and all business interruption and casualty insurance policies shall contain a loss payable clause or endorsement, reasonably satisfactory in form and substance to the Lenders that names the Collateral Agent, for the benefit of the Lenders, as the loss payee thereunder. All policies of insurance shall provide for at least thirty (30) days' prior written notice to the Collateral Agent of any cancellation of such policy (or ten (10) days' prior written notice in the case of the failure to pay any premiums thereunder).

7.6 Books and Records; Inspection Rights. Each Credit Party shall, and shall cause each Subsidiary to, keep proper books of record and account in which entries are made of all dealings and transactions in relation to its business and activities which fairly record such transactions and activities.

Upon the Collateral Agent's reasonable request, each Credit Party will, and will cause each Subsidiary to, give the Collateral Agent notice from time to time of each office where books of record and account pertaining to all intangible items of Collateral are kept. Each Credit Party shall, and shall cause each Subsidiary to, permit any representatives designated by the Lenders to visit and inspect its properties, to examine and make extracts from its books and records, and to discuss its affairs, finances and condition with its officers and independent accountants as frequently as the Lenders deem appropriate (but in any event, not more than once per fiscal quarter so long as no Event of Default has occurred and is continuing); *provided*, *that*, so long as no Default has occurred and is continuing all such visits shall be on reasonable prior notice, at reasonable times during regular business hours of such Credit Party or such Subsidiary; *provided*, *further*, *that*, after the occurrence and during the continuance of any Default, the Lenders may visit at any reasonable times. The Borrower shall reimburse the Lenders for all reasonable and documented examination and inspections costs, internal costs at the customary rate charged by the Lenders, plus all reasonable and documented out-of-pocket expenses incurred in connection with such inspections; *provided*, *that*, so long as no Event of Default has occurred and is continuing, Borrower shall only be required to reimburse the Lenders for inspection costs in connection with one such visit and inspection per fiscal year.

7.7 Fiscal Year. The Credit Parties and their respective Subsidiaries shall maintain their current fiscal year.

7.8 Compliance with Laws.

(a) Each Credit Party shall, and shall cause each Subsidiary to, comply in all material respects with (i) all permits, licenses and authorizations, including, without limitation, environmental permits, licenses and authorizations, issued by a Governmental Authority; (ii) all laws, rules, regulations and orders including, without limitation, the Trading with the Enemy Act, the FAC Regulations and the USA Patriot Act of 2001, of any Governmental Authority; and (iii) all contractual obligations, in each case applicable to it or its property, except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(b) Without limiting or qualifying Section 7.8(a), or any other provision of this Agreement, each Credit Party will, and will cause each Subsidiary to, comply in all material respects with all applicable Health Care Laws relating to the operation of such Person's business.

(c) Each Credit Party shall, and shall cause each Subsidiary to, (i) obtain, maintain and preserve and take all necessary action to timely renew, all material Health Care Permits (including, as applicable, Health Care Permits necessary for it to be eligible to receive payment and compensation from and to participate in Medicare, Medicaid or any other Third Party Payor Programs) that are necessary in the conduct of its business; (ii) be and remain in material compliance with all requirements for participation in, and for licensure required to provide the goods or services that are reimbursable under, Medicare, Medicaid and any other Third Party Payor Programs; (iii) cause all Licensed Personnel to comply in all material respects with all applicable Health Care Laws in the performance of their duties to or for any Credit Party or any Subsidiary, and to maintain in full force and effect all material professional licenses and other Health Care Permits required to perform such duties; and (iv) keep and maintain in all material respects all records required to be maintained by any Governmental Authority or otherwise under any Health Care Law, in each case.

(d) Each Credit Party shall, and shall cause each Subsidiary to, maintain a corporate and health care regulatory compliance program ("CCP") which addresses the requirements of Health Care Laws, including Health Information Privacy Laws and that includes at least the following components: (i) standards of conduct and procedures that describe compliance policies regarding laws with an

emphasis on prevention of fraud and abuse; (ii) a specific officer within high-level personnel identified as having overall responsibility for compliance with such standards and procedures; (iii) training and education programs which effectively communicate the compliance standards and procedures to employees and agents, including fraud and abuse laws and illegal billing practices; (iv) auditing and monitoring systems and reasonable steps for achieving compliance with such standards and procedures, including publicizing a report system to allow employees and other agents to anonymously report criminal or suspect conduct and potential compliance problems; (v) disciplinary guidelines and consistent enforcement of compliance policies, including discipline of individuals responsible for the failure to detect violations of the CCP; and (vi) mechanisms to immediately respond to detected violations of the CCP. The Credit Parties shall, and shall cause each Subsidiary to, modify such CCPs from time to time, as may be necessary to ensure continuing compliance in all material respects with all applicable Health Care Laws. The Credit Parties shall, and shall cause each Subsidiary to, upon the Lenders' reasonable request, provide copies of the CCP to the Lenders, together with any other documentation relating to the administration thereof and compliance by the applicable Credit Party or Subsidiary therewith.

(e) Each Credit Party shall, and shall cause each Subsidiary to, conduct its business in compliance in all material respects with the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 and other similar anti-corruption legislation in other jurisdictions applicable to any Credit Party or any Subsidiary.

7.9 Use of Proceeds. The proceeds of the Loans will be used only for (a) the repayment of Existing Debt of the Credit Parties and their respective Subsidiaries (other than Existing Debt of the type described in clause (b) of the definition thereof), (b) the payment of fees and expenses incurred in connection with the transactions contemplated by this Agreement, (c) the repurchase of shares of capital stock of the Borrower, to the extent permitted by Section 8.6, and (d) general corporate and working capital purposes of the Credit Parties and their respective Subsidiaries, including, without limitation, funding research and development; *provided*, *that*, in no event shall the proceeds of the Loans be used in contravention of any Law or any Loan Document.

7.10 Certain Obligations Respecting Pledges of Capital Stock and Subsidiaries.

(a) The Credit Parties shall cause, at all times, the Collateral Agent, for the benefit of the Lenders, to be granted a first priority perfected Lien (subject only to inchoate Permitted Liens) on one hundred percent (100%) of the outstanding capital stock or other equity interests of the Credit Parties (other than, for the avoidance of doubt, the Borrower) and their respective Subsidiaries; *provided*, *that*, with respect to any Foreign Subsidiary or FSHCO, such pledge shall be limited to (x) 65% of the voting capital stock or other voting equity interests of such Foreign Subsidiary or FSHCO and (y) 100% of the non-voting capital stock or other non-voting equity interests of such Foreign Subsidiary or FSHCO.

(b) The Credit Parties shall, upon the formation or acquisition (it being understood that any Excluded Subsidiary ceasing to be an Excluded Subsidiary but remaining a Subsidiary shall be deemed to be the acquisition of a Subsidiary for purposes hereof) of any direct or indirect Wholly Owned Domestic Subsidiary (other than an Excluded Subsidiary) after the Closing Date, (i) cause each such Wholly Owned Domestic Subsidiary to become a Credit Party hereunder by executing a supplement hereto in form and substance reasonably satisfactory to the Lenders, (ii) pledge to the Collateral Agent, for the benefit of the Lenders, all the capital stock or other equity interests of each such Wholly Owned Domestic Subsidiary directly held by such Credit Party, and (iii) take, or cause each such Wholly Owned Domestic Subsidiary to take, such additional actions as are reasonably requested by the Lenders to grant a Lien in favor of the Collateral Agent, for the benefit of the Lenders, on all assets of such Wholly Owned Domestic Subsidiary (other than Intellectual Property and Excluded Collateral) consistent with the terms of this Agreement.

7.11 ERISA. Except where a failure to comply with any of the following, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect, (a) the Credit Parties will, and will cause each Subsidiary to, maintain, and cause each ERISA Affiliate to maintain, each Plan in compliance with all applicable requirements of ERISA and of the Code and with all applicable rulings and regulations issued under the provisions of ERISA and of the Code and (b) the Credit Parties will not, and will not permit any Subsidiary to, and, to the extent authorized, will not permit any of the ERISA Affiliates to (i) engage in any transaction with respect to any Plan which would subject any Credit Party or any Subsidiary to either a civil penalty assessed pursuant to Section 502(i) of ERISA or a tax imposed by Section 4975 of the Code, (ii) fail to make full payment when due of all amounts which, under the provisions of any Plan, any Credit Party, any Subsidiary or any ERISA Affiliate is required to pay minimum required contributions (as such term is defined in Section 302 of ERISA and Section 412 of the Code), with respect to any Pension Plan or (iii) fail to make any payments to any Multiemployer Plan that any Credit Party, any Subsidiary or any of the ERISA Affiliates may be required to make under any agreement relating to such Multiemployer Plan or any law pertaining thereto.

7.12 Environmental Matters; Reporting. The Credit Parties will, and will cause each Subsidiary to, observe and comply with all Environmental Laws to the extent non-compliance could reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. The Credit Parties will, and will cause each Subsidiary to, give the Lenders prompt written notice of any violation as to any Environmental Law by any Credit Party or any Subsidiary and of the commencement of any judicial or administrative proceeding relating to Environmental Laws (a) in which an adverse result would have a material adverse effect on any operating permits, air emission permits, water discharge permits, hazardous waste permits or other environmental permits held by any Credit Party or any Subsidiary, or (b) which could reasonably be expected to result in a Material Adverse Effect or which will require a material expenditure by any Credit Party or any Subsidiary to cure any alleged problem or violation.

7.13 Cash Deposits; Deposit Accounts; Securities Accounts.

(a) The Credit Parties shall take, and shall cause their respective Subsidiaries to take, all actions necessary to maintain, preserve and protect the rights and interests of the Collateral Agent, for the benefit of the Lenders, with respect to all cash deposits of the Credit Parties and all other proceeds of Collateral and shall not open any Deposit Account or Securities Account, as the case may be, without simultaneously entering into a Control Agreement; *provided*, *that*, so long as no Default or Event of Default shall have occurred and be continuing, the Credit Parties and their respective Subsidiaries shall be permitted to maintain (i) payroll accounts not subject to the Collateral Agent's or the Lenders' control, (ii) Government Depository Accounts not subject to the Collateral Agent's or the Lenders' control as long as the Credit Parties observe all the requirements of this Section 7.13, and (iii) other bank accounts (including, without limitation, Securities Accounts) not subject to the Collateral Agent's or the Lenders' control, in the case of this clause (iii), so long as the aggregate amount of funds on deposit and financial assets credited thereto in all such bank accounts (including, without limitation, Securities Accounts) does not exceed $500,000 at any time (each, an "Excluded Account").

(b) The Credit Parties shall maintain the Government Depository Account and instruct the depository institution where such Government Depository Account is maintained to automatically, at the end of each Business Day, transfer all amounts on deposit in the Government Depository Account to a Controlled Account. The Government Depository Account will be the only account into which Government Receivables will be deposited and all Governmental Payors will be directed to remit all Government Receivables for deposit in the Government Depository Account. In the event that a Credit Party or a Subsidiary receives any Collections that should have been sent to the Government Depository Account, such Credit Party shall, or shall cause such Subsidiary to, as the case

may be, promptly upon receipt, deposit such Collections directly to the Government Depository Account in the form received.

(c) The Credit Parties will, and will cause each Subsidiary to, cause all Collections other than Government Receivables to be sent directly to a Controlled Account. In the event that a Credit Party or a Subsidiary receives any Collections that should have been sent to a Controlled Account, such Credit Party shall, or shall cause such Subsidiary to, as the case may be, promptly upon receipt deposit such Collections directly to a Controlled Account in the form received. Until so forwarded, such Collections shall be held in trust for the benefit of the Lenders.

(d) The Credit Parties will, and will cause each Subsidiary to, use commercially reasonable efforts to cause payors of Health-Care-Insurance Receivables under new provider agreements to segregate Government Receivables from non-governmental Collections and deposit Government Receivables into the Government Depository Account and non-governmental Collections into a Controlled Account.

(e) Notwithstanding anything in any Control Agreement to the contrary, the Credit Parties agree that they shall be liable for any fees and charges in effect from time to time and charged by the depository institution in connection with the Controlled Accounts and the Government Depository Account and that the Collateral Agent and the Lenders shall have no liability therefor. The Credit Parties hereby indemnify and agree to hold the Collateral Agent and the Lenders harmless from any and all liabilities, claims, losses and demands whatsoever, including reasonable and documented out-of-pocket attorneys' fees and expenses, arising from or relating to actions of the Collateral Agent pursuant to this Section 7.13 or any Control Agreement or similar agreement, except to the extent of such losses arising solely from the Collateral Agent's bad faith, gross negligence or willful misconduct as determined in a final and non-appealable judgment by a court of competent jurisdiction.

(f) If any Credit Party breaches its obligation to, or to cause a Subsidiary to, direct payments of the proceeds of the Collateral to a Controlled Account or the Government Depository Account as herein required, the Collateral Agent, as the irrevocably made, constituted and appointed true and lawful attorney for the Credit Parties, may upon reasonable prior notice to the Credit Parties, by the signature or other act of any of the Collateral Agent's officers (without requiring any of them to do so), direct any account debtor to pay proceeds of the Collateral to the Credit Parties and their respective Subsidiaries by directing payment to a Controlled Account or the Government Depository Account, as applicable.

7.14 Landlord's Waivers and Consents. In the case of each new lease for a Material Leasehold Property entered into after the Closing Date, the Credit Parties shall (a) provide notice thereof to the Collateral Agent and (b) if requested by the Collateral Agent, (i) provide copies of the lease, and all amendments thereto, between the Credit Party and the landlord or tenant party thereto, and (ii) use commercially reasonable efforts to obtain a Landlord's Waiver and Consent with respect thereto.

7.15 Post-Closing Obligations. The Credit Parties shall, and shall cause each Subsidiary to, within the time periods set forth therefor on Schedule 7.15 (or such longer periods of time as may be agreed to by the Lenders), deliver to the Collateral Agent and the Lenders such documents, instruments, certificates and/or agreements as are listed on Schedule 7.15 or take such other actions as are described on Schedule 7.15, in each case in form and substance reasonably satisfactory to the Lenders.

**ARTICLE 8**
**NEGATIVE COVENANTS**

Until the Obligations have been paid in full each Credit Party covenants and agrees with the Lenders that:

8.1 Indebtedness. The Credit Parties will not, and will not permit any Subsidiary to, create, incur, assume or permit to exist any Indebtedness, except:

(a) Indebtedness under the Loan Documents;

(b) Existing Debt (of the type described in clause (b) of the definition of "Existing Debt") on the Closing Date which is set forth in Schedule 8.1 and any extension, renewal, refunding or replacement of any such Indebtedness that does not increase the principal amount thereof, except by an amount equal to unpaid accrued interest and premiums thereon plus underwriting discounts, other reasonable and customary fees, commissions and expenses (including upfront fees, original issue discount or initial yield payments) incurred in connection with the relevant extension, renewal, refunding or replacement;

(c) intercompany Indebtedness permitted under Section 8.5 (other than by reference to this Section 8.1 (or any clause hereof));

(d) Indebtedness incurred after the Closing Date (determined on a consolidated basis without duplication in accordance with GAAP) consisting of Capital Lease Obligations and/or purchase money Indebtedness secured by Liens permitted under Section 8.2(k), in an aggregate principal amount for all such Indebtedness at any time outstanding not to exceed $10,000,000;

(e) (i) Indebtedness incurred after the Closing Date in an aggregate principal amount at any time outstanding not to exceed $2,000,000, secured by a Lien encumbering any real property owned by any of the Credit Parties (it being understood, for the avoidance of doubt, that Indebtedness incurred under (x) the Comerica Real Estate Loan Documents, not to exceed an aggregate principal amount of $2,000,000 and (y) the Lubbock Mortgage, not to exceed an aggregate principal amount of $2,500,000 shall be excluded from the calculation of the basket set forth in this clause (e)(i)), (ii) Indebtedness under the Comerica Real Estate Loan Documents in an aggregate principal amount at any time outstanding not to exceed $2,000,000, and (iii) Indebtedness under the Lubbock Mortgage in an aggregate principal amount at any time outstanding not to exceed $2,500,000;

(f) Indebtedness which may be deemed to exist pursuant to any guaranties, performance, surety, statutory, appeal or similar obligations incurred in the ordinary course of business and Indebtedness constituting guaranties of the obligations of suppliers, customers, franchisees and licensees of the Borrower and its Subsidiaries in the ordinary course of business;

(g) Indebtedness incurred by the Borrower and its Subsidiaries in respect of letters of credit, bank guarantees, bankers' acceptances, warehouse receipts or similar instruments in each case in respect of workers compensation claims, health, disability or other employee benefits or property, casualty or liability insurance or self-insurance or other Indebtedness with respect to reimbursement-type obligations regarding workers compensation claims;

(h) Indebtedness in respect of cash management obligations, including netting services, automatic clearinghouse arrangements, overdraft protections, employee credit card programs, other similar arrangements and otherwise in connection with deposit accounts, and any guarantee

obligations of the Borrower and its Subsidiaries in connection therewith, in each case entered into in the ordinary course of business; *provided*, *that*, the aggregate outstanding amount of all such Indebtedness shall not exceed $2,500,000 at any time;

(i) Indebtedness (other than, for the avoidance of doubt, Indebtedness for borrowed money) of the Borrower or any of its Subsidiaries consisting of obligations under deferred compensation, purchase price or other similar arrangements incurred by the Borrower or such Subsidiary in the ordinary course of business;

(j) unsecured Indebtedness of the Borrower or any of its Subsidiaries consisting of obligations to purchase the capital stock or other equity interests of the Borrower or such Subsidiary from present or former officers, employees or directors of the Borrower or such Subsidiary following the death, disability or termination of employment or in connection with the repurchase of such capital stock or other equity interests in order to pay taxes of such officer, employee or director in accordance with any stock incentive plan approved by the Borrower's or such Subsidiary's board of directors, in an aggregate outstanding principal amount not to exceed $1,000,000 at any time;

(k) other Indebtedness of the Borrower or any of its Subsidiaries; *provided*, *that*, the aggregate outstanding principal amount of all such Indebtedness shall not exceed $1,500,000 at any time;

(l) Guarantees permitted under Section 8.3 (other than by reference to this Section 8.1 (or any clause hereof));

(m) (i) the Carmenta Earn-Out Payments and (ii) the Avero Earn-Out Payments;

(n) Indebtedness of the Borrower or any of its Subsidiaries consisting of unsecured seller notes and/or unsecured earn-out payment obligations in connection with any Permitted Acquisition in an aggregate amount not to exceed $3,000,000 at any time; and

(o) Indebtedness incurred by Subsidiaries that are not Credit Parties in an aggregate outstanding principal amount for all such Indebtedness not to exceed $1,500,000 at any time.

8.2 Liens. The Credit Parties will not, and will not permit any Subsidiary to, create, incur, assume or permit to exist any Lien on any Property or asset now owned or hereafter acquired by it (including, without limitation, any Lien on Intellectual Property), or assign or sell any income or revenues (including Accounts) or rights in respect of any thereof, except (the following being called "Permitted Liens"):

(a) Liens created under the Loan Documents;

(b) any Lien on any Property or asset of any Credit Party or Subsidiary existing on the Closing Date and set forth in Schedule 8.2; *provided*, *that*, (i) such Lien shall not apply to any other Property or asset of such Person and (ii) such Lien shall secure only those obligations which it secures on the Closing Date and extensions, refinancings, renewals, refundings and replacements thereof that do not increase the outstanding principal amount thereof, except by an amount equal to unpaid accrued interest and premiums thereon plus underwriting discounts, other reasonable and customary fees, commissions and expenses (including upfront fees, original issue discount or initial yield payments) incurred in connection with the relevant extension, renewal, refunding or replacement;

(c) Liens imposed by any Governmental Authority for Taxes not yet delinquent or which are being contested in good faith and by appropriate proceedings if adequate reserves with respect

thereto are maintained on the books of the applicable Credit Party or Subsidiary in accordance with GAAP and which reserves shall be acceptable to the Lenders;

(d) landlords', carriers', warehousemen's, mechanics', materialmen's, repairmen's or other like Liens, and vendors' Liens imposed by statute or common law not securing the repayment of Indebtedness, arising in the ordinary course of business which are not overdue for a period of more than 60 days or which are being contested in good faith and by appropriate proceedings and Liens securing judgments (including, without limitation, pre-judgment attachments) but only to the extent for an amount and for a period not resulting in an Event of Default under Section 9.1(j);

(e) pledges or deposits under worker's compensation, unemployment insurance and other social security legislation and pledges or deposits to secure the performance of bids, tenders, trade contracts (other than for borrowed money), leases (other than capital leases), utility purchase obligations, statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business;

(f) easements, rights-of-way, restrictions and other similar encumbrances incurred in the ordinary course of business and encumbrances consisting of zoning restrictions, easements, licenses, restrictions on the use of Property or minor imperfections in title thereto which, in the aggregate, are not material in amount, and which do not, in the aggregate, materially detract from the value of the Property of any Credit Party or any Subsidiary or materially interfere with the ordinary conduct of the business of any Credit Party or any Subsidiary;

(g) any interest or title of a lessor or sublessor under any lease of real estate permitted hereunder;

(h) purported Liens evidenced by the filing of precautionary UCC financing statements relating solely to operating leases of personal property entered into in the ordinary course of business;

(i) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods;

(j) Liens consisting of bankers' liens and rights of setoff or similar rights and remedies as to deposit accounts, securities accounts and other funds and investment property maintained with a creditor depository institution or securities intermediary, in each case, arising by operation of law or granted pursuant to customary account documentation entered into in connection with the establishment of cash management arrangements in the ordinary course of business, and Liens on documents presented in letter of credit drawings; and

(k) Liens on fixed or capital assets (i) of any Credit Party or any Subsidiary and in existence on the Closing Date securing Indebtedness (including Capital Lease Obligations), in each case, permitted by Section 8.1(b) or (ii) acquired, constructed or improved by any Credit Party or any Subsidiary after the Closing Date, in each case, securing Indebtedness (including Capital Lease Obligations) permitted by Section 8.1(d); *provided*, *that*, solely with respect to Liens incurred in reliance on sub-clause (ii), (A) such Liens and the Indebtedness secured thereby are incurred prior to or within 180 days after such acquisition or the completion of such construction or improvement or were in effect at the time the Credit Parties or such Subsidiary acquired the applicable assets or stock, (B) the Indebtedness secured thereby does not exceed the cost of acquiring, constructing or improving such fixed or capital assets and (C) such security interests shall not apply to any other property or assets of the Credit Parties or any Subsidiary (other than other fixed or capital assets financed by a common creditor);

(l) Liens on real property of the Credit Parties and their respective Subsidiaries securing Indebtedness permitted by Section 8.1(e) (including, without limitation, liens in favor of (x) Comerica (or any replacement lender) on the real property securing the Indebtedness incurred under the Comerica Real Estate Loan Documents and (y) any lender on the real property securing the Indebtedness incurred under the Lubbock Mortgage); *provided*, *that*, (A) such Liens and the Indebtedness secured thereby are incurred prior to or within 180 days after the acquisition of such real property or were in effect at the time the Credit Parties or such Subsidiary thereof acquired such real property or stock (or, with regard to any extension, refinancing, renewal, refunding or replacement of any such Indebtedness, were in effect at the time of such extension, refinancing, renewal, refunding or replacement), (B) the Indebtedness secured thereby does not exceed the fair market value of such real property, and (C) such security interests shall not apply to any other property or assets of the Credit Parties or any Subsidiary; and

(m) Liens existing on property at the time of its acquisition or existing on the property of any Person at the time such Person becomes a Subsidiary, in each case, after the Closing Date (other than Liens on the capital stock or other equity interests of any Person that becomes a Subsidiary to the extent that such capital stock or other equity interests are owned by a Credit Party); *provided*, *that*, (i) such Lien was not created in contemplation of such acquisition or such Person becoming a Subsidiary, (ii) such Lien does not extend to or cover any other assets or property (other than the proceeds, products and accessions thereof and other than after-acquired property subjected to a Lien securing Indebtedness and other obligations incurred prior to such time and which Indebtedness and other obligations are permitted hereunder that require, pursuant to their terms at such time, a pledge of after-acquired property, it being understood that such requirement shall not be permitted to apply to any property to which such requirement would not have applied but for such acquisition) and (iii) the Indebtedness secured thereby is permitted by Section 8.1.

8.3 Contingent Liabilities. The Credit Parties will not, and will not permit any Subsidiary to, Guarantee the Indebtedness or other obligations of any Person, or Guarantee the payment of dividends or other distributions upon the stock of, or the earnings of, any Person, except:

(a) endorsements of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business;

(b) Guarantees created under the other Loan Documents;

(c) Guarantees and letters of credit in effect on the Closing Date which are disclosed in Schedule 8.1, and any replacements thereof in amounts not exceeding such Guarantees; and

(d) Guarantees of obligations of the Borrower in favor of Comerica securing Indebtedness under the Comerica Loan Documents permitted by Section 8.1(e)(ii).

8.4 Fundamental Changes; Asset Sales.

(a) The Credit Parties will not, and will not permit any Subsidiary to, enter into any transaction of merger or consolidation or amalgamation, or liquidate, wind up or dissolve itself (or suffer any liquidation or dissolution). The Credit Parties will not, and will not permit any Subsidiary to, acquire any business or property from, or capital stock of, or other equity interests in, or be a party to any acquisition of, any Person except for purchases of property to be used in the ordinary course of business, Investments permitted under Section 8.5 (other than by reference to this Section 8.4 (or any clause hereof)) and Capital Expenditures. Notwithstanding the foregoing, (i) any Credit Party may be merged or combined with or into any other Credit Party (*provided*, *that*, if such merger involves the Borrower,

(x) the Borrower shall be the surviving entity and (y) no Change of Control shall occur) and (ii) any Subsidiary that is not a Credit Party may be merged or consolidated into (x) any Credit Party or (y) any other Subsidiary that is not a Credit Party.

(b) The Credit Parties will not, and will not permit any Subsidiary to, convey, sell, lease, assign, transfer or otherwise dispose (including any Disposition) of, in one transaction or a series of transactions, any part of their business or property, whether now owned or hereafter acquired including, without limitation, receivables and leasehold interests, but excluding (the following being called "Permitted Dispositions"):

(i) the sale, assignment, lease, transfer or other disposition of any Inventory or other property sold or disposed of in the ordinary course of business and on ordinary business terms;

(ii) the sale, assignment, lease, transfer or other disposition of real property, to the extent the same would not interfere with the operation of the business of the Credit Parties and their respective Subsidiaries;

(iii) the granting of Liens permitted by Section 8.2;

(iv) licenses, sublicenses, leases or subleases to third parties not interfering in or impairing in any material respect the business of the Credit Parties and their respective Subsidiaries;

(v) the sale, assignment, lease, transfer or other disposition of delinquent accounts receivable in connection with the collection or compromise thereof in the ordinary course of business;

(vi) the sale, assignment, lease, transfer or other disposition of contractual rights (in the form of the surrender or waiver thereof), or contract or tort claims (in the form of the release, settlement or surrender thereof) in the ordinary course of business involving, individually, less than $500,000;

(vii) the sale, assignment, lease, transfer or other disposition of any or all of a Guarantor's property (upon voluntary liquidation or otherwise) to any other Credit Party;

(viii) Dispositions of assets consisting of surplus, obsolete, no longer used or worn-out property, tools or Equipment;

(ix) the sale of all or substantially all of the equity interests or assets of a Guarantor so long as the aggregate fair market value of all of the equity interests and assets sold or otherwise disposed of by the Credit Parties and their respective Subsidiaries in all such transactions in any fiscal year shall not exceed $3,000,000; and

(x) other Dispositions so long as the aggregate fair market value of all of the assets sold or otherwise disposed of by the Credit Parties and their respective Subsidiaries in all such transactions in any fiscal year shall not exceed $1,000,000.

(c) Except to the extent acquired in connection with any Permitted Acquisition, the Credit Parties will not, and will not permit any Subsidiary to, form or acquire any Foreign Subsidiaries without the express prior written consent of the Lenders.

8.5 Investments; Hedging Agreements.

(a) The Credit Parties will not, and will not permit any Subsidiary to, make or permit to remain outstanding any Investment, except:

(i) Investments consisting of Guarantees permitted by Section 8.3 (other than by reference to this Section 8.5 (or any clause hereof)) and Indebtedness permitted by Section 8.1 (other than by reference to this Section 8.5 (or any clause hereof)); Intercompany Indebtedness; and Investments by any Credit Party in any other Credit Party;

(ii) Investments to the extent constituting (i) securities received by any Credit Party or any Subsidiary in satisfaction or partial satisfaction thereof from financially troubled account debtors or received in connection with the satisfaction of judgments or the foreclosure of Liens; (ii) deposits, prepayments and other credits to suppliers made in the ordinary course of business consistent with the past practices of the Borrower and its Subsidiaries; (iii) extensions of credit in the nature of accounts receivable or notes receivable arising from the grant of trade credit in the ordinary course of business; (iv) prepaid expenses, negotiable instruments held for collection or lease, workers' compensation, utility, lease, performance and other similar deposits provided to third parties in the ordinary course of business; and (v) endorsements for collection or deposit in the ordinary course of business;

(iii) Investments not to exceed $300,000 in the aggregate in any fiscal year consisting of (i) travel advances and employee relocation loans and other employee loans and advances in the ordinary course of business of the Credit Parties and their respective Subsidiaries, and (ii) loans to employees, officers or directors relating to the purchase of capital stock or other equity interests of the Borrower or its Subsidiaries pursuant to employee equity purchase agreements approved by the Borrower's board of directors;

(iv) Investments described on Schedule 8.5;

(v) Permitted Investments;

(vi) Checking and deposit accounts with banks used in the ordinary course of business;

(vii) Investments in an aggregate amount not to exceed at any time $2,500,000, so long as no Event of Default has occurred and is continuing or would result therefrom;

(viii) Permitted Acquisitions;

(ix) payments to, or other Investments in or on behalf of, Avero or the Owner Parties, as described in the Avero Acquisition Agreement and the Avero Management Services Contract; and

(x) Investments by Credit Party in Subsidiaries that are not Credit Parties, in an aggregate outstanding amount for all such Investments not to exceed $1,500,000 at any time.

(b) The Credit Parties will not, and will not permit any Subsidiary to, enter into any Hedging Agreement, other than Hedging Agreements entered into (i) in the ordinary course of business or (ii) in connection with the Comerica Real Estate Loan Documents, in each case to hedge or mitigate risks

to which the Credit Parties or any Subsidiary are exposed in the conduct of their business or the management of their liabilities.

8.6 Restricted Junior Payments. The Credit Parties will not, and will not permit any Subsidiary to, declare or make any Restricted Junior Payment at any time; *provided*, *that*: (a) any Credit Party that is a Subsidiary of another Credit Party may pay dividends to such Credit Party; (b) any Subsidiary may pay dividends to Persons that own capital stock or other equity interests in such Subsidiary, ratably according to their respective holdings of the type of capital stock or other equity interest in respect of which such dividend is being made; (c) so long as no Event of Default shall have occurred and be continuing or would result therefrom, (i) the Credit Parties may pay Permitted Pre-IPO Dividends prior to the consummation of a Qualified IPO and (ii) the Credit Parties may pay Permitted Post-IPO Dividends following the consummation of a Qualified IPO; (d) so long as no Event of Default has occurred and is continuing or would result therefrom, the Credit Parties may make Restricted Junior Payments in order to permit the Borrower to purchase capital stock or other equity interests of the Borrower from (x) present or former directors, officers or employees (or their transferees, estates or beneficiaries under their estates) upon the death, disability, resignation or termination of such director, officer or employee, in an aggregate amount for all such Restricted Junior Payments made in reliance on this clause (d)(x) not to exceed (i) $5,000,000, for the period from the Closing Date up to (but excluding) the first anniversary of the Closing Date, and (ii) $1,000,000, per year thereafter or (y) its equityholders, including the Lenders and their Controlled Investment Affiliates, in an aggregate amount for all such Restricted Junior Payments made in reliance on this clause (d)(y) not to exceed (i) $15,000,000, for the period from the Closing Date up to (but excluding) the first anniversary of the Closing Date and (ii) $1,000,000 per year thereafter; and (e) the Credit Parties may make Restricted Junior Payments (in addition to any Permitted Dividends) to Stylli in an amount not to exceed $400,000 per fiscal year for services rendered.

8.7 Transactions with Affiliates. The Credit Parties will not, and will not permit any Subsidiary to, directly or indirectly: (a) make any Investment in an Affiliate; (b) transfer, sell, lease, license, assign or otherwise dispose of any property to an Affiliate; (c) merge into or consolidate with an Affiliate, or purchase or acquire property from an Affiliate; or (d) enter into any other transaction directly or indirectly with or for the benefit of an Affiliate (including, without limitation, guarantees and assumptions of obligations of an Affiliate); *provided*, *that*:

(i) transactions solely among Credit Parties shall be permitted;

(ii) transactions expressly permitted by Section 8.1, Section 8.3, Section 8.4, Section 8.5 or Section 8.6 (in each case, other than by reference to this Section 8.7 (or any clause hereof)) shall be permitted;

(iii) any Affiliate who is a natural Person may serve as a director, officer, employee or consultant of any Credit Party or any Subsidiary, receive reasonable compensation for his or her services in such capacity and benefit from Permitted Investments to the extent specified in clause (e) of the definition thereof; *provided*, *that*, the Borrower shall not grant or issue to Stylli options or shares of the Borrower's common stock, unless such grant or issuance is approved in accordance with Section 8.7(d)(v) below;

(iv) the Credit Parties and their respective Subsidiaries may engage in and continue the transactions with or for the benefit of Affiliates which are described in Schedule 8.7;

(v) the Credit Parties and their respective Subsidiaries may engage in transactions with Affiliates in the ordinary course of business (including, without limitation,

employment, compensation and severance arrangements between the Borrower, any of its Subsidiaries and their respective officers, directors, consultants and employees (including loans and advances permitted hereunder)) on terms which are no less favorable to such Credit Party or such Subsidiary than those likely to be obtained in an arms' length transaction between a Credit Party or such Subsidiary and a non-affiliated third party that, in each case, are approved by (A) the board of directors of the Borrower, including the Athyrium Director or (B) the holders of a majority of the Series B Preferred Stock, voting as a separate class;

(vi) the Credit Parties and their respective Subsidiaries may enter into each agreement between or among the Borrower, Avero Holdings, Avero, and the Owner Parties relating to the Avero Contracts; and

(vii) the Credit Parties and their respective Subsidiaries may engage in any transaction with an Affiliate that is expressly approved in advance by the Athyrium Director.

8.8 Restrictive Agreements. The Credit Parties will not, and will not permit any Subsidiary to, directly or indirectly, enter into, incur or permit to exist any agreement or other arrangement (other than the Loan Documents) that prohibits, restricts or imposes any condition upon (a) the ability of any Credit Party or any Subsidiary to create, incur or permit to exist any Lien upon any of its property or assets (including, for the avoidance of doubt, Intellectual Property), or (b) the ability of any Subsidiary to pay dividends or other distributions with respect to any shares of its capital stock or other equity interests or to make or repay loans or advances to any Credit Party or to Guarantee Indebtedness of any Credit Party; *provided*, *that*: (i) the foregoing shall not apply to restrictions and conditions imposed by law, (ii) the foregoing shall not apply to restrictions and conditions existing on the Closing Date identified on Schedule 8.8 (but shall apply to any extension or renewal of, or any amendment or modification expanding the scope of, any such restriction or condition), (iii) the foregoing shall not apply to customary restrictions and conditions contained in agreements relating to the sale of stock or assets of a Subsidiary pending such sale; *provided*, *that*, such restrictions and conditions apply only to the Subsidiary or assets that are to be sold and such sale is permitted hereunder, (iv) clause (a) of the foregoing shall not apply to restrictions or conditions imposed by any agreement relating to secured Indebtedness permitted by this Agreement if such restrictions or conditions apply only to the property or assets securing such Indebtedness, (v) clause (a) of the foregoing shall not apply to customary provisions in existing licenses, leases and other contracts restricting the assignment thereof, and any other contracts subsequently entered into by a Credit Party or a Subsidiary containing restrictions no more burdensome than those contained in such existing agreements, (vi) the foregoing shall not apply to restrictions on cash or other deposits or net worth imposed by suppliers, landlords, customers, insurance and surety or bonding companies under contracts entered into in the ordinary course of business, and (vii) clause (a) of the foregoing shall not apply to restrictions and conditions set forth in the Comerica Real Estate Loan Documents relating to the Borrower.

8.9 Sale-Leaseback Transactions. The Credit Parties will not, and will not permit any Subsidiary to, directly or indirectly, enter into any arrangements with any Person whereby such Credit Party or such Subsidiary shall sell or transfer (or request another Person to purchase) any property, real, personal or mixed, used or useful in its business, whether now owned or hereafter acquired, and thereafter rent or lease such property from any Person.

8.10 Minimum Cash Covenant. The Credit Parties shall not permit unrestricted cash and cash equivalents of the Credit Parties held in one or more Controlled Accounts at any time to be less than $5,000,000.

8.11 Lines of Business. The Credit Parties will not, and will not permit any Subsidiary to, engage to any substantial extent in any line or lines of business activity other than (a) the types of businesses engaged in by the Credit Parties and their respective Subsidiaries on the Closing Date and businesses substantially related or incidental thereto, and (b) such other lines of business as may be consented to by the Lenders.

8.12 Modifications of Certain Documents. The Credit Parties will not, and will not permit any Subsidiary to, consent to any modification, amendment, supplement, extension, renewal, refinancing, refunding, replacement, restatement or waiver of, any documents or agreements (or any provisions thereof) evidencing or governing any Existing Debt (of the type described in clause (b) of the definition thereof), the Comerica Real Estate Loan Documents, the Lubbock Mortgage, the Avero Contracts or any of the other agreements identified (or which should be identified) on Schedule 5.14, in each case, in a manner materially adverse to the Lenders.

8.13 Deposit Accounts. The Credit Parties will not, and will not permit any Subsidiary to, withdraw any amounts from the Government Depository Account, nor shall any Credit Party or any Subsidiary change the procedures or sweep instructions under the agreements governing the Controlled Accounts or the Government Depository Account, in each case, without the prior consent of the Collateral Agent.

8.14 Use of Proceeds. The Credit Parties will not, and will not permit any Subsidiary to, use the proceeds of any Loan for the purpose of purchasing or carrying "margin stock" as such term is defined in Regulations T, U and X of the Board or to extend credit to others for the purpose of purchasing or carrying "margin stock" or to refund indebtedness originally incurred for such purpose.

8.15 Organization Documents. The Credit Parties will not, and will not permit any Subsidiary to, amend, modify or change its Organization Documents in a manner materially adverse to the Lenders.

8.16 Sanctions. The Credit Parties will not, and will not permit any Subsidiary to, directly or indirectly, use any Loan or the proceeds of any Loan, or lend, contribute or otherwise make available such Loan or the proceeds of any Loan to any Person, to fund any activities of or business with any Person, or in any Designated Jurisdiction, that, at the time of such funding, is the subject of Sanctions, or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as Lender or Collateral Agent) of Sanctions.

8.17 Anti-Corruption Laws. The Credit Parties will not, and will not permit any Subsidiary to, directly or indirectly, use any Loan or the proceeds of any Loan for any purpose which would breach the United States Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010 and other similar anti-corruption legislation in other jurisdictions applicable to such Credit Party or such Subsidiary.

## ARTICLE 9
## EVENTS OF DEFAULT

9.1 Events of Default. The occurrence of any of the following events shall be deemed to constitute an "Event of Default" hereunder:

(a) any Credit Party shall fail to pay to the Lenders or any other Affiliate of the Lenders, (i) any principal of, or Prepayment Premium with respect to, any Loans when the same shall become due and payable, whether at the due date thereof or at a date fixed for prepayment thereof, by

acceleration of such due or prepayment date, or otherwise or (ii) within three (3) Business Days after the date on which such interest or other Obligation is due, interest on any Loans or any other Obligation of any Credit Party to the Lenders or any other Affiliate of the Lenders when the same shall become due and payable, whether at the due date thereof or at a date fixed for prepayment thereof, by acceleration of such due or prepayment date, or otherwise;

(b) any representation or warranty made or deemed made by or on behalf of any Credit Party in or in connection with this Agreement, any of the other Loan Documents or any amendment or modification hereof or thereof, or in any report, certificate, financial statement or other document furnished pursuant to or in connection with this Agreement, any of the other Loan Documents or any amendment or modification hereof or thereof, shall prove to have been incorrect in any material respect when made or deemed made;

(c) any Credit Party (i) shall fail to observe or perform any covenant, condition or agreement contained in Sections 7.1(a), 7.1(b), 7.2, 7.3 (solely with respect to the existence of the Borrower), 7.5, 7.6 (with respect to inspection rights), 7.8, 7.9, 7.13 or in Article 8 or (ii) shall fail to observe or perform any other covenant, condition or agreement contained in Article 7 and such failure described in this clause (ii) shall continue unremedied for a period of thirty (30) days after the earlier of (x) actual knowledge by an officer of any Credit Party and (y) notice thereof from the Lenders to the Credit Parties;

(d) any Credit Party shall fail to observe or perform any covenant, condition or agreement contained in this Agreement (other than those specified in clauses (a), (b) or (c) of this Section 9.1) or any other Loan Document, and such failure shall continue unremedied for a period of thirty (30) days after notice thereof from the Lenders to the Credit Parties;

(e) any Credit Party or any Subsidiary shall fail to make any payment (whether of principal, interest or otherwise and regardless of amount) in respect of any Material Indebtedness or any Material Rental Obligation, when and as the same shall become due and payable, after giving effect to any grace period with respect thereto;

(f) any event or condition occurs that results in (i) any Material Indebtedness of any Credit Party or any Subsidiary becoming due prior to its scheduled maturity or that enables or permits (with or without the giving of notice, the lapse of time or both) the holder or holders of any Material Indebtedness or any trustee or agent on its or their behalf to cause such Material Indebtedness to become due, or to require the prepayment, repurchase, redemption or defeasance thereof, prior to its scheduled maturity, or (ii) the lease with respect to any Material Rental Obligation of any Credit Party or any Subsidiary being terminated prior to its scheduled expiration date or that enables or permits (with or without the giving of notice, the lapse of time or both) the counterparty to such lease to cause such lease to be terminated prior to its scheduled expiration date;

(g) an involuntary proceeding shall be commenced or an involuntary petition shall be filed seeking (i) liquidation, reorganization or other relief in respect of any Credit Party or any Subsidiary or its debts, or of a substantial part of its assets, under any Federal, state or foreign bankruptcy, insolvency, receivership or similar law now or hereafter in effect or (ii) the appointment of a receiver, trustee, custodian, sequestrator, conservator or similar official for any Credit Party or any Subsidiary or for a substantial part of its assets, and, in any such case, such proceeding or petition shall continue undismissed for 60 days or an order or decree approving or ordering any of the foregoing shall be entered;

(h) any Credit Party or any Subsidiary shall (i) voluntarily commence any proceeding or file any petition seeking liquidation, reorganization or other relief under any Federal, state

or foreign bankruptcy, insolvency, receivership or similar law now or hereafter in effect, (ii) consent to the institution of, or fail to contest in a timely and appropriate manner, any proceeding or petition described in clause (g) of this Article, (iii) apply for or consent to the appointment of a receiver, trustee, custodian, sequestrator, conservator or similar official for any Credit Party or any Subsidiary or for a substantial part of its assets, (iv) file an answer admitting the material allegations of a petition filed against it in any such proceeding, (v) make a general assignment for the benefit of creditors or (vi) take any action for the purpose of effecting any of the foregoing;

(i) any Credit Party or any Subsidiary shall become unable, admit in writing or fail generally to pay its debts as they become due;

(j) (i) a final judgment or judgments for the payment of money in excess of $2,000,000 in the aggregate (to the extent not covered by independent third-party insurance as to which the insurer has been notified of the potential claim and does not dispute coverage) or (ii) a final nonmonetary judgment or judgments that could reasonably be expected, either individually or in the aggregate, to have a Material Adverse Effect, in either case, shall be rendered against any Credit Party or any Subsidiary by one or more courts, administrative tribunals or other bodies having jurisdiction over any Credit Party or any Subsidiary and the same shall not be discharged (or provision shall not be made for such discharge), bonded, or a stay of execution thereof shall not be procured, within 60 days from the date of entry thereof and the relevant Credit Party or Subsidiary shall not, within said period of 60 days, or such longer period during which execution of the same shall have been stayed, appeal therefrom and cause the execution thereof to be stayed during such appeal;

(k) an ERISA Event shall have occurred that, in the reasonable opinion of the Lenders, when taken together with all other ERISA Events that have occurred, could reasonably be expected to result in a Material Adverse Effect;

(l) there shall occur any Change of Control;

(m) any of the following shall occur: (i) the Liens created hereunder or under the other Loan Documents shall at any time (other than by reason of the Lenders relinquishing such Lien) cease in any material respect to constitute valid and perfected Liens on the Collateral intended to be covered thereby; (ii) except for expiration in accordance with its respective terms, any Loan Document shall for whatever reason be terminated, or shall cease to be in full force and effect; or (iii) the enforceability of any Loan Document shall be contested by any Credit Party;

(n) any Guarantor shall assert that its obligations under any Loan Document shall be invalid or unenforceable;

then, and in every such event (other than an event described in clause (g), (h) or (i) of this Section 9.1), and at any time thereafter during the continuance of such event, the Lenders may, by notice to the Borrower, take any or all of the following actions, at the same or different times: (i) notify the Borrower that the outstanding principal of the Loans shall bear interest at the Post-Default Rate, and thereupon the outstanding principal of the Loans shall bear interest at the Post-Default Rate, (ii) declare the Loans then outstanding to be due and payable in whole (or in part, in which case any principal not so declared to be due and payable may thereafter be declared to be due and payable), and thereupon the principal of the Loans so declared to be due and payable, together with accrued and unpaid interest thereon, Prepayment Premium with respect thereto (solely with respect to a Specified Acceleration Event), and all fees and all other then-outstanding Obligations, shall become due and payable immediately, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Credit Parties, and (iii) the Lenders and any other Affiliate of the Lenders may exercise all

of the rights as secured party hereunder or under the other Loan Documents; and in case of any event with respect to the Credit Parties or any Subsidiary described in clause (g), (h) or (i) of this Section 9.1, the principal of the Loans then outstanding shall automatically bear interest at the Post-Default Rate, the principal of the Loans then outstanding, together with accrued and unpaid interest thereon, Prepayment Premium with respect thereto, and all fees and all other then-outstanding Obligations shall automatically become due and payable without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Credit Parties, and the Lenders and all other Affiliates of the Lenders shall be permitted to exercise such rights as secured party hereunder or under the other Loan Documents to the extent permitted by applicable law.

## ARTICLE 10
## MISCELLANEOUS

10.1 Notices. Except in the case of notices and other communications expressly permitted to be given by telephone, all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail, sent by telephonic facsimile (fax), or by email (with a copy thereof promptly delivered by one other method specified herein), as follows:

(a) if to any Credit Party, to Progenity, Inc., 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122, Attention: Vice President of Finance & Accounting (Fax no. (760-268-0771)), email: eric.fox@progenity.com, with a copy to: Progenity, Inc., 4330 La Jolla Village Drive, Suite 200, San Diego, CA 92122, Attention: Legal Department (Fax no. (760-268-0771)), and with a copy to: Gibson, Dunn & Crutcher LLP, 2029 Century Park East, Los Angeles, CA 90067-3026, Attention: Cromwell Montgomery, Esq. (Fax no. (310-551-8741)); and

(b) if to the Collateral Agent or the Lenders, to c/o Athyrium Capital Management, LP, 530 Fifth Avenue, Floor 25, New York, NY 10036, Attention: Andrew C. Hyman and Samuel Helfaer, email: ahyman@athyrium.com and shelfaer@athyrium.com, with a copy to Moore & Van Allen PLLC, Attention: Tripp Monroe (Fax no. (704-378-1942)), email: trippmonroe@mvalaw.com.

Any party hereto may change its address or fax number for notices and other communications hereunder by notice to the other parties hereto. All notices and other communications given to any party hereto in accordance with the provisions of this Agreement shall be deemed to have been given on the date of receipt; *provided*, *that*, notices and other communications given to any party hereto by fax or email shall be deemed to have been given when sent.

The Collateral Agent and the Lenders shall be entitled to rely and act upon any notices (including, without limitation, telephonic or electronic notices, notices of proposed borrowings, and notices of the prepayment of Loans purportedly given by or on behalf of any Credit Party even if (i) such notices were not made in a manner specified herein, were incomplete or were not preceded or followed by any other form of notice specified herein, or (ii) the terms thereof, as understood by the recipient, varied from any confirmation thereof. The Credit Parties shall indemnify the Collateral Agent, each Lender and the Related Parties of each of them from all losses, costs, expenses and liabilities resulting from the reliance by such Person on each notice purportedly given by or on behalf of a Credit Party. All telephonic notices to and other telephonic communications with the Collateral Agent may be recorded by the Collateral Agent, and each of the parties hereto hereby consents to such recording.

10.2 Waivers; Amendments.

(a) No failure or delay by the Lenders or any Affiliate of the Lenders in exercising any right or power hereunder or under any other Loan Document shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The rights and remedies of the Lenders and all Affiliates of the Lenders hereunder and under the other Loan Documents are cumulative and are not exclusive of any rights or remedies that they would otherwise have. No waiver of any provision of this Agreement or consent to any departure by any Credit Party or Subsidiary therefrom shall in any event be effective unless the same shall be permitted by paragraph (b) of this Section 10.2, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. Without limiting the generality of the foregoing, the making of a Loan shall not be construed as a waiver of any Default, regardless of whether the Lenders may have had notice or knowledge of such Default at the time.

(b) No modification of this Agreement nor any other Loan Document, including any extension or amendment thereof or any waiver of a Default or Event of Default, shall be effective without the prior written agreement of the Collateral Agent, with the consent of Required Lenders, and each Credit Party to such Loan Document; *provided*, *however*, *that*:

(i) without the prior written consent of the Collateral Agent, no modification shall be effective with respect to any provision in a Loan Document that relates to any rights, duties or discretion of the Collateral Agent;

(ii) without the prior written consent of each affected Lender, no modification shall be effective that would (A) extend or increase any commitment of such Lender; or (B) reduce the amount of, or waive or delay payment (including, for the avoidance of doubt, mandatory prepayments) of, any principal, interest, Prepayment Premium or fees payable to such Lender; and

(iii) without the prior written consent of all Lenders, no modification shall be effective that would (A) extend the Maturity Date; (B) alter Section 4.1 (except to add Collateral), or this Section 10.2(b); (C) amend the definitions of Pro Rata or Required Lenders; (D) increase the total commitments; (E) release Collateral with a book value greater than $250,000 during any fiscal year, except as currently contemplated by the Loan Documents; or (E) release any Credit Party from liability for any Obligations, if such Credit Party is solvent at the time of the release.

Notwithstanding anything to the contrary herein, (x) this Agreement may be amended and restated without the consent of any Lender (but with the consent of the Borrower and the Collateral Agent) if, upon giving effect to such amendment and restatement, such Lender shall no longer be a party to this Agreement (as so amended and restated), the commitments of such Lender shall have terminated, such Lender shall have no other commitment or other obligation hereunder and shall have been paid in full all principal, interest and other amounts owing to it or accrued for its account under this Agreement, and (y) the Collateral Agent may amend or modify this Agreement and any other Loan Document to (i) to cure any ambiguity, omission, mistake, defect or inconsistency therein or (ii) grant a new Lien for the benefit of the Lenders, extend an existing Lien over additional property for the benefit of the Lenders or join additional Persons as Credit Parties.

(c) Notwithstanding anything to the contrary contained herein or in any other Loan Document, the authority to enforce rights and remedies hereunder and under the other Loan Documents against the Credit Parties or any of them shall be vested exclusively in, and all actions and proceedings at

law in connection with such enforcement shall be instituted and maintained exclusively by, the Collateral Agent in accordance with Section 9.1 for the benefit of all the Lenders; *provided*, *however*, that the foregoing shall not prohibit (i) the Collateral Agent from exercising on its own behalf the rights and remedies that inure to its benefit (solely in its capacity as Collateral Agent) hereunder and under the other Loan Documents, (ii) any Lender from exercising setoff rights in accordance with Section 10.8, or (iii) any Lender from filing proofs of claim or appearing and filing pleadings on its own behalf during the pendency of a proceeding relative to any Credit Party under any Debtor Relief Law; and *provided*, *further*, that if at any time there is no Person acting as Collateral Agent hereunder and under the other Loan Documents, then (x) the Required Lenders shall have the rights otherwise ascribed to the Collateral Agent pursuant to Section 9.1 and (y) in addition to the matters set forth in clauses (ii) and (iii) of the preceding proviso, any Lender may, with the consent of the Required Lenders, enforce any rights and remedies available to it and as authorized by the Required Lenders.

10.3 Expenses; Indemnity: Damage Waiver.

(a) The Credit Parties jointly and severally agree to pay, or reimburse the Lenders for paying, (i) all reasonable and documented out-of-pocket expenses incurred by the Collateral Agent and the Lenders, including the reasonable fees, charges and disbursements of its outside counsel, in connection with the preparation, negotiation and execution of this Agreement and the other Investment Documents (whether or not the transactions contemplated hereby or thereby shall be consummated) and any amendments, modifications or waivers of the provisions hereof or thereof, and (ii) all documented out-of-pocket expenses incurred by the Collateral Agent and Lenders or any Affiliate of any such Person, including the fees, charges and disbursements of any counsel for the Collateral Agent, the Lenders or any Affiliate thereof, in connection with the enforcement or protection of their rights in connection with this Agreement and the other Investment Documents, including their rights under this Section 10.3, or in connection with the Loans made hereunder, including in connection with any workout, restructuring or negotiations in respect thereof.

(b) The Credit Parties jointly and severally agree to indemnify the Collateral Agent, the Lenders and each Related Party of any of the foregoing Persons (each such Person being called an "Indemnitee") against, and hold each Indemnitee harmless from, any and all losses, claims, damages, liabilities and related expenses, including the reasonable and documented fees, charges and disbursements of any counsel for any Indemnitee and settlement costs, incurred by or asserted against any Indemnitee arising out of, in connection with, or as a result of (i) the execution or delivery of this Agreement, the other Investment Documents or any agreement or instrument contemplated hereby, the performance by the parties hereto and thereto of their respective obligations hereunder or thereunder or the consummation of the transactions contemplated hereby or any other transactions contemplated hereby or thereby or, in the case of the Collateral Agent (and any sub-agent thereof) and its Related Parties only, the administration of this Agreement and the other Loan Documents (including in respect of any matters addressed in Section 2.6), (ii) any Loans or the use of the proceeds therefrom, (iii) any actual or alleged presence, release, or threatened release of Hazardous Materials on or from any property owned, leased or operated by any Credit Party or any Subsidiary, or any Environmental Liability related in any way to any Credit Party or any Subsidiary, or (iv) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, whether based on contract, tort or any other theory, whether brought by a third party or by the Borrower or any other Credit Party, and regardless of whether any Indemnitee is a party thereto; *provided*, *that*, such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses are determined by a court of competent jurisdiction by final and nonappealable judgment to (x) have resulted from (A) the bad faith, gross negligence or willful misconduct of such Indemnitee or (B) a material breach in bad faith of the funding obligation of such Indemnitee or any of such Indemnitee's Affiliates hereunder, or (y) have not resulted from an act or omission by any Credit Party, any Subsidiary or any of their respective Affiliates

and have been brought by an Indemnitee against any other Indemnitee (other than any claims against the Collateral Agent or a Lender in its capacity or in fulfilling its role as the Collateral Agent or a Lender or any similar role under this Agreement). Anything in this Section 10.3(b) to the contrary notwithstanding, the Credit Parties shall have no obligation to any Indemnitee under this Section 10.3(b) for matters for which such Indemnitee has been fully compensated pursuant to any other provision of this Agreement. This Section 10.3(b) shall not apply with respect to Taxes other than any Taxes that represent losses, claims, damages, etc. arising from any non-Tax claim.

(c) To the extent permitted by applicable law, none of the Credit Parties shall assert, and each Credit Party hereby waives, any claim against any Indemnitee, on any theory of liability, for special, indirect, consequential or punitive damages (as opposed to direct or actual damages) arising out of, in connection with, or as a result of, this Agreement, the other Loan Documents or any agreement or instrument contemplated hereby or thereby, the transactions contemplated hereby, any Loans or the use of the proceeds thereof.

(d) All amounts due under this Section 10.3 shall be payable promptly after written demand therefor.

10.4 Successors and Assigns.

(a) The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted hereby, except that no Credit Party may assign or otherwise transfer any of its rights or obligations hereunder or under any other Loan Document without the prior written consent of the Lenders (and any attempted assignment or transfer without such consent shall be null and void). Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby and, to the extent expressly contemplated hereby, the Related Parties of the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement or any other Loan Document.

(b) The Lenders may at any time and from time to time assign to one or more assignees all or a portion of their rights and obligations under this Agreement and the other Loan Documents; *provided*, *that*, so long as no Event of Default exists and is continuing, the Borrower's consent shall be required for any such assignment, such consent not to be unreasonably withheld, conditioned or delayed; *provided*, *further*, that notwithstanding the foregoing, the Borrower's consent shall not be required if such assignment is to a Lender or to an Affiliate of a Lender.

(c) The Lenders may at any time and from time to time, sell participations to one or more banks or other entities (a "Participant") in all or a portion of the Lenders' rights and obligations under this Agreement and the other Loan Documents; *provided*, *that*, (i) the Lenders' obligations under this Agreement and the other Loan Documents shall remain unchanged, (ii) the Lenders shall remain solely responsible to the other parties hereto for the performance of such obligations and (iii) the Borrower shall continue to deal solely and directly with the Lenders in connection with the Lenders' rights and obligations under this Agreement and the other Loan Documents. The Borrower agrees that each Participant shall be entitled to the benefits of this Agreement and the other Loan Documents to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to paragraph (b) of this Section 10.4; *provided*, *that*, a Participant (i) agrees to be subject to the provisions of Section 2.8 as if it were an assignee; (ii) shall not be entitled to receive any greater payment under this Agreement or any other Loan Document than the Lenders would have been entitled to receive with respect to the participation sold to such Participant, except to the extent such entitlement to receive a greater payment results from a Change in Law that occurs after the Participant acquired the applicable participation; and

(iii) shall deliver the documentation required under Section 2.6(d) to the participating Lender. Each Lender that sells a participation agrees, at the Borrower's request and expense, to use reasonable efforts to cooperate with the Borrower to effectuate the provisions of Section 2.8 with respect to any Participant. Each Lender that sells a participation shall, acting solely for this purpose as an agent of the Borrower, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "Participant Register"); *provided*, *that*, no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan or other obligation is in registered form under Section 5f.103-1(c) of the Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement and the other Loan Documents notwithstanding any notice to the contrary. For the avoidance of doubt, the Collateral Agent (in its capacity as Collateral Agent) shall have no responsibility for maintaining a Participant Register.

(d) Notwithstanding anything to the contrary contained herein, the Lenders may grant to a special purpose funding vehicle identified as such in writing from time to time by the Lenders to the Borrower (an "SPC") the option to provide all or any part of the Loans that the Lenders would otherwise be obligated to make pursuant to this Agreement; *provided*, *that*, (i) nothing herein shall constitute a commitment by any SPC to fund the Loans, and (ii) if an SPC elects not to exercise such option or otherwise fails to make all or any part of the Loans, the Lenders shall be obligated to make the Loans pursuant to the terms hereof. Each party hereto hereby agrees that (i) neither the grant to any SPC nor the exercise by any SPC of such option shall increase the costs or expenses or otherwise increase or change the obligations of the Borrower under this Agreement, (ii) no SPC shall be liable for any indemnity or similar payment obligation under this Agreement for which the Lenders would be liable, and (iii) the Lenders shall for all purposes, including the approval of any amendment, waiver or other modification of any provision of any Loan Document, remain the lender of record hereunder. The making of the Loans by an SPC hereunder shall utilize the commitment of the Lenders to the same extent, and as if, such Loans were made by the Lenders. In furtherance of the foregoing, each party hereto hereby agrees (which agreement shall survive the termination of this Agreement) that, prior to the date that is one year and one day after the payment in full of all outstanding commercial paper or other senior debt of any SPC, it will not institute against, or join any other Person in instituting against, such SPC any bankruptcy, reorganization, arrangement, insolvency, or liquidation proceeding under the laws of the United States or any State thereof. Notwithstanding anything to the contrary contained herein, any SPC may (i) with notice to, but without prior consent of the Borrower, assign all or any portion of its right to receive payment with respect to the Loans to the Lenders and (ii) disclose on a confidential basis any non-public information relating to its funding the Loans to any rating agency, commercial paper dealer or provider of any surety or Guarantee or credit or liquidity enhancement to such SPC.

(e) The Lenders may at any time pledge or assign a security interest in all or any portion of their rights under this Agreement and the other Loan Documents to secure obligations of the Lenders, including any such pledge or assignment to a Federal Reserve Bank, and this Section 10.4 shall not apply to any such pledge or assignment of a security interest; *provided*, *that*, no such pledge or assignment of a security interest shall release the Lenders from any of their obligations hereunder or substitute any such assignee for the Lenders as a party hereto.

(f) The Lenders may furnish any information concerning any Credit Party or any Subsidiary in the possession of the Lenders from time to time to assignees and participants (including prospective assignees and participants) subject, however, to and so long as the recipient agrees in writing

to be bound by, the provisions of Section 10.13. In addition, the Lenders may furnish any information concerning any Credit Party, any Subsidiary or any Affiliate thereof in the Lenders' possession to any Affiliate of the Lenders, subject, however, to the provisions of Section 10.13. The Credit Parties shall assist the Lenders in effectuating any assignment or participation pursuant to this Section 10.4 in whatever manner the Lenders reasonably deem necessary.

(g) The Collateral Agent, acting solely for this purpose as a non-fiduciary agent of the Borrower (and such agency being solely for tax purposes), shall maintain a register for the recordation of the names and addresses of the Lenders, and the commitments of, and principal amounts (and stated interest) of the Loans owing to, each Lender pursuant to the terms hereof from time to time (the "Register"). The entries in the Register shall be conclusive absent manifest error, and the Borrower and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by any Lender, at any reasonable time and from time to time upon reasonable prior notice.

10.5 Survival. All covenants, agreements, representations and warranties made by the Credit Parties herein and in the other Investment Documents, and in the certificates or other instruments delivered in connection with or pursuant to this Agreement and the other Investment Documents, shall be considered to have been relied upon by the other parties hereto and shall survive the execution and delivery of this Agreement and the other Investment Documents and the making of any Loans, regardless of any investigation made by any such other party or on its behalf and notwithstanding that the Lenders may have had notice or knowledge of any Default or incorrect representation or warranty at the time any credit is extended hereunder, and shall continue in full force and effect so long as the principal of or any accrued and unpaid interest on, or any Prepayment Premium with respect to, any Loans or any fee or any other Obligation payable under this Agreement or the other Investment Documents is outstanding and unpaid. The provisions of Sections 2.5, 2.6, 2.7 and 10.3 and the indemnity provisions of Section 10.1 shall survive and remain in full force and effect regardless of the consummation of the transactions contemplated hereby, the repayment of the Loans and all other Obligations hereunder or under any other Loan Document, the termination of any commitments hereunder, the resignation or replacement of the Collateral Agent, the assignment of rights by or the replacement of any Lender, the Maturity Date, or the termination of this Agreement or any other Investment Document or any provision hereof or thereof.

10.6 Counterparts; Integration; References to Agreement; Effectiveness. This Agreement and each other Investment Document may be executed in counterparts (and by different parties hereto on different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of this Agreement or any other Investment Document by electronic mail or facsimile transmission shall be effective as delivery of a manually executed counterpart hereof. The Investment Documents and any separate letter agreements with respect to fees payable to the Collateral Agent, Lenders or their counsel constitute the entire contract among the parties relating to the subject matter hereof and supersede any and all previous agreements and understandings, oral or written, relating to the subject matter hereof. Whenever there is a reference in any Investment Document or UCC Financing Statement to the "Credit Agreement" to which the Lenders and the Credit Parties are parties, such reference shall be deemed to be made to this Agreement among the parties hereto. Except as provided in Section 6.1, this Agreement shall become effective when it shall have been executed by the Lenders and when the Lenders shall have received counterparts hereof which, when taken together, bear the signatures of each of the other parties hereto, and thereafter shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

10.7 Severability. Any provision of this Agreement or any other Loan Document held to be invalid, illegal or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such invalidity, illegality or unenforceability without affecting the validity, legality and

enforceability of the remaining provisions hereof; and the invalidity, illegality or unenforceability of a particular provision in a particular jurisdiction shall not invalidate such provision in any other jurisdiction. In such event, the parties hereto or to such other Loan Document, as applicable, shall endeavor in good faith negotiations to replace the invalid, illegal or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

10.8 Right of Setoff. Each Credit Party hereby grants to any Lenders that holds any funds or otherwise becomes indebted to the Credit Parties a security interest in all deposits (general or special, time or demand, provisional or final) and funds at any time held and other indebtedness at any time owing by the Lenders to or for the credit or the account of any Credit Party as security for the Obligations, and the Credit Parties hereby agree that if an Event of Default shall have occurred and be continuing, the Lenders are hereby authorized at any time and from time to time, to the fullest extent permitted by law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) or other funds at any time held and other indebtedness at any time owing by the Lenders to or for the credit or the account of any Credit Party against any and all of the Obligations, irrespective of whether or not the Lenders shall have made any demand under this Agreement and although any of the Obligations may be unmatured. The rights of the Lenders under this Section 10.8 are in addition to any other rights and remedies (including other rights of setoff) which the Lenders may have.

10.9 Subordination by Credit Parties. The Credit Parties hereby agree that all present and future Indebtedness of any Credit Party to another Credit Party ("Intercompany Indebtedness") shall be subordinate and junior in right of payment and priority to the Obligations, and if an Event of Default shall have occurred and be continuing and the Borrower has received notice from the Collateral Agent of its intention to exercise its rights hereunder (unless such Event of Default is pursuant to Sections 9.1 (a), (g), (h) or (i), in which case no notice shall be required), each Credit Party agrees not to make, demand, accept or receive any payment in respect of any present or future Intercompany Indebtedness, including, without limitation, any payment received through the exercise of any right of setoff, counterclaim or cross claim, or any collateral therefor, unless and until such time as the Obligations shall have been indefeasibly paid in full. Without in any way limiting the foregoing, in the event of any insolvency or bankruptcy proceedings, or any receivership, liquidation, reorganization, dissolution or other similar proceedings relative to any Credit Party or to its businesses, properties or assets, the Lenders shall be entitled to receive payment in full of all of the Obligations before any Credit Party shall be entitled to receive any payment in respect of any present or future Intercompany Indebtedness.

10.10 Governing Law; Jurisdiction; Consent to Service of Process.

(a) This Agreement and each other Loan Document (except, as to any other Loan Document, as expressly set forth therein) and any claims, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Agreement or any other Loan Document (except, as to any other Loan Document, as expressly set forth therein) and the transactions contemplated hereby and thereby shall be construed in accordance with and governed by the law of the State of New York without giving effect to any choice or conflict of law provision or rule that would cause the application of the domestic substantive laws of any other state.

(b) Each party hereto hereby irrevocably and unconditionally submits, for itself and its property, to the nonexclusive jurisdiction of the United States District Court for the Southern District of New York and of the Supreme Court of the State of New York sitting in New York County (including its appellate division), and of any other appellate court in the State of New York, in any action or proceeding arising out of or relating to this Agreement or the other Loan Documents or the transactions relating hereto or thereto, or for recognition or enforcement of any judgment, and each of the parties

hereto hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York court (or, to the extent permitted by law, in such Federal court). Each of the parties hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing in this Agreement or in any other Loan Document shall affect any right that the Lenders may otherwise have to bring any action or proceeding relating to this Agreement against any Credit Party or its properties in the courts of any jurisdiction.

(c) Each party hereto hereby irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Agreement or the other Loan Documents in any court referred to in paragraph (b) of this Section 10.10. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(d) Each party to this Agreement irrevocably consents to service of process in the manner provided for notices in Section 10.1. Nothing in this Agreement will affect the right of any party to this Agreement to serve process in any other manner permitted by law.

10.11 WAIVER OF JURY TRIAL. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE OTHER LOAN DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 10.11.

10.12 Headings. Article and Section headings and the Table of Contents used herein are for convenience of reference only, are not part of this Agreement and shall not affect the construction of, or be taken into consideration in interpreting, this Agreement.

10.13 Confidentiality. Each Lender agrees to keep confidential information obtained by it pursuant hereto and the other Loan Documents confidential in accordance with such Lender's customary practices and agrees that it will only use such information in connection with the transactions contemplated by this Agreement and not disclose any of such information other than (a) to such Lender's partners, employees, representatives, directors, attorneys, auditors, agents, advisors, sub-advisors, trustees or Affiliates who are advised of the confidential nature of such information or to any direct or indirect contractual counterparty in swap agreements or such contractual counterparty's professional advisor (so long as such contractual counterparty or professional advisor to such contractual counterparty agrees to be bound by the provisions of this Section 10.13), (b) to the extent such information presently is or hereafter becomes available to the Lenders on a non-confidential basis from any source of such information that is in the public domain at the time of disclosure, (c) to the extent disclosure is required by law (including applicable securities law), regulation, subpoena or judicial order or process (*provided*, *that*, notice of such requirement or order shall be promptly furnished to the Borrower unless such notice is legally prohibited) or requested or required by bank, securities, insurance or investment company regulators or auditors or any administrative body or commission to whose jurisdiction the Lenders may be subject, (d) to assignees

or participants or prospective assignees or participants who agree to be bound by the provisions of this Section 10.13, (e) to the extent required in connection with any litigation between any Credit Party and/or any Subsidiary, on the one hand, and the Collateral Agent and/or any Lender(s), on the other hand, with respect to the Loans or this Agreement and the other Loan Documents or (f) with the Borrower's prior written consent.

10.14 Requirements of the Lenders under the USA Patriot Act of 2001. The Lenders and the Collateral Agent hereby notify the Borrower that pursuant to the requirements of the USA Patriot Act of 2001, they are required to obtain, verify and record information that identifies each Credit Party, which information includes the name and address of each Credit Party and other information that will allow such Lenders to identify the Credit Parties in accordance with the USA Patriot Act of 2001, and the Borrower agrees to provide such documentation or other information from time to time that any Lender or the Collateral Agent requests in order to comply with its ongoing obligations under the applicable "know your customer" and anti-money laundering rules and regulations, including the USA Patriot Act of 2001.

10.15 Interest Rate Limitation. Notwithstanding anything to the contrary contained in any Loan Document, the interest paid or agreed to be paid under the Loan Documents shall not exceed the maximum rate of non-usurious interest permitted by applicable law (the "Maximum Rate"). If any Lender shall receive interest in an amount that exceeds the Maximum Rate, the excess interest shall be applied to the principal of the Loans or, if it exceeds such unpaid principal, refunded to the Borrower. In determining whether the interest contracted for, charged, or received by a Lender exceeds the Maximum Rate, such Person may, to the extent permitted by applicable law and in consultation with the Borrower, (a) characterize any payment that is not principal as an expense, fee, or premium rather than interest, (b) exclude voluntary prepayments and the effects thereof, and (c) amortize, prorate, allocate, and spread in equal or unequal parts the total amount of interest throughout the contemplated term of the Obligations hereunder.

10.16 Electronic Execution. The words "delivery," "execute," "execution," "signed," "signature," and words of like import in any Investment Document or any other document executed in connection herewith shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Lenders, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act; *provided*, *that*, notwithstanding anything contained herein to the contrary the Lenders are under no obligation to agree to accept electronic signatures in any form or in any format unless expressly agreed to by such Lender pursuant to procedures approved by it; *provided*, *further*, *that*, without limiting the foregoing, upon the request of any Lender, any electronic signature shall be promptly followed by such manually executed counterpart.

## ARTICLE 11
## COLLATERAL AGENT

11.1 Appointment; Duties; Indemnification.

(a) Each Lender hereby irrevocably appoints AOF III Co-Invest as its agent (in such capacity, the "Collateral Agent") and authorizes the Collateral Agent to take such actions on its behalf in respect of the Collateral, including the perfection and maintenance of the Collateral, and to exercise such powers as are or may be delegated by each Lender to the Collateral Agent from time to time, together

with such actions and powers as are reasonably incidental thereto. The Collateral Agent may, and each Lender authorizes the Collateral Agent to, enter into all Loan Documents to which the Collateral Agent is intended to be a party, for the Collateral Agent's benefit and the Pro Rata benefit of the Lenders, to take all actions with respect to the Collateral as set forth herein, including all actions necessary for the perfection of the Liens granted hereunder, such as filing financing statements, taking of possession of any Collateral and entering into any control agreements. If any Lender obtains possession of any Collateral a Lien on which can be perfected by possession, it shall notify the Collateral Agent thereof and, promptly upon the Collateral Agent's request, deliver such Collateral to the Collateral Agent or otherwise deal with such Collateral in accordance with the Collateral Agent's instructions.

(b) The Collateral Agent may perform any and all of its duties and exercise its rights and powers by or through any one or more sub-agents appointed by the Collateral Agent from time to time. The Collateral Agent and any such sub-agent may perform any and all its duties and exercise its rights and powers through their respective affiliates.

(c) Subject to the appointment and acceptance of a successor Collateral Agent as provided in this paragraph, the Collateral Agent may resign at any time by notifying each Lender and the Borrower. Upon any such resignation, the Lenders shall have the right, in consultation with the Borrower, to appoint a successor. If a successor has not been so appointed by the Lenders or, if appointed, has not accepted such appointment within thirty (30) days after the retiring Collateral Agent gives notice of its resignation, then the retiring Collateral Agent may, on behalf of the Lenders, appoint a successor Collateral Agent. Upon the acceptance of its appointment as Collateral Agent hereunder by a successor, such successor shall succeed to and become vested with all the rights, powers, privileges, obligations and duties of the retiring Collateral Agent, and the retiring Collateral Agent shall be discharged from its duties and obligations hereunder. After the Collateral Agent's resignation hereunder, the provisions of this Section 11.1 shall continue in effect for the benefit of such retiring Collateral Agent, its sub-agents and their respective affiliates in respect of any actions taken or omitted to be taken by any of them while it was acting as Collateral Agent.

(d) The Borrower hereby agrees to indemnify the Collateral Agent in its capacity as such for any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind and nature whatsoever that may be imposed on, incurred by or asserted against the Collateral Agent in any way relating to or arising out of the Collateral, the Loan Documents or the transactions contemplated hereby or thereby or the enforcement of any of the terms hereof or thereof or of any such other documents or instruments, including, without limitation, the reasonable and documented out-of-pocket fees and disbursements of counsel incurred in connection therewith; *provided*, *that*, the Borrower shall not be liable for any of the foregoing to the extent they arise from the bad faith, gross negligence or willful misconduct of the Collateral Agent, in each case as determined in a final and non-appealable judgment by a court of competent jurisdiction.

[The remainder of this page is intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have caused this Credit and Security Agreement to be duly executed by their respective authorized officers as of the day and year first above written.

BORROWER:

PROGENITY, INC.

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Accounting and Treasurer

GUARANTORS:

AVERO LABORATORY HOLDINGS LLC

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Accounting and Treasurer

MOLECULAR DIAGNOSTIC HEALTH SCIENCES, LLC

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Accounting and Treasurer

PROGENITY HOLDING COMPANY, INC.

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Accounting and Treasurer

SPX3, INC.

By: /s/ Eric Fox
Name: Eric Fox
Title: Vice President of Finance and Accounting and Treasurer

COLLATERAL AGENT:

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, as a Lender

By: ATHYRIUM OPPORTUNITIES ASSOCIATES CO-INVEST LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

LENDERS:

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP,
as a Lender

By: ATHYRIUM OPPORTUNITIES ASSOCIATES CO-INVEST LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

# FIRST AMENDMENT TO CREDIT AND SECURITY AGREEMENT

THIS FIRST AMENDMENT TO CREDIT AND SECURITY AGREEMENT (this "Agreement") dated as of March 31, 2020 is entered into by and among PROGENITY, INC., a Delaware corporation (the "Borrower"), the Guarantors party hereto, the Lenders party hereto and ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, as Collateral Agent (the "Collateral Agent"). All capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in the Credit Agreement (as defined below).

## RECITALS

WHEREAS, the Borrower, the Guarantors, the Lenders and the Collateral Agent have entered into that certain Credit and Security Agreement dated as of October 27, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement");

WHEREAS, the Credit Parties have requested that the Lenders amend certain provisions of the Credit Agreement; and

WHEREAS, the Lenders have agreed to amend the Credit Agreement as set forth herein, subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendments to the Credit Agreement.

(a) Section 1.1 of the Credit Agreement is hereby amended by adding the following definitions thereto in appropriate alphabetical order to read as follows:

"**First Amendment**" means that certain First Amendment to Credit and Security Agreement, dated as of the First Amendment Effective Date, by and among the Borrower, the Guarantors party thereto, the Lenders party thereto and the Collateral Agent.

"**First Amendment Effective Date**" means March 31, 2020.

"**Interest Payment Equity Documents**" means, collectively, the documents entered into by the Borrower and the applicable Lenders in connection with (a) the issuance of the March 2020 Shares and (b) the issuance of the June 2020 Shares, which, in each case, shall be in form and substance reasonably satisfactory to the Borrower and the applicable Lenders.

"**June 2020 Series B Preferred Payment Price**" means $2.25 per share; provided, that, if the Borrower has issued series B preferred stock after the First Amendment Effective Date but on or prior to June 30, 2020 (a) in an arm's-length transaction with one or more third-party investors that do not hold equity interests of the Borrower as of the First Amendment Effective Date, such issuance not to be made in connection with any other concurrent or related transactions with such third-party investors and to consist of the issuance of at least $20,000,000 of series B preferred stock, or (b) in a transaction with one or more Affiliates of the Lenders for the issuance of series B preferred stock, then, in either such case, "June 2020 Series B Preferred Payment Price" shall instead mean the price per

share at which such series B preferred stock was issued in the transaction described in this proviso occurring most recently prior to June 30, 2020.

"**June 2020 Shares**" has the meaning assigned to such term in Section 2.01(c).

"**March 2020 Series B Preferred Payment Price**" means $2.25 per share.

"**March 2020 Shares**" has the meaning assigned to such term in Section 2.01(c).

(b) Section 2.1(c) of the Credit Agreement is hereby amended by adding the following language after the last sentence thereof to read as follows:

Notwithstanding anything to the contrary contained herein, the accrued and unpaid interest on the outstanding principal balance of the Term Loan that would otherwise be paid in cash on March 31, 2020 and June 30, 2020, respectively, shall instead be paid (A) in the case of the interest payment due and payable on March 31, 2020, through the issuance on March 31, 2020 of a number of shares of series B preferred stock of the Borrower (the "**March 2020 Shares**") equal to the quotient of (1) the accrued and unpaid interest on the outstanding principal balance of the Term Loan as of March 31, 2020, divided by (2) the March 2020 Series B Preferred Payment Price, and (B) in the case of the interest payment due and payable on June 30, 2020, so long as the equity interests of the Borrower are not traded on a nationally recognized exchange as of June 30, 2020, through the issuance on June 30, 2020 of a number of shares of series B preferred stock of the Borrower (the "**June 2020 Shares**") equal to the quotient of (1) the accrued and unpaid interest on the outstanding principal balance of the Term Loan as of June 30, 2020, divided by (2) the June 2020 Series B Preferred Payment Price (it being understood and agreed that in the event the equity interests of the Borrower are traded on a nationally recognized exchange as of June 30, 2020, such accrued and unpaid interest on the outstanding principal balance of the Term Loan shall be due and payable in cash on June 30, 2020); *provided*, *that*, in each case, no Default or Event of Default shall have occurred and be continuing as of the applicable interest payment date. In connection with the issuance of the March 2020 Shares and the June 2020 Shares (if applicable), the Borrower agrees to execute and deliver the applicable Interest Payment Equity Documents with respect thereto to the applicable Lenders on the date such shares are issued.

(c) Section 8.10 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

8.10 Minimum Cash Covenant. The Credit Parties shall not permit unrestricted cash and cash equivalents of the Credit Parties held in one or more Controlled Accounts at any time (a) during the period commencing on the Closing Date and continuing through March 30, 2020 to be less than $5,000,000, (b) during the period commencing on March 31, 2020 and continuing through April 14, 2020 to be less than zero, and (c) thereafter to be less than $5,000,000.

2. Conditions Precedent. This Agreement shall be effective upon satisfaction of the following conditions precedent:

(a) receipt by the Collateral Agent of counterparts of this Agreement duly executed by the Credit Parties, the Lenders and the Collateral Agent;

(b) receipt by the applicable Lenders of (i) the March 2020 Shares and (ii) the applicable Interest Payment Equity Documents with respect to such March 2020 Shares, in substantially the forms attached hereto as Exhibit A, and duly executed by the Borrower and the applicable Lenders;

(c) receipt by the Lenders of an amendment fee paid through the issuance of a number of shares of series B preferred stock of the Borrower equal to the quotient of (i) $375,000, divided by (ii) the March 2020 Series B Preferred Payment Price (it being understood, for the avoidance of doubt, that no additional amendment fees shall be paid by the Borrower in connection with the payment of interest in the form of the June 2020 Shares (if applicable), on June 30, 2020); and

(d) receipt by the Collateral Agent and the Lenders of reimbursement for all reasonable and documented out of pocket expenses incurred by the Collateral Agent or any Lender in connection with the preparation, execution and delivery of this Agreement, the Interest Payment Equity Documents in respect of the March 2020 Shares, and any certificates or other documents prepared in connection herewith or therewith, including the reasonable and documented fees, charges and disbursements of Moore & Van Allen PLLC (it being understood and agreed that the Credit Parties may pay such amounts by wire transfer directly to Moore & Van Allen PLLC).

3. Miscellaneous.

(a) The Credit Agreement and the obligations of the Credit Parties thereunder and under the other Investment Documents, subject to the amendments and agreements set forth in this Agreement, are hereby ratified and confirmed and shall remain in full force and effect according to their terms.

(b) The Credit Parties hereby represent and warrant as follows:

(i) Each Credit Party has taken all necessary action to authorize the execution, delivery and performance of this Agreement.

(ii) This Agreement has been duly executed and delivered by such Credit Party and constitutes such Credit Party's legal, valid and binding obligations, enforceable in accordance with its terms, except as such enforceability may be limited by Debtor Relief Laws and general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(iii) No consent, approval, exemption, authorization or other action by, or notice to, or filing with, any Governmental Authority or any other Person is necessary or required in connection with the execution, delivery or performance by any Credit Party of this Agreement.

(c) Each of the Credit Parties hereby affirms the Liens created and granted in the Loan Documents in favor of the Collateral Agent, for the benefit of the Collateral Agent, each Lender and each other holder of the Obligations, and agrees that this Agreement does not adversely affect or impair such liens and security interests in any manner.

(d) This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but all of which shall constitute one and the same instrument. Delivery of an executed counterpart of this Agreement by telecopy or electronic

mail shall be effective as an original and shall constitute a representation that an executed original shall be delivered.

(e) **THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.**

[remainder of page intentionally left blank]

Each of the parties hereto has caused a counterpart of this Agreement to be duly executed and delivered as of the date first above written.

BORROWER:

PROGENITY, INC.

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

GUARANTORS:

AVERO LABORATORY HOLDINGS LLC

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

MOLECULAR DIAGNOSTIC HEALTH SCIENCES, LLC

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

PROGENITY HOLDING COMPANY, INC.

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

SPX3, INC.

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

COLLATERAL AGENT:

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP,
as a Lender

By: ATHYRIUM OPPORTUNITIES
ASSOCIATES CO-INVEST LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

LENDERS:

ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP,
as a Lender

By: ATHYRIUM OPPORTUNITIES
ASSOCIATES CO-INVEST LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

# SECOND AMENDMENT TO CREDIT AND SECURITY AGREEMENT

THIS SECOND AMENDMENT TO CREDIT AND SECURITY AGREEMENT (this "Agreement") dated as of May 6, 2020 is entered into by and among PROGENITY, INC., a Delaware corporation (the "Borrower"), the Guarantors party hereto, the Lenders party hereto and ATHYRIUM OPPORTUNITIES III CO-INVEST 1 LP, as Collateral Agent (the "Collateral Agent"). All capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in the Credit Agreement (as defined below).

## RECITALS

WHEREAS, the Borrower, the Guarantors, the Lenders and the Collateral Agent have entered into that certain Credit and Security Agreement dated as of October 27, 2017 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement");

WHEREAS, the Credit Parties have requested that the Lenders amend certain provisions of the Credit Agreement; and

WHEREAS, the Lenders have agreed to amend the Credit Agreement as set forth herein, subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendments to the Credit Agreement.

(a) Section 1.1 of the Credit Agreement is hereby amended by adding the following definitions thereto in appropriate alphabetical order to read as follows:

"**May 2020 Convertible Note**" means that certain Unsecured Convertible Promissory Note, dated on or about May 8, 2020, issued by the Borrower to Athyrium Opportunities 2020 LP (or any other Affiliate of the Lenders that is acceptable to the Lenders) pursuant to the May 2020 Convertible Note Purchase Agreement.

"**May 2020 Convertible Note Purchase Agreement**" means that certain Note Purchase Agreement, dated on or about May 8, 2020, by and between the Borrower and Athyrium Opportunities 2020 LP (or any other Affiliate of the Lenders that is acceptable to the Lenders).

"**May 2020 Convertible Note Purchase Documents**" means the May 2020 Convertible Note Purchase Agreement and the May 2020 Convertible Note.

(b) Section 1.1 of the Credit Agreement is hereby amended by adding the following sentence at the end of the definition of "Restricted Junior Payment" appearing therein:

For the avoidance of doubt, the payment by the Borrower of any amount in respect of the Indebtedness created or incurred by the Borrower pursuant to the May 2020 Convertible Note Purchase Documents in accordance with the terms thereof shall not constitute a Restricted Junior Payment.

(c) Section 8.1 of the Credit Agreement is hereby amended by (i) deleting "; and" appearing at the end of clause (n) thereof and replacing it with ";", (ii) deleting "." at the end of clause (o) thereof and replacing it with "; and", and (iii) adding a new clause (p) thereof to read as follows:

(p) Indebtedness of the Borrower created or incurred pursuant to the May 2020 Convertible Note Purchase Documents; *provided*, *that*, a Lender or an Affiliate of a Lender continues to be the sole holder of the May 2020 Convertible Note.

(d) Section 8.10 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

8.10 Minimum Cash Covenant. The Credit Parties shall not permit unrestricted cash and cash equivalents of the Credit Parties held in one or more Controlled Accounts at any time (a) during the period commencing on the Closing Date and continuing through March 30, 2020 to be less than $5,000,000, (b) during the period commencing on March 31, 2020 and continuing through April 14, 2020 to be less than zero, (c) during the period commencing on April 15, 2020 and continuing through May 5, 2020 to be less than $5,000,000, (d) during the period commencing on May 6, 2020 and continuing through July 31, 2020 to be less than zero, and (e) thereafter to be less than $5,000,000.

2. Conditions Precedent. This Agreement shall be effective upon satisfaction of the following conditions precedent:

(a) receipt by the Collateral Agent of counterparts of this Agreement duly executed by the Credit Parties, the Lenders and the Collateral Agent; and

(b) to the extent requested by the Collateral Agent or the Lenders, receipt by the Collateral Agent and the Lenders of reimbursement for all reasonable and documented out of pocket expenses incurred by the Collateral Agent, any Lender, or any of their respective Affiliates, in each case, in connection with the preparation, execution and delivery of this Agreement, the May 2020 Convertible Note Purchase Documents, and any certificates or other documents prepared in connection herewith or therewith, including the reasonable and documented fees, charges and disbursements of Moore & Van Allen PLLC (it being understood and agreed that the Credit Parties may pay such amounts by wire transfer directly to Moore & Van Allen PLLC).

3. Miscellaneous.

(a) The Credit Agreement and the obligations of the Credit Parties thereunder and under the other Investment Documents, subject to the amendments and agreements set forth in this Agreement, are hereby ratified and confirmed and shall remain in full force and effect according to their terms.

(b) The Credit Parties hereby represent and warrant as follows:

(i) Each Credit Party has taken all necessary action to authorize the execution, delivery and performance of this Agreement.

(ii) This Agreement has been duly executed and delivered by such Credit Party and constitutes such Credit Party's legal, valid and binding obligations, enforceable in accordance with its terms, except as such enforceability may be limited by Debtor Relief Laws and general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(iii) No consent, approval, exemption, authorization or other action by, or notice to, or filing with, any Governmental Authority or any other Person is necessary or required in connection with the execution, delivery or performance by any Credit Party of this Agreement.

(c) Each of the Credit Parties hereby affirms the Liens created and granted in the Loan Documents in favor of the Collateral Agent, for the benefit of the Collateral Agent, each Lender and each other holder of the Obligations, and agrees that this Agreement does not adversely affect or impair such liens and security interests in any manner.

(d) This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but all of which shall constitute one and the same instrument. Delivery of an executed counterpart of this Agreement by telecopy or electronic mail shall be effective as an original and shall constitute a representation that an executed original shall be delivered.

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[remainder of page intentionally left blank]

Each of the parties hereto has caused a counterpart of this Agreement to be duly executed and delivered as of the date first above written.

BORROWER:

PROGENITY, INC.

By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
Title: Chief Financial Officer

GUARANTORS:

AVERO LABORATORY HOLDINGS LLC

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By: /s/ Eric d'Esparbes
Name: Eric d'Esparbes
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COLLATERAL AGENT:

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By: ATHYRIUM OPPORTUNITIES ASSOCIATES CO-INVEST LLC,
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By: ATHYRIUM OPPORTUNITIES ASSOCIATES CO-INVEST LLC,
its General Partner

By: /s/ Andrew C. Hyman
Name: Andrew C. Hyman
Title: Authorized Signatory

**Exhibit 10.24**

# MANAGEMENT SERVICES AGREEMENT

This Management Services Agreement (the "Agreement") dated June 8, 2015 is between Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership (the "Company"), and Avero Laboratory Holdings, LLC, a Delaware limited liability company (the "Management Company"). The Company and the Management Company are collectively referred to herein as the "Parties".

## RECITALS

A. The Company is engaged in the provision of professional medical services (the "Practice") and operates practice sites (the "Practice Sites") in the State of Texas, and the Company's physician employees and contractors (the "Physicians") hold all licenses and permits necessary to practice medicine in the Applicable States in which they practice medicine.

B. The Company desires to engage the Management Company to provide and arrange certain non-clinical management and administrative services.

## AGREEMENT

The Parties hereby agree as follows:

## ARTICLE I
## ENGAGEMENT AND AUTHORITY

**1.1 Engagement of the Management Company**. On the terms and subject to the conditions contained in this Agreement, the Company hereby engages the Management Company, and the Management Company hereby accepts engagement by the Company, to provide and/or to arrange for the provision of the Management Services described in Article II and Exhibit A to the Company. The Company expressly acknowledges that the Management Company may subcontract with third-parties for the performance of certain Management Services.

**1.2 Relationship of Parties**. In performing their respective duties and obligations under this Agreement, the Parties are independent contractors, and as such they will remain professionally and economically independent of each other. The Parties will not be deemed to be joint venturers, partners or employees of each other. For avoidance of doubt, the parties agree that at all times relevant and pursuant to the terms and conditions of this Agreement, the Practices and their respective Physicians and other medical personnel are and will be construed to be practicing its and their profession independently, and will not be deemed to be or construed to be an agent, servant or employee of the Management Company.

**1.3 Conduct of Medical Practice**. The Company will be solely and exclusively in control of the provision of professional medical services, and the Management Company will neither have nor exercise any control or discretion over the methods by which the Physicians practice medicine. Nothing in this Agreement will be construed to alter or otherwise affect the legal, ethical or professional relationships between and among the Company, the Physicians and

their patients, nor does anything in this Agreement abrogate any right, privilege or obligation arising from or related to the physician-patient relationship.

## ARTICLE II
## MANAGEMENT SERVICES

**2.1 General Authority.**

(a) The Management Company will provide or arrange for the provision of the non-clinical management services set forth in Exhibit A (the "Management Services") and the Management Company will be the Company's exclusive provider of Management Services. Notwithstanding the foregoing, the Management Company will not provide any service which would constitute the clinical practice of medicine or the provision of professional medical services.

(b) The Company expressly authorizes the Management Company to perform the Management Services in the manner that the Management Company deems reasonably appropriate to meet the day-to-day business needs of the Company, including the performance of specific business office functions at locations other than the Practice Sites. The Company will not prevent the Management Company from providing, or causing to be provided, and the Management Company will provide or cause to be provided, the Management Services in a business-like manner and in compliance with (i) all applicable Laws, (ii) all Orders by which the Parties are bound or to which the Parties are subject, and (iii) the standards, rules and regulations of the United States Department of Health and Human Services and any other federal, state or local governmental agency or third-party payor exercising authority with respect to, accrediting, or providing reimbursement for, the Company or the Practice).

**2.2 Services the Management Company May Not Provide**. The Management Company will not provide any of the following services to the Company: assigning or designating clinical providers to treat patients; assuming responsibility for the care of patients; or engaging in any activity that involves the practice of medicine.

## ARTICLE III
## GENERAL OBLIGATIONS

**3.1 Duty to Cooperate**. The Parties acknowledge that mutual cooperation is critical to the performance of their respective duties and obligations under this Agreement. To ensure the communication necessary for mutual cooperation, the Company will permit a representative designated by the Management Company (the "Management Company Representative") to attend and participate (in a non-voting capacity) in all meetings of the Company's board of directors or other governing body and meetings of the Company's equityholders called pursuant to the Company Governing Documents or as otherwise required by applicable Law. The Company will give the Management Company at least five business days prior written notice of each such meeting, specifying the date, time and place of the meeting and, if the meeting is a special meeting, the purposes for which the meeting is called.

**3.2 Physicians**. The Company will employ or engage all Physicians necessary to conduct, manage and operate in a proper and efficient manner the medical practice conducted at the Practice Sites.

**3.3 Business Associate Provisions**. The Management Company acknowledges and agrees that: the Company is a "*covered entity*" (as defined in the Administrative Simplification section of the Health Insurance Portability and Accountability Act of 1996, P.L. 104-191, and its implementing regulations (45 C.F.R. parts 160-164) (collectively "HIPAA"); and the Management Company is a "*business associate*" (as defined under HIPAA) of the Company when the Management Company provides services to the Company involving "*protected health information*" (as defined under HIPAA) pursuant to this Agreement. The Management Company agrees to perform all services involving protected health information in accordance with the Business Associate Provisions set forth on Exhibit B.

**3.4 Quantity, Service and Specialty Requirements; Standards.**

(a) The Management Company will periodically review, and make recommendations to the Company regarding, the appropriate number of full and part-time Physicians needed by the Company to operate the Practice Sites (the "Physician Staffing Levels"). Final determinations with respect to the Physician Staffing Levels will at all times be the sole responsibility of the Company.

(b) The Company, in consultation with the Management Company, will be responsible for (i) developing and implementing utilization review and quality assurance guidelines (consistent with guidelines imposed by third-parties), (ii) supervising the Physicians' submission to the Company of complete, accurate and timely documentation for coding and billing services provided in the Practice, (iii) supervising the taking of corrective action by Physicians when Physicians do not satisfy guidelines and standards, (iv) credentialing of Physicians for the performance of specific procedures, (v) handling impaired Physicians, and (vi) overseeing, developing and implementing policies of a purely medical nature (including medical records documentation, clinical communications with patients and the determination of resources to be used for particular patients).

**3.5 Employment and Independent Contractor Agreements.**

(a) The Company will employ each Physician who is or becomes an employee of the Company pursuant to a written employment agreement substantially in a form prepared by the Management Company and approved by the Company (the "Employment Agreement"). The Company may not amend the form of Employment Agreement or the terms of any Physician's employment without the Management Company's prior written approval, which consent shall not be unreasonably refused or conditioned.

(b) Except as otherwise agreed by the Parties, the Company will engage each Physician who is or becomes an independent contractor of the Company pursuant to a written independent contractor agreement substantially in a form prepared by the Management Company and approved by the Company (the "Independent Contractor Agreement"). The Company may not amend the form of Independent Contractor Agreement or the terms of any Physician's

independent contractor engagement without the Management Company's prior written approval, which consent shall not be unreasonably refused or conditioned.

**3.6 Regulatory Matters.**

(a) The Physicians will be free, in their sole discretion, to exercise their professional judgment on behalf of patients of the Company. Nothing in this Agreement permits the Management Company to affect or influence the professional judgment of any Physician. To the extent that any act or service required or permitted of the Management Company under any provision of this Agreement is deemed to constitute the practice of medicine, the ownership or control of a medical practice or the operation of a clinic, such provision of this Agreement will be void *ab initio* and the performance of such act or service by the Management Company will be deemed waived by the Company and the function will be performed by the Company.

(b) The Parties agree to cooperate with one another in the fulfillment of their respective obligations under this Agreement, and to comply with (i) all Laws applicable to the Company and all Orders by which the Company is bound or to which the Company is subject (including Laws and Orders relating to the practice of medicine, institutional and professional licensure, pharmacology and dispensing medicines or controlled substances, medical documentation, medical record retention, laboratory services, unprofessional conduct, fee-splitting. referrals, billing and submission of false or fraudulent claims, claims processing, quality, safety, medical necessity, medical privacy and security, patient confidentiality and informed consent and the hiring of employees or acquisition of services or supplies from Persons excluded from participation in government healthcare programs), and (ii) the requirements of any insurance company insuring the Company or the Management Company against liability for injury or accident in or on the premises of the Company or the Practice.

**3.7 Books and Records**. The Company will retain and provide the Management Company with full and unrestricted access to its books and records (including work papers in the possession of its accountants) with respect to all transactions and the Company's financial condition, assets, liabilities, operations and cash flows.

**3.8 Government Receivables Account**. The Company shall establish and maintain a deposit account (the "Government Receivables Account") at a bank reasonably acceptable to the Management Company that is designated for the collection of any and all receivables payable by a governmental authority (including Medicare, Medicaid and any similar federal or state program) ("Government Receivables"). The Company shall (A) deposit or cause to be deposited promptly, all cash, checks, drafts or other similar items of payment relating to or constituting payments made in respect of any and all Government Receivables into the Government Receivables Account, (B) request in writing and otherwise take such reasonable steps to ensure that all payors of Government Receivables remit all payments of Government Receivables directly to the Government Receivables Account and (C) shall not permit any other payments or receivables (other than Government Receivables) to be deposited into the Government Receivables Account. In the depositary agreement for the Government Receivables Account with the bank (the "Depositary Agreement"), which Depositary Agreement shall be in form and substance reasonably satisfactory to the Management Company, the Company shall instruct the bank to "sweep" daily into a bank account held by the Management Company the account

balance in the Government Receivables Account. Such instructions to the bank may be revoked, rescinded or modified at the sole instruction of the Company. The Depositary Agreement, however, shall provide that in the event that such instructions to the bank are in any way revoked, rescinded or modified, the bank shall notify the Management Company immediately. Additionally, the Management Company and the Company agree that the Company's revoking, rescinding or modifying such instructions to the bank shall constitute a material breach by the Company of this Agreement. The Company shall (A) deposit or cause to be deposited promptly all cash, checks, drafts or other similar items of payment relating to or constituting receivables other than Government Receivables into the Management Company Account and (B) request in writing and otherwise take such reasonable steps to ensure that all account debtors remit all payments of receivables other than Government Receivables into the Management Company Account.

## ARTICLE IV
## FINANCIAL ARRANGEMENTS

**4.1 Practice Expenses**. All Practice Expenses (as defined herein) attributable to periods after the date of this Agreement, including the compensation of the Physicians, shall be the sole responsibility of the Practice and shall be paid by the Management Company or its designee as agent and on behalf of the Practice. Such expenses may include a portion of reasonable corporate overhead of the Management Company allocable to the activities of the Practice, which shall be billed to the Practice at the actual cost to the Management Company. "Practice Expenses" means the following expenses, whether incurred by the Practice or the Management Company: state and federal payroll taxes or self-employment taxes incurred by the Practice in connection with employment of the Physicians and other employees of the Practice, Physician compensation and benefit expenses and compensation and benefit expenses for other employees of the Practice (both professional and non-professional), premiums for professional and general liability insurance, medical books and journals, registration fees for continuing medical education, membership dues for professional organizations, locum tenens expenses, automobile and mileage expenses, facility leases, repairs and maintenance, telephones and pagers, utilities, billing services, courier services, legal expenses, travel and entertainment, outside medical consultants, license fees, marketing, advertising, promotion, service of laboratory, laboratory and other equipment, all other reasonable overhead of the Practice, all other expenses identified in this Agreement as Practice Expenses, all expenses identified in this Agreement as incurred by the Management Company on behalf of Practice, and other expenses approved from time to time by the Practice (in each case, to the extent not provided by the Management Company under this Agreement).

**4.2 Management Fee**.

(a) The Parties hereby agree and acknowledge that, in consideration for the Management Services performed hereunder, the Practice shall pay the Management Company an annual management service fee equal to the revenues generated by the Practice for the preceding month in excess of the Practice Expenses for the same period (the "Management Fee"), payable in equal monthly installments. The Management Fee is intended to provide the Management Company with fair market value payment commensurate with the services provided, its capital investment, use of its trade name and its expertise in laboratory and professional practice

management. The Practice hereby acknowledges and agrees that the Management Fee may be adjusted annually by the Management Company, based upon the Management Company's reasonable estimate of the Practice's demand for Management Services in the following year.

(b) The Parties have determined the Management Fee to be equal to the fair market value of the Management Services, without consideration of the proximity of the Company to any referral sources or the volume or value of any referrals from the Management Company or any of its Affiliates to the Company or from the Company to the Management Company or any of its Affiliates, that is reimbursed under any governmental or private health care payment or insurance program.

(c) Payment of the Fee to Management Company is not intended to be and shall not be interpreted or applied as permitting Management Company to share in the Company's fees for medical services. The Fee is acknowledged and agreed by the parties as being fair, equitable and reasonable in all respects and constituting fair market value for the substantial commitment of resources made by Management Company under or in connection with this Agreement. The parties acknowledge and agree that the Fee set forth in this Agreement has been arrived at through arm's length negotiations and is intended to compensate Management Company in a manner that is commercially reasonable, consistent with fair market value. The Management Company shall neither have nor exercise any control or direction over the number, type or recipient of patient referrals made by the Company or its Physicians and nothing in this Agreement shall be construed as directing or influencing such referrals. None of the Management Company's activities contemplated under this Agreement, or otherwise, shall constitute obligations of the Management Company to generate patient flow or business to the Practice. No benefits to the Practice or the Management Company under this Agreement require or are in any way contingent upon the admission, recommendation, referral or any other arrangement for the provision of any item or service offered by the Management Company, the Company or the Practice or any of their respective affiliates. The Management Fee does not include any discount, rebate, kickback, or other reduction in charge.

(d) The Management Company, as agent and on behalf of the Practice, shall utilize revenues of the Practice to pay accrued and then-payable Practice Expenses prior to payment of the Management Fee.

**4.3 Expense Reimbursement**. The Company will reimburse the Management Company for all reasonable expenses (including travel, meals and lodging expenses) incurred by the Management Company in connection with the provision of the Management Services. Remittances to Company of monies collected will be made net of amounts for which the Management Company is then due to reimbursement from the Company pursuant to this Agreement.

**4.4 Failure to Pay**. The Company's failure to pay any portion of the Management Fee or reimbursable expenses when due will be a material breach of this Agreement by the Company.

## ARTICLE V
## TERM AND TERMINATION

**5.1 Initial Term; Automatic Renewals**. The initial term of this Agreement commences on the date of this Agreement and ends on the tenth anniversary of the date of this Agreement, subject to earlier termination in accordance with Section 5.2 (the "Initial Term" and, together with all Renewal Terms, the "Term"). After the Initial Term, this Agreement will automatically renew for successive five-year terms (each a "Renewal Term") unless (i) either Party delivers written notice to the other Party of its intent not to renew this Agreement at least 90 days before the end of the Term or (ii) this Agreement is otherwise terminated in accordance with Section 5.2.

**5.2 Termination**. This Agreement may be terminated during the Term:

(a) by mutual agreement of the Parties;

(b) by the Company immediately and without notice if the Management Company breaches this Agreement and fails to cure such breach within 45 days after receiving written notice from the Company describing in reasonable detail the nature of the breach; or

(c) by the Management Company immediately and without notice if the Company breaches this Agreement and fails to cure such breach within 45 days after receiving written notice from the Management Company describing in reasonable detail the nature of the breach.

**5.3 Effect of Expiration or Termination**.

(a) The expiration or termination of this Agreement in accordance with Section 5.2 will automatically relieve and release each Party from the executory portion of such Party's obligations under this Agreement; *provided, however, that* all obligations expressly extended beyond the Term by the terms of this Agreement (including this Article V, Article VI, Article VII and Article IX) will survive the expiration or termination of this Agreement.

(b) Promptly (but in any event within 10 days) after the expiration or termination of this Agreement, the Company will, and will cause its Affiliates, directors, managers, officers, equityholders, employees, agents, successors and permitted assigns to, either return to the Company or destroy, delete or erase all written, electronic or other tangible forms of Confidential Information as required under Section 6.2.

(c) Promptly (but in any event within 10 days) after the termination or expiration of this Agreement, the Company will pay to the Management Company all Management Fees earned or accrued under this Agreement through the termination date, reimburse all reimbursable expenses incurred before the termination date and repay all Advances funded before the termination date; *provided, however, that* if the Management Company terminates this Agreement pursuant to Section 5.2(c) or the Company terminates this Agreement in breach of this Agreement, then such payment will include the immediate payment of all Management Fees owed to the Management Company for the remainder of the Term.

(d) After the expiration or termination of this Agreement, the Company will retain and provide the Management Company with full and unrestricted access to its books and records (including work papers in the possession of its accountants) with respect to all transactions and the Company's financial condition, assets, liabilities, operations and cash flows during the Term.

## ARTICLE VI
## RESTRICTIVE COVENANTS

**6.1 Restrictive Covenants**. In the course of receiving the Management Services, the Company will have access to the most sensitive and most valuable trade secrets, proprietary information and other confidential information, including management reports, marketing studies, marketing plans, business plans, financial statements, feasibility studies, financial, accounting and statistical data, price and cost information, customer lists, contracts, policies and procedures, internal memoranda, reports and other materials or records of a proprietary or confidential nature (collectively, "Confidential Information") of the Management Company, which constitute valuable business assets of the Management Company and its Affiliates, and the use, application or disclosure of such Confidential Information will cause substantial and possibly irreparable damage to the business and asset value of the Management Company. Therefore, as an inducement for the Management Company to enter into this Agreement and to protect the Confidential Information and other business interests of the Management Company, the Company agrees to be bound by the restrictive covenants contained in this Article VI.

**6.2 Disclosure of Confidential Information**. After the date of this Agreement, the Company will, and will cause its Affiliates, directors, managers, officers, equityholders, employees, agents, successors and permitted assigns to, keep confidential and not disclose to any other Person or use for their own benefit or the benefit of any other Person any Confidential Information; *provided, however, that* the obligations under this Section 6.2 will not apply to Confidential Information that (i) is or becomes generally available to the public without breach of the commitments contemplated by this Section 6.2, (ii) was available to the Company or its Affiliates, directors, managers, officers, equityholders, employees or agents on a non-confidential basis before the date of this Agreement or (iii) is required to be disclosed by any Law or Order; *provided that* as soon as practicable before such disclosure, the Company gives the Management Company prompt written notice of such disclosure to enable the Management Company to seek a protective order or otherwise preserve the confidentiality of such information. Promptly after the expiration or termination of this Agreement, the Company will, and will cause its Affiliates, directors, managers, officers, equityholders, employees, agents, successors and permitted assigns to, (i) either return to the Company or destroy, delete or erase (with written certification of such destruction, deletion or erasure provided to the Management Company by the Company) all written, electronic or other tangible forms of Confidential Information. After the expiration or termination of this Agreement, the Company will not, and will cause its Affiliates, directors, managers, officers, equityholders, employees, agents, successors and permitted assigns not to, retain any copies, summaries, analyses, compilations, reports, extracts or other materials containing or derived from any Confidential Information. Notwithstanding such return, destruction, deletion or erasure, all oral Confidential Information and the information embodied in all written Confidential Information will continue to be held confidential pursuant to the terms of this Section 6.2.

**6.3 Covenant Not to Solicit**. Until the second anniversary of the expiration or termination of this Agreement, the Company will not, directly or indirectly:

(a) solicit or induce or attempt to solicit or induce (including by recruiting, interviewing or identifying or targeting as a candidate for recruitment) any director, limited liability company manager, partner, officer, employee, independent contractor or other agent of the Management Company or any of its Affiliates (including the other professional practice groups to which the Management Company provides business, administrative and back office services) other than the Company (collectively, the "Company Group")), who is acting in such capacity or acted in such capacity at any time within the 12-month period immediately preceding the date of such solicitation, inducement or attempt, (a "Business Associate") to terminate, restrict or hinder such Business Associate's association with any Company Group entity or interfere in any way with the relationship between such Business Associate and any Company Group; *provided*, *however*, *that* after the termination or expiration of this Agreement, general solicitations published in a journal, newspaper or other publication or posted on an internet job site and not specifically directed toward Business Associates will not constitute a breach of the covenants in this Section 6.3(a);

(b) hire or otherwise retain the services of any Business Associate as equityholder, director, limited liability company manager, partner, officer, employee, independent contractor, licensee, consultant, advisor, agent or in any other capacity, or attempt or assist anyone else to do so; or

(c) interfere with the relationship between any Company Group entity and any Person who is a supplier, lessor, lessee, dealer, distributor, licensor, licensee, proprietor, partner, joint venturer, investor, lender, consultant, agent, customer, patient, physician referral source or any other Person having a business relationship with the Company Group, or attempt or assist anyone else to do so.

**6.4 Non-Disparagement**. After the date of this Agreement, the Company will not, directly or indirectly, make any disparaging, derogatory, negative or knowingly false statement about any Company Group entity or any of their respective directors, managers, officers, equityholders, employees, agents (including the Management Company Representative), successors and permitted assigns, or any of their respective businesses, operations, financial condition or prospects, except as required by applicable Law or Order.

**6.5 Scope of Covenants; Equitable Relief**. The Company acknowledges and agrees that (i) the restrictive covenants contained in this Article VI and the territorial, time, activity and other limitations set forth herein are commercially reasonable and do not impose a greater restraint than is necessary to protect the goodwill and legitimate business interests of the Company Group and its businesses, (ii) any breach of the restrictive covenants in this Article VI will cause irreparable injury to the Company Group and that actual damages may be difficult to ascertain and would be inadequate, and (iii) if any breach of any such covenant occurs, then the Management Company will be entitled to injunctive relief in addition to such other legal and equitable remedies that may be available (without limiting the availability of legal or equitable, including injunctive, remedies under any other provisions of this Agreement), and (iv) the

Company hereby waives the claim or defense that an adequate remedy at law exists for such a breach.

**6.6 Equitable Tolling**. If the Company breaches any covenant in this Article VI, then the duration of such covenant will be tolled for a period of time equal to the time of such breach and, if the Management Company seeks injunctive relief or other remedies for any such breach, then the duration of such covenant will be tolled for a period of time equal to the pendency of such proceedings (including all appeals).

## ARTICLE VII
## INDEMNIFICATION

**7.1 Indemnification**. The Company will indemnify, defend and hold harmless the Management Company, its Affiliates and their respective directors, managers, officers, equityholders, employees, agents (including the Management Company Representative), successors and permitted assign (collectively, the "Management Company Indemnified Parties") from and against all losses, liabilities, demands, claims, actions or causes of action, regulatory, legislative or judicial proceedings or investigations, assessments, levies, fines, penalties, damages, costs and expenses (including reasonable attorneys', accountants', investigators' and experts' fees and expenses) incurred in connection with the defense or investigation of any claim ("Damages") sustained or incurred by any Management Company Indemnified Party arising from or related to illegal activity, intentional misconduct, negligence (including, but not limited to, the malpractice or malfeasances of the Physicians) or breach of this Agreement by the Company or any of its employees or contractors.

**7.2 Cooperation and Settlement**. The Company and the Management Company will coordinate the defense and settlement of actions in which they are named. The Company will not settle an action in which both are named, unless the Management Company agrees to the terms and conditions of the settlement.

**7.3 Advancement of Expenses**. During the pendency of any suit, action or proceeding with respect to which the Management Company is entitled to indemnification under this Article VII, the Company will pay or reimburse the Management Company for reasonable defense expenses incurred in advance of final disposition of such suit, action or proceeding. If the Management Company ultimately is not entitled to indemnification under this Article VII, then the Management Company will promptly repay to the Company the full amount of all such expenses paid or reimbursed by the Company.

**7.4 Other Remedies**. The provisions of this Article VII are in addition to, and not in derogation of, any statutory, equitable or common law remedies that the Management Company may have with respect to this Agreement or the subject matter of this Agreement.

**7.5 Survival**. The Company's indemnification obligations under this Article VII will survive the termination or expiration of this Agreement.

## ARTICLE VIII
## DEFINITIONS

For purposes of this Agreement, the following terms have the following meanings:

"Affiliate" means, with respect to a particular Person, (i) any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person, and (ii) any of such Person's spouse, siblings (by law or marriage), ancestors and decedents and (iii) any trust for the primary benefit of such Person or any of the foregoing. The term "control" means possession, direct or indirect, of the power to direct or cause the direction of the management and policies of another Person, whether through the ownership of voting securities or equity interests, by contract or otherwise.

"Business Day" means a day that is not a Saturday, Sunday or legal holiday on which banks are authorized or required to be closed in New York, New York.

"Law" means any federal, state, local, municipal, foreign, international, multinational or other constitution, statute, law, rule, regulation, ordinance, code, principle of common law or treaty.

"Order" means any order, injunction, judgment, decree, ruling, assessment or arbitration award of any governmental authority or arbitrator.

"Person" means any natural individual, corporation, partnership, limited liability company, joint venture, association, bank, trust company, trust or other entity, whether or not legal entities, or any governmental entity, agency or political subdivision.

## ARTICLE IX
## GENERAL PROVISIONS

**9.1 Practice of Medicine**. Nothing in this Agreement will be interpreted as prohibiting the Company or any Physician from (a) obtaining or maintaining membership on the medical staff of any hospital or health care provider, (b) obtaining or maintaining clinical privileges at any hospital or health care provider, or (c) referring patients to any hospital or health care provider.

**9.2 Force Majeure**. Neither Party will be liable for any failure or inability to perform, or delay in performing, such Party's obligations under this Agreement if such failure, inability or delay arises from an extraordinary cause beyond the reasonable control of the non-performing Party; *provided that* such Party diligently and in good faith attempts to cure such non-performance as promptly as practicable.

**9.3 Notices**. All notices and other communications required or permitted under this Agreement (a) must be in writing, (b) will be duly given (i) when delivered personally to the recipient, (ii) one Business Day after being sent to the recipient by nationally recognized overnight private carrier (charges prepaid), or (iii) four Business Days after being mailed to the recipient by certified or registered mail (postage prepaid and return receipt requested), and (c) addressed as follows (as applicable):

To Company:

Mattison Pathology LLP d/b/a Avero Diagnostics
6221 Riverside Drive, Suite 119
Irving, TX 75039

To the Management Company:

c/o Progenity, Inc.
4330 La Jolla Village Drive, Suite 200
San Diego, CA 92122
Attention: CFO with cc to : General Counsel

or to such other respective address as each Party may designate by notice given in accordance with this Section 9.3.

**9.4 Entire Agreement**. This Agreement constitutes the complete agreement and understanding among the Parties regarding the subject matter of this Agreement and supersedes any prior understandings, agreements or representations regarding the subject matter of this Agreement.

**9.5 Amendments**. The Parties may amend this Agreement only pursuant to a written agreement executed by the Parties.

**9.6 Non-Waiver**. The Parties' respective rights and remedies under this Agreement are cumulative and not alternative. Neither the failure nor any delay by any Party in exercising any right, power or privilege under this Agreement will operate as a waiver of such right, power or privilege, and no single or partial exercise of any such right, power or privilege will preclude any other or further exercise of such right, power or privilege or the exercise of any other right, power or privilege. No waiver will be effective unless it is in writing and signed by an authorized representative of the waiving Party. No waiver given will be applicable except in the specific instance for which it was given. No notice to or demand on a Party will constitute a waiver of any obligation of such Party or the right of the Party giving such notice or demand to take further action without notice or demand as provided in this Agreement.

**9.7 Assignment**. The Company may not assign this Agreement or any rights under this Agreement, or delegate any duties under this Agreement, without the Management Company's prior written consent. The Management Company may freely assign this Agreement or any rights under this Agreement, or delegate any duties under this Agreement without the Company's consent, including without limitation to any of its lenders as collateral security, and the Company shall cooperate with any such assignment by executing such documents in connection therewith as shall be reasonably be required.

**9.8 Binding Effect; Benefit**. This Agreement will inure to the benefit of and bind the Parties and their respective successors and permitted assigns. Nothing in this Agreement, express or implied, may be construed to give any Person other than the Parties and their respective successors and permitted assigns any right, remedy, claim, obligation or liability arising from or

related to this Agreement. This Agreement and all of its provisions and conditions are for the sole and exclusive benefit of the Parties and their respective successors and permitted assigns.

**9.9 Severability**. If any court of competent jurisdiction holds any provision of this Agreement invalid or unenforceable, then the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

**9.10 References**. The headings of Sections are provided for convenience only and will not affect the construction or interpretation of this Agreement. Unless otherwise provided, references to "Section(s)" and "Exhibit(s)" refer to the corresponding section(s) and exhibit(s) of this Agreement. Reference to a statute refers to the statute, any amendments or successor legislation and all rules and regulations promulgated under or implementing the statute, as in effect at the relevant time. Reference to a contract, instrument or other document as of a given date means the contract, instrument or other document as amended, supplemented and modified from time to time through such date.

**9.11 Construction**. Each Party participated in the negotiation and drafting of this Agreement, assisted by such legal and tax counsel as it desired, and contributed to its revisions. Any ambiguities with respect to any provision of this Agreement will be construed fairly as to all Parties and not in favor of or against any Party. All pronouns and any variation thereof will be construed to refer to such gender and number as the identity of the subject may require. The terms "include" and "including" indicate examples of a predicate word or clause and not a limitation on that word or clause.

**9.12 Governing Law**. THIS AGREEMENT IS GOVERNED BY THE LAWS OF THE STATE OF TEXAS, WITHOUT REGARD TO CONFLICT OF LAWS PRINCIPLES.

**9.13 Consent to Jurisdiction**. Each party hereby irrevocably consents to the exclusive jurisdiction of the state and federal courts of the State of Texas and irrevocably agrees that all actions or proceedings relating to this Agreement shall be litigated in such courts. Each party waives any objection which it may have based on lack of personal jurisdiction, improper venue or forum non conveniens to the conduct of any proceeding in any such court and waives personal service of any and all process upon them.

**9.14 Waiver of Trial by Jury**. EACH PARTY HEREBY WAIVES ITS RIGHT TO A JURY TRIAL IN CONNECTION WITH ANY SUIT, ACTION OR PROCEEDING IN CONNECTION WITH ANY MATTER RELATING TO THIS AGREEMENT.

**9.15 Counterparts**. The Parties may execute this Agreement in multiple counterparts, each of which will constitute an original and all of which, when taken together, will constitute one and the same agreement. The Parties may deliver executed signature pages to this Agreement by facsimile or e-mail transmission. No Party may raise as a defense to the formation or enforceability of this Agreement, and each Party forever waives any such defense, either (a) the use of a facsimile or email transmission to deliver a signature or (b) the fact that any signature was signed and subsequently transmitted by facsimile or email transmission.

[Signatures on the following page]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed as of the date first above written.

MANAGEMENT COMPANY:

AVERO LABORATORY HOLDINGS, LLC

By: /s/ Harry Stylli
Harry Stylli
Executive Chairman

COMPANY:

MATTISON PATHOLOGY, LLP

By: /s/ John C. Mazzei
Name: John C. Mazzei
Title: C.E.O.

**EXHIBIT A**

**MANAGEMENT SERVICES**

The Management Services include the following:

**1.** The Management Company will provide or obtain for the Company the following legal services:

**(a)** maintenance of all filings, licenses, permits, notices and other approvals required of the Company under applicable Laws and Orders for the operation of the Practice;

**(b)** regulatory compliance counseling and oversight of audits, investigations and accreditation processes;

**(c)** regulatory compliance counseling;

**(d)** risk management and education;

**(e)** professional liability and other insurance consulting; and

**(f)** assistance in responding to demands for payment, allegations of liability and lawsuits.

**2.** The Management Company will provide or obtain for the Company the following financial services:

**(a)** general accounting services and maintenance of accounting books;

**(b)** preparation of monthly and annual profit and loss statements, income statements and other financial statements;

**(c)** preparation and processing of client invoices, receivables and payables and the management of receipts;

**(d)** assistance in the handling and preparation of payroll and payroll tax-related statements and documents (including completion of K-1, W-2, and 1099 forms);

**(e)** preparation of tax returns and other tax forms for the Company and its medical director(s), as necessary;

**(f)** processing of expense accounts for the Company’s employees (including IRS compliance and related services);

**(g)** assistance with cash management, bank reconciliation and banking relations (including establishing bank accounts for the sole use and benefit of the Company);

**(h)** management of the lockbox and deposit functions;

**(i)** assistance with budget preparation and services; and

**(j)** assistance with the administration of Physician and employee bonus plans.

**3.** The Management Company will provide all administrative personnel reasonably necessary to manage the business and administrative aspects of the Practice and manage all decisions regarding work assignments, scheduling, hiring, firing and disciplining of administrative personnel and determinations of compensation levels and other terms of employment or engagement for all administrative personnel (including determinations of salaries, wages, bonuses, fringe benefits, retirement benefits and health, disability and workers' compensation insurance).

**4.** The Management Company will provide or obtain for the Company the following human resources services for non-Physician personnel:

**(a)** development, administration and provision of guidance regarding employment policies and procedures; provided that all policies and procedures governing Physicians and allied health professionals working at the Practices shall be adopted in the sole discretion of the Company and/or approved by the Company.

**(b)** preparation of employment agreements for non-Physician employees;

**(c)** background checks and verification;

**(d)** orientation, fob, database entry and computer access to new employees;

**(e)** benefit enrollment, administration and process management services;

**(f)** implementation of workers compensation, equal employment opportunity and other employment-related regulatory requirements; and

**(g)** coordination of the Company site administrative assistants.

**5.** The Management Company will provide or obtain for the Company the following human resources and other services for Physicians:

**(a)** preparation of employment agreements for Physician employees;

**(b)** assistance with the preparation of new Physician welcome packets;

**(c)** provision of software education services for Physicians;

**(d)** maintenance of a Physician database; and

**(e)** assistance with the development and production of printed communications intended for physicians and patients.

**6.** The Management Company will provide or obtain for the Company the following information management services:

**(a)** management, maintenance and administration of hardware/software programs, databases and interfaces;

**(b)** communications resources and internet client connections;

**(c)** management of information technology service connections, security and connectivity maintenance;

**(d)** management of outside hardware and software vendor maintenance;

**(e)** planning and evaluation of new technology;

**(f)** design, management and integration of web sites;

**(g)** access to document copying and scanning interfaces;

**(h)** emergency power and database back-up; and

**(i)** development and production of printed materials for external marketing purposes (subject to the Company's approval).

**7.** The Management Company will provide or obtain for the Company the following collection services for the Company's patient accounts ("Patients Accounts"):

**(a)** receipt, crediting, depositing and recording payment of invoices for professional services (in cash, check, money order or wire transfer) into the Company's bank account ("Company Account") in accordance with the Management Company's procedures; and

**(b)** negotiate compromises and settlements of patient accounts with patients or other responsible parties.

**8.** The Management Company will provide or obtain for the Company the following billing services for the professional services rendered by Physicians and other health care professionals employed by or under contract with the Company (collectively, "Professionals"):

**(a)** review of incoming patient care forms to verify the accuracy and completeness of information required for billing purposes;

**(b)** editing the Company's patient care and charge collection forms as necessary to ensure that the Company collects information necessary to submit claims for professional services;

**(c)** review, as appropriate, of the coding submitted by Professionals for purposes of billing, consistent with applicable Laws, the billing and coding requirements under any contracts between the Company and third-party payors and/or as required by applicable third-party payor rules and procedures;

**(d)** preparation and submission to patients, primary and secondary third-party payors and other persons responsible for payment for professional services of the Physicians, all

claims and patient invoices for payment for the professional services in the name and under the provider number of the Company engaging the Physicians or, if required by the third-party payor, the provider number of the Physicians rendering or supervising the professional service;

**(e)** issuing, with respect to patient invoices, monthly invoices before instituting collection procedures, the last of which will incorporate an overdue, pre-collection notice (unless other procedures are required to comply with applicable Law or third-party payor requirements);

**(f)** reference of any unpaid patient account to debt collection agencies (which may, but need not be, affiliates of the Management Company), with all necessary supporting documentation, or to a collection attorney (whose services would be provided at an additional cost not included in the Management Fees);

**(g)** receipt and response to telephone communications and written or electronic correspondence received from patients with reference to invoices;

**(h)** appeals, corrections and rebilling, in the Management Company's commercially reasonable discretion, of claims for reimbursement filed by the Management Company with any third-party payor that are denied or disputed by such third-party payor;

**(i)** claim adjudication of disputed claims and resolution of outstanding billing events with third party payors;

**(j)** receipt, crediting, depositing and recording payment of invoices and claims for professional services (in cash, check, money order or wire transfer) into the Company Account in accordance with the Management Company's procedures;

**(k)** reconciliation of all bank deposits and deposit records;

**(l)** review of accounts receivable of the Company to determine the status of patient accounts (i.e., current or delinquent), adjustment of account balances for partial payments received during the preceding month and correction of entries when required;

**(m)** process, issuance, mailing and recording of checks or electronic funds transfers for refunds due on patient accounts;

**(n)** maintenance of professional fee schedule entries and creation and maintenance of physician fee schedules in the Management Company's practice management system;

**(o)** administration of database/payor interfaces, maintenance of patient account history, interaction with third-party payors for resolution of accounts (including eligibility inquiry, claim submission, status inquiry and appeals);

**(p)** PR write off processing; administration of patient public relations and complaint processes (including account review, appeal and adjustment of patient balances);

**(q)** assistance in the negotiation, on behalf of the Company, of provider agreements with third-party payors and management, on behalf of the Company, of such contracts and relationships;

**(r)** Physician documentation and coding guidance upon the reasonable request of the Company or in response to changes to applicable Laws, CPT codes or third-party payor rules;

**(s)** billing, coding and compliance education to newly-hired Physicians and conduct of follow-up chart audits and reviews of patient documentation for such Physicians consistent with past practice;

**(t)** conduct of Physician chart audits when the Management Company has evidence of recurring non-compliance with applicable coding, documentation or billing Laws or third-party payor rules or when reasonably requested by the Company; and

**(u)** preparation of provider enrollment, reassignment of benefits and credentialing applications and forms required by governmental and nongovernmental third-party payors.

**9.** The Management Company will assist the Company in administering its relationships with Physicians, including consulting with the Company as to performance standards, reviewing and proposing changes to the Company's standard employment and independent contractor agreements, participating in deliberations as to appropriate Physician Staffing Levels, reviewing staffing and coverage schedules, and, in consultation with the Company, recruiting additional Physicians. The Management Company will recommend Physician compensation models and determine Physician base and incentive compensation, with the approval of the Company.

**10.** The Management Company, on behalf of the Company and/or individual Physicians, as appropriate, will negotiate all agreements between the Company and/or such Physicians and third-parties for the provision of professional services that may be necessary or appropriate for the proper and efficient operation of the Practice.

**11.** The Management Company, on behalf of the Company, will negotiate all agreements between the Company and its clients; provided, however, that the Company shall retain the exclusive authority to determine the parameters of the Company's contractual relationship with clients and third party private and government payors.

**12.** The Management Company, on behalf of the Company, will negotiate and arrange for all medical and administrative office space, with all leases and other office arrangements executed and delivered by the Management Company in its name.

**13.** The Management Company, on behalf of the Company, will acquire for the benefit of the Company all leasehold improvements and furniture, fixtures and equipment reasonably necessary for the operation of the Practice and repair, maintain and replace such furniture, fixtures and equipment necessitated by the negligence of the Company or any

Physician. Title to the Equipment and other capital assets acquired by the Management Company for the benefit of the Practice will be in the name of the Management Company.

**14.** The Management Company will supervise the Company's continuous efforts to create, update, maintain and store all files and records relating to the operation of the Practice, including accounting, billing, patient medical records and collection records.

**15.** The Management Company will purchase, for the account of the Company, all administrative support services reasonably required for the day-to-day operation of the Practice (including all utilities, laundry, janitorial and cleaning, security, printing, postage, coping, telephone and internet services) and all supplies that are reasonably necessary for the day-to-day operation of the Practice.

**16.** The Management Company will confer with the Company regarding the acquisition of medical equipment, instruments, medical fixtures, office equipment, telephones, computers, office furniture and supplies that the Management Company determines to be necessary or appropriate for the proper and efficient operation of the Practice.

**17.** The Management Company will manage equipment installation, testing and maintenance for the Company.

**18.** The Management Company will assist the Company in obtaining insurance policies required or appropriate to protect the financial interest of the Company and the Physicians, and assist the Company will establishing risk compliance, loss prevention and risk management functions.

**19.** The Management Company will provide additional legal management, financial management, human resource-related, billing and collection-related and information technology-related services at Company's reasonable request and if necessary or appropriate for the proper management and administration of the Company; *provided, however, that* the Company will compensate the Management Company for the performance of such additional services at pre-determined, mutually-agreed-upon rate reflecting the fair market value of such additional services, all of which the Parties will set forth in a written amendment of this Agreement.

**20.** The Management Company will assist the Company with purchasing advertising and marketing services for programs established by the Company by providing administrative support and consultation.

**EXHIBIT B**

**BUSINESS ASSOCIATE PROVISIONS**

The Management Company will perform any Management Services involving Protected Health Information received from, or created or received by the Management Company on behalf of the Company ("PHI"), in accordance with the following Business Associate Provisions.

**1. General Provisions.**

**(a) Effect.** To the extent that the Management Company receives PHI to perform Business Associate activities, the terms and provisions of this Exhibit B supersede all conflicting or inconsistent terms and provisions of this Agreement to the extent of such conflict or inconsistency.

**(b) Capitalized Terms.** Capitalized terms used in this Exhibit B without definition in this Agreement (including this Exhibit B) are defined in the administrative simplification section of the Health Insurance Portability and Accountability Act of 1996 and its implementing regulations as amended by HITECH (defined below) (collectively, "HIPAA").

**(c) No Third Party Beneficiaries.** The Parties have not created and do not intend to create by this Agreement any third party rights (including third party rights for Patients).

**(d) Amendments.** The Parties acknowledge that the Health Information Technology for Economic and Clinical Health Act and its implementing regulations (collectively, "HITECH") impose new requirements with respect to privacy, security and breach notification and contemplates that such requirements will be implemented by regulations to be adopted by HHS. The HITECH provisions applicable to business associates (as defined under HIPAA) will be collectively referred to as the "HITECH BA Provisions". A HITECH BA Provision is effective on the later of (i) the date of this Agreement and (ii) the date specified in HITECH.

**2. Obligations of the Management Company.**

**(a) Use and Disclosure of Protected Health Information.** The Management Company may use and disclose PHI as permitted or required under this Agreement (including this Exhibit B) or as Required by Law, but may not otherwise use or disclose any PHI. The Management Company will not, and will assure that its employees, other agents and contractors do not use or disclose PHI in any manner that would constitute a violation of HIPAA if so used or disclosed by the Company. Without limiting the generality of the foregoing, the Management Company is permitted to use or disclose PHI as set forth below:

(i) The Management Company may use PHI internally for the Management Company's proper management and administration or to carry out its legal responsibilities.

(ii) The Management Company may disclose PHI to a third party for the Management Company's proper management and administration, *provided that* the disclosure is Required by Law or the Management Company obtains reasonable assurances from the third party to whom such PHI is to be disclosed that the third party will (A) protect the confidentially of the PHI, (B) only use or further disclose the PHI as Required by Law or for the purpose for which the PHI was disclosed to the third party, and (C) notify the Management Company of any instances of which such third-party is aware in which the confidentiality of the PHI has been breached.

(iii) The Management Company may use PHI to provide Data Aggregation services relating to the Health Care Operations of the Company if required or permitted under this Agreement.

(iv) The Management Company may de-identify PHI consistent with applicable HIPAA requirements.

**(b) Safeguards.** The Management Company will use appropriate safeguards to prevent the use or disclosure of PHI other than as permitted or required by this Exhibit B. The Management Company will implement Administrative Safeguards, Physical Safeguards and Technical Safeguards that reasonably and appropriately protect the Confidentiality, Integrity and Availability of electronic PHI that it creates, receives, maintains or transmits on behalf of the Company.

**(c) Minimum Necessary Standard.** To the extent required by the "minimum necessary" requirements of HIPAA, the Management Company will only request, use and disclose the minimum amount of PHI necessary to accomplish the purpose of the request, use or disclosure.

**(d) Mitigation.** The Management Company will take reasonable steps to mitigate, to the extent practicable, any harmful effect (that is known to the Management Company) of a use or disclosure of PHI by the Management Company in violation of this Exhibit B.

**(e) Trading Partner Agreement.** The Management Company will not change the definition, Data Condition, or use of a Data Element or Segment in a Standard; add any Data Elements or Segments to the maximum defined Data Set; use any code or Data Elements that are either marked "not used" in the Standard's Implementation Specification or are not in the Standard's Implementation Specification(s); or change the meaning or intent of the Standard's Implementation Specification(s).

**(f) Agreements by Third Parties.** The Management Company will obtain and maintain an agreement with each agent or subcontractor that has or will have access to PHI, pursuant to which such agent or subcontractor agrees to be bound by the same restrictions, terms and conditions that apply to the Management Company pursuant to this Agreement with respect to such PHI.

**(g) Reporting of Improper Disclosures of PHI.**

(i) If the Management Company becomes aware of a use or disclosure of PHI in violation of this Agreement by the Management Company or a third party to which the Management Company disclosed PHI, then the Management Company will report the use or disclosure to the Company without unreasonable delay.

(ii) Any actual, successful Security Incident involving PHI of which the Management Company becomes aware must be reported to the Company in writing without unreasonable delay, and

(iii) any attempted, unsuccessful Security Incident involving PHI of which the Management Company becomes aware must be reported to the Company within a reasonable time. If the HIPAA security regulations are amended to remove the requirement to report unsuccessful attempts at unauthorized access, the preceding requirement to report such unsuccessful attempts will no longer apply as of the effective date of the amendment.

**(h)** The Management Company will, following the discovery of a Breach of Unsecured PHI, notify the Company of the Breach in accordance with 45 C.F.R. § 164.410 without unreasonable delay (and in any event within 60 days after discovery of the Breach).

**(i) Access to Information.** Within 15 Business Days after receipt of a request from the Company for access to PHI about an Individual contained in any Designated Record Set of the Company maintained by the Management Company, the Management Company will make available to the Company such PHI for so long as the Management Company maintains such information in the Designated Record Set. If the Management Company receives a request for access to PHI directly from an Individual, then the Management Company will forward such request to the Company within 10 Business Days.

**(j) Availability of PHI for Amendment.** Within 15 Business Days after receipt of a request from the Company for the amendment of an Individual's PHI contained in any Designated Record Set of the Company maintained by the Management Company, the Management Company will provide such information to the Company for amendment and incorporate any such amendments in the PHI (for so long as the Management Company maintain such information in the Designated Record Set) as required by 45 C.F.R. § 164.526. If the Management Company receives a request for amendment to PHI directly from an Individual, then the Management Company will forward such request to the Company within 10 Business Days.

**(k) Accounting of Disclosures.** Within 15 Business Days after receipt of notice from the Company stating the Company has received a request for an accounting of disclosures of PHI (other than disclosures to which an exception to the accounting requirement applies), the Management Company will make available to the Company such information as is in the Management Company's possession and required for the Company to make the accounting required by 45 C.F.R. § 164.528.

**(l) Availability of Books and Records.** The Management Company will make its internal practices, books and records relating to the use and disclosure of PHI available

to the Secretary for purposes of determining the Company's and the Management Company's compliance with HIPAA.

**3. Obligations of Company.**

**(a) Permissible Requests.** The Company will not request that the Management Company use or disclose PHI in any manner that would not be permissible under HIPAA if done directly by the Company.

**(b) Minimum Necessary Information.** The Company represents that, to the extent the Company provides PHI to the Management Company, such information is the minimum necessary PHI for the accomplishment of the Management Company's purpose.

**(c) Consents/Authorizations.** The Company represents that, to the extent the Company provides PHI to the Management Company, the Company has obtained the consents, authorizations and other forms of legal permission required under HIPAA and other applicable Law, including any necessary authorizations for the use of PHI for Marketing purposes, if applicable.

**4. Termination of this Agreement.**

**(a) Right to Report.** If termination of this Agreement is not feasible following the Management Company's failure to cure a material breach of this Exhibit B, then the Company may report such breach to the Secretary.

**(b) Return or Destruction of PHI.** Promptly after the expiration or termination of this Agreement, the Management Company will either return to the Company or destroy, delete or erase all PHI then in the Management Company's possession; *provided, however, that* to the extent that the Management Company reasonably determines that the return or destruction of such PHI is not feasible, then the terms and provisions of this Exhibit B will survive the expiration or termination of this Agreement and such PHI may be used or disclosed only for the purposes that prevented the Management Company's return or destruction of such PHI.

**Exhibit 10.25**

# NOMINEE AGREEMENT

**THIS NOMINEE AGREEMENT** (the "Agreement") is entered into as of June 8, 2015, by and among Avero Laboratory Holdings, LLC, a Delaware limited liability company ("Avero"), Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership (the "Company"), Thomas R. Mattison, M.D., P.A., Michael T. Mattison, M.D., P.A., and Tanner L. Mattison, M.D., P.A., each a Texas professional association (each, a "Practice" and collectively, the "Practices"), and Thomas R. Mattison, M.D., Michael T. Mattison, M.D., and Tanner L. Mattison, M.D., each a resident of the State of Texas (each, an "Owner" and collectively, the "Owners"). The Practices and the Owners may each be referred to as an "Owner Party" and collectively as the "Owner Parties." Avero, the Company and the Owner Parties may each be referred to as a "Party" and collectively as the "Parties."

**WHEREAS**, the Practices own all of the issued and outstanding limited liability partnership interests of the Company (the "Interests"), and the Owners own all of the issued and outstanding capital stock or other equity interests of the Practices (the "Practice Equity Interests");

**WHEREAS**, the Parties have entered into that certain Purchase Agreement (the "Purchase Agreement") and the Company and Avero have entered into that certain Management Agreement (the "Management Agreement"), each dated as of the date hereof; and

**WHEREAS**, the Owner Parties' strict compliance with the terms hereof is an essential component of Avero receiving the benefits it bargained for under the Purchase Agreement and the Management Agreement;

**NOW, THEREFORE**, in consideration of the foregoing premises and the mutual benefits to be derived hereby, and the premises, representations, warranties, covenants and agreements herein contained, and other good and valuable consideration, the Parties hereby agree as follows:

1. Restricted Securities. The restrictions contained in this Agreement will apply to the Interests and any new, substituted or additional securities of the Company issued to any Owner Party with respect to the Interests or other securities or property of the Company distributed to any Owner Party with respect to the Interests upon any stock dividend, stock split, reverse stock split, recapitalization, merger, reorganization or other change affecting the Company's outstanding equity securities (collectively, the "Restricted Securities").

2. Covenants.

(a) Except as otherwise provided in this Agreement, neither the Practices nor the Owners shall, and the Owners shall cause the Practices not to, directly or indirectly (voluntarily, involuntarily or by operation of law) sell, assign, transfer, gift, pledge, hypothecate, encumber or otherwise dispose of ("Transfer"), or enter into an agreement to Transfer, the Restricted Securities. In addition, the Owners shall not directly or indirectly Transfer, or enter into an agreement to Transfer, the Practice Equity Interests or any other

equity securities of the Practices hereafter acquired by any Owner (whether by dividend, split, reverse split, recapitalization, merger, consolidation or otherwise) (the "Restricted Practice Securities").

(b) Prior to the exercise of any right to vote or grant of a consent with respect to the Restricted Securities, the Owner Parties shall give notice to Avero of the subject of such vote or consent and shall consult with Avero with regard to the manner in which such vote will be cast or consent given. Avero will thereafter recommend a course of action to the Owner Parties, and each Owner Party will, at the time it receives the recommendation from Avero, indicate whether it intends to act in accordance with Avero's recommendation or whether it intends to act in a manner that is not recommended by Avero. Should any Owner Party indicate its intent to act in a manner that is not recommended by Avero, Avero shall have the right to immediately exercise its rights pursuant to Section 3 hereof, and such Owner Party agrees that upon Avero's exercise of such rights, it will refrain from voting or granting consent with respect to the Restricted Securities until the Restricted Securities are transferred in accordance with Section 3. In no event shall Avero be permitted to vote the Restricted Securities, and nothing contained herein shall be construed as a voting trust, proxy or other arrangement vesting Avero with the authority to exercise the voting power of the Restricted Securities. Notwithstanding the foregoing, Avero shall not have any control over the manner in which either the Company or the Owner Parties engage in the practice of medicine or otherwise provide medical care.

(c) Except as expressly authorized by Avero, the Owner Parties shall not cause the Company to make any distributions or to pledge, assign or otherwise encumber any of its assets, except for cash distributions of the Closing Purchase Price, Escrow Funds or any Earn-Out Payment pursuant to (and as defined in) the Purchase Agreement. The Owner Parties shall notify Avero promptly upon receipt of any information relating to any claim or lien against the Company or any of its assets or against the Owner Parties with respect to the Restricted Securities.

(d) The Company agrees not to issue any Restricted Securities to any person or entity without the consent of Avero. The Practices agree not to issue any Restricted Practice Securities to any person or entity other than the Owners without the consent of Avero.

3. Transfers.

(a) Avero shall have the exclusive and irrevocable right to designate a Designated Transferee to purchase and acquire from each Owner Party all of such Owner Party's right, title and interest in the Restricted Securities at any time upon Avero's election in its sole discretion (an "Optional Transfer Event"). Each Owner Party hereby irrevocably and unconditionally agrees to Transfer the Restricted Securities held by such Owner Party to the Designated Transferee upon the occurrence of an Optional Transfer Event.

(b) If an Automatic Transfer Event (as defined below) occurs, then all of the Restricted Securities then-held by the applicable Owner Party (or any heir, executor, administrator, personal representative, estate, testamentary beneficiary, donee, trustee in bankruptcy, successor or assignee of such Owner Party) (the "Transferor") will immediately be deemed transferred to the Designated Transferee without action by such Transferor.

(c) Upon an Optional Transfer Event or Automatic Transfer Event and in consideration for the Restricted Securities, the Designated Transferee will pay to the Transferor the aggregate consideration of One Hundred and 00/100 U.S. Dollars ($100.00) (the "Purchase Price"), delivered in immediately available funds within thirty days after the Transfer of the Restricted Securities to the Designated Transferee. Notwithstanding the Designated Transferee's obligation to pay the Purchase Price to the Transferor pursuant to this Section 3(c):

(i) the Restricted Securities will be immediately deemed Transferred to the Designated Transferee upon an Optional Transfer Event or Automatic Transfer Event and thereafter the Transferor will only have the right to receive the Purchase Price from the Designated Transferee;

(ii) neither the Transferor nor any purported transferee of the Restricted Securities (other than the Designated Transferee) will have or may exercise any voting, economic or other rights or interests in the Restricted Securities or otherwise with respect to the Company; and

(iii) the Transferor (including the related Owner) will automatically and immediately be deemed to have resigned from all director, manager and officer positions of the Company that were held by the Transferor (including the related Owner) upon the occurrence of the Optional Transfer Event or Automatic Transfer Event.

If the Designated Transferee fails to timely pay the Purchase Price to the Transferor in accordance with this Section 3, the Transferor's only remedy will be money damages and such failure will not jeopardize the Transfer of the Restricted Securities to the Designated Transferee.

(d) Notwithstanding the self-executing provisions of Section 3(c), in the event of any Transfer, the applicable Owner Party (or other Transferor) shall execute and deliver to Avero and the Designated Transferee all documents necessary to Transfer the Restricted Securities pursuant to Section 3 hereof, including any stock power, LLC or partnership interest assignment documents, or consents that must be obtained, duly executed in blank with all appropriate transfer stamps affixed thereto. The Owner Parties have completed in blank the Restricted Securities Transfer Power attached hereto as Exhibit A to facilitate the agreements set forth herein. The Owner Parties hereby acknowledge and agree that the Designated Transferee shall, for all purposes, thereafter be the record owner of all rights, title and interest in and to the Restricted Securities.

(e) "Automatic Transfer Event" means, with respect to any Owner Party, (i) the Owner (and with respect to each Practice, the related Owner) dies or becomes incompetent or permanently disabled, (ii) the Owner Party is disqualified from holding the Restricted Securities under applicable Law or the Company's governing documents, (iii) the Practice is dissolved, whether administratively or otherwise, (iv) the Owner Party attempts to Transfer any Restricted Securities or Restricted Practice Securities not in compliance with this Agreement, (v) the Employment Agreement of even date herewith between the Owner (and with respect to each Practice, the related Owner) and the Company is terminated for any reason, (vi) the Owner Party becomes insolvent, voluntarily files for bankruptcy or similar protection from creditors, is subject to an involuntary petition for bankruptcy or similar protection, (vii) any petition or other document is filed to cause or intended to cause a judicial, administrative, voluntary or involuntary dissolution of the Company, (viii) any petition or other document is filed seeking judicial or administrative review of, or challenging the enforceability of this Agreement, the Company's certificate of formation or any other agreement, document or instrument pertaining to the governance, management or operation of the Company or (ix) the Owner's license to practice medicine in the State of Texas is suspended, revoked or otherwise limited.

(f) "Designated Transferee" means

(i) in the event of an Optional Transfer Event, (A) any person designated by Avero that is entitled to hold the Restricted Securities under the laws of the State of Texas or (B) Avero or any affiliate of Avero in the event that Avero, in its sole discretion, decides to convert the Company into a non-professional entity (even if such conversion may require such entity to cease providing professional services in Texas);

(ii) in the event of an Automatic Transfer Event, (A) the other Owner Parties, if any, that continue to hold Restricted Securities in compliance with this Agreement on the date of the Automatic Transfer Event; (B) if no other Owner Parties are eligible to receive the transferred Restricted Securities pursuant to the foregoing, then the individual who, immediately after an Automatic Transfer Event, holds the title of Medical Director of Avero (provided that such person is a physician licensed to practice medicine in Texas) or (C) if no such individual exists, or if Avero otherwise elects, a licensed physician designated by Avero.

4. Indemnification.

(a) Avero agrees to indemnify and hold the Owner Parties harmless from and against any and all damage, loss, liability, obligation, commitment, cost or expense (including the reasonable fees and expenses of counsel) incurred by the Owner Parties and resulting from or in respect of any liability (including tax liabilities) imposed upon the Owner Party as the result of its ownership of the Restricted Securities from and after the date of this Agreement until its disposition of the Restricted Securities; provided, however, that the Owner Parties shall not be entitled to indemnification hereunder with respect to (A) any liabilities for which Avero is entitled to indemnification from any Owner Party under the Purchase Agreement, (B) any

liabilities, including tax liabilities, relating to periods prior to the date of this Agreement (to the extent the Owner Parties are responsible therefor under the Purchase Agreement), (C) the provision of medical services by such Owner Party or (D) the fraud, gross negligence, willful misconduct or illegal activity of any Owner Party (for the avoidance of doubt, not including any activity contemplated by this Agreement).

(b) Any indemnification claim under Section 4(a) of this Agreement shall be handled pursuant to Section 8.6 of the Purchase Agreement, as if Owner Parties were the Indemnitee, and Avero was the Indemnitor.

(c) The Owner Parties shall not settle or compromise any such claim without Avero's prior written consent.

6. Miscellaneous.

(a) This Agreement shall be effective immediately and shall remain in effect until the earlier of (i) the termination by the Parties, evidenced in writing and signed by the Parties or (ii) the Transfer of the Restricted Securities pursuant to and in accordance with the terms and conditions of this Agreement.

(b) This Agreement constitutes the entire and final agreement of the Parties with respect to the subject matter hereof, and it is hereby agreed that any prior oral or written agreement, promise, representation, warranty, understanding or assurance expressing, concerning or relating to the matters addressed herein (excluding such other documents as may be entered into by Avero and the Owner Parties contemporaneously herewith) are merged herein and shall be null and void and of no further force or effect.

(c) Each Owner Party hereby represents and warrants that he is not a party to any other agreement, nor will it enter into any other agreement during the term of this Agreement, that is inconsistent with the terms and provisions of this Agreement.

(d) Except as otherwise expressly provided herein, this Agreement may only be amended, terminated or modified upon the written consent of all Parties to this Agreement.

(e) This Agreement shall be binding upon the Parties, and their respective heirs, administrators, executors, personal representatives, successors and assigns, and the Parties covenant and agree that they themselves and their respective heirs, executors, successors, administrators, personal representatives and assigns will execute any and all instruments, releases, assignments and consents that may reasonably be required of them to more fully implement the provisions of this Agreement, except that the Owner Parties may not assign this Agreement or any of their rights or obligations hereunder without the prior written consent of Avero. Avero may assign its rights and obligations hereunder, in whole or in part, without the consent of the Owner Parties. Avero may also assign any or all of its rights, title and interest in and pursuant to this Agreement to any of their lenders as collateral security, and

the Owner Parties shall cooperate with any such assignment by executing such documents in connection therewith as shall be reasonably be required.

(f) All headings set forth in this Agreement are intended for convenience only and shall not control or affect the meaning, construction, interpretation or effect of this Agreement or of any of the provisions hereof. Any reference herein to the masculine, feminine or neuter gender shall be nonspecific in nature and shall equally apply to the appropriate gender of the party concerned.

(g) If any provision of this Agreement shall be held to be illegal or unenforceable, such illegality or unenforceability shall extend to that provision solely, and the remainder of this Agreement shall be enforced as if such illegal or unenforceable provision were not incorporated herein. In addition, if any portion or all of this Agreement is determined to be unenforceable, the Parties shall revise the Agreement in a manner that complies with applicable laws and preserves the economic rights of the Parties hereunder.

(h) The Parties acknowledge, understand and agree that the rights to purchase, own and vote, and the obligations to purchase or sell, the Restricted Securities are unique and invaluable rights, the loss of which are not susceptible to monetary quantification. The Parties also agree that the rights and obligations provided herein are fair and equitable, were bargained for and given in exchange for fair and adequate consideration, and are intended by the Parties to be legally enforceable in accordance with the terms set forth herein. Accordingly, the Parties hereby agree that an action for specific performance or injunctive or other equitable relief of the rights, obligations and restrictions created by or under this Agreement is a proper and appropriate remedy for the breach of its provisions, and shall be available to the Parties, and no bond shall be required to be posted in connection therewith. If a party to this Agreement is required to institute legal proceedings to enforce its rights, or the other party's obligations, in accordance with the provisions of this Agreement, and such party prevails in such legal proceedings in a binding, non-appealable final judgment, then such prevailing party shall be entitled to recover its reasonable attorneys' fees and court costs incurred in enforcing such rights and/or obligations.

(i) This Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of Texas. Each Party hereby irrevocably consents to the exclusive jurisdiction of the state and federal courts of the State of Texas and irrevocably agrees that all actions or proceedings relating to this Agreement shall be litigated in such courts. Each Party waives any objection which it may have based on lack of personal jurisdiction, improper venue or forum non conveniens to the conduct of any proceeding in any such court and waives personal service of any and all process upon them.

(j) This Agreement may be executed in separate counterparts, each of which shall serve as an original for all purposes, and all of which together shall constitute one and the same agreement.

(k) All notices, requests, demands and other communications required or permitted hereunder shall be in writing and shall be deemed to have been duly given when delivered by hand or mailed, first class certified mail with postage paid or by overnight receipted courier service:

(i) If to Owner Parties, to:

To Thomas R. Mattison, M.D., P.A. or Thomas R. Mattison, M.D.:

4106 86th Street
Lubbock, TX 79423
Attn: Thomas Mattison
E-mail: trmattison@averodx.com

with a copy to:

Harwell Howard Hyne Gabbert & Manner, P.C.
333 Commerce St., Suite 1500
Nashville, TN 37201
Attention: David Cox
Facsimile: 615-251-1056
E-mail: david.cox@h3gm.com

To Michael T. Mattison, M.D., P.A. or Michael T. Mattison, M.D.

2904 Bryn Mawr
Dallas, TX 75225
Attn: Trae Mattison
Email: tmattison@averodx.com

with a copy to:

Harwell Howard Hyne Gabbert & Manner, P.C.
333 Commerce St., Suite 1500
Nashville, TN 37201
Attention: David Cox
Facsimile: 615-251-1056
E-mail: david.cox@h3gm.com

To Tanner L. Mattison, M.D., P.A. or Tanner L. Mattison, M.D.

2609 Sir Gawain Lane
Lewisville, TX 75056
Attn: Tanner Mattison
E-mail: tlmattison@averodx.com

with a copy to:

Harwell Howard Hyne Gabbert & Manner, P.C.
333 Commerce St., Suite 1500
Nashville, TN 37201
Attention: David Cox
Facsimile: 615-251-1056
E-mail: david.cox@h3gm.com

or to such other person or address as the Owner Parties shall furnish by notice to Avero in writing.

(ii) If to Avero to:

Progenity, Inc.
4330 La Jolla Village Drive, Suite 200
San Diego, CA 92122
Attention: CEO and General Counsel
Facsimile: 760-268-0771
E-mail: clarke.neumann@progenity.com

or to such other person or address as the Avero shall furnish by notice to Owner Parties in writing.

[Signatures on the Following Page]

**IN WITNESS WHEREOF**, the Parties to this Agreement, intending to be legally bound, have hereunto set their signatures as of the date first above written.

AVERO:

AVERO LABORATORY HOLDINGS, LLC

By: /s/ Harry Stylli
Harry Stylli
Executive Chairman

COMPANY:

MATTISON PATHOLOGY, LLP

By: /s/ John C. Mazzei
Name: John C. Mazzei
Title: C.E.O.

PRACTICES:

THOMAS R. MATTISON, M.D., P.A.

By: /s/ Thomas R. Mattison
Thomas R. Mattison, M.D.
President

MICHAEL T. MATTISON, M.D., P.A.

By: /s/ Michael T. Mattison
Michael T. Mattison, M.D.
President

TANNER L. MATTISON, M.D., P.A.

By: /s/ Tanner L. Mattison; President
Tanner L. Mattison, M.D.
President

OWNERS:

/s/ Thomas R. Mattison
Thomas R. Mattison, M.D.

/s/ Michael T. Mattison
Michael T. Mattison, M.D.

/s/ Tanner L. Mattison, M.D.
Tanner L. Mattison, M.D.

[Signature Page to Nominee Agreement]

**Exhibit A**

**Restricted Securities Transfer Power**

**RESTRICTED SECURITIES TRANSFER POWER**
(Separate from Certificate)

**FOR VALUE RECEIVED,** the undersigned does hereby (i) sell, assign, transfer and deliver to _____ _____ all of the limited liability partnership interests and other equity securities of Mattison Pathology, LLP d/b/a Avero Diagnostics, a Texas limited liability partnership (the "Company"), standing in my name on the books and records of the Company and (ii) irrevocably constitute Avero Laboratory Holdings, LLC as my attorney to transfer such equity securities on the books of the Company with full power of substitution in the premises

Date: _____

By: _____
Name:
Title:

Witnessed by:

_____
Name:

**EXHIBIT 10.26**

**UNITED STATES DISTRICT COURT**
**SOUTHERN DISTRICT OF NEW YORK**

| | |
|---|---|
| UNITED STATES OF AMERICA *ex rel*. J. DOE, STATE OF NEW YORK *ex rel*. J. DOE, STATE of CALIFORNIA *ex rel*. J. DOE, STATE OF TEXAS *ex rel*. J. DOE, STATE OF MICHIGAN *ex rel*. J. DOE,<br><br>Plaintiffs,<br><br>v.<br><br>PROGENITY, INC.,<br><br>Defendant. | **16 Civ. 9051 (LAP)** |
| UNITED STATES OF AMERICA,<br><br>Plaintiff-Intervenor,<br><br>v.<br><br>PROGENITY, INC.,<br><br>Defendant. | |

**STIPULATION AND ORDER OF SETTLEMENT AND DISMISSAL**

WHEREAS, this Stipulation and Order of Settlement and Dismissal ("Stipulation") is entered into by and among Plaintiff the United States of America (the "United States" or "Government"), by its attorney, Audrey Strauss, Acting United States Attorney for the Southern District of New York, and on behalf of the Office of Inspector General of the Department of Health and Human Services ("OIG-HHS") and the Defense Health Agency ("DHA"), acting on

behalf of the TRICARE Program ("TRICARE"); Relator Demetria Katsanos (the "Relator"), by her authorized representative; and Defendant Progenity, Inc. ("Progenity") (together with the Government and the Relator, the "Parties"), by its authorized representatives;

WHEREAS, Progenity is a company headquartered in California that provides molecular laboratory testing services to patients, through their healthcare providers, focusing on prenatal testing for genetic and chromosomal abnormalities;

WHEREAS, prior to August 2013, Progenity operated under the name Ascendant MDx, Inc.;

WHEREAS, throughout the period referenced in this Stipulation, Progenity provided services that were reimbursed by Federal healthcare programs, including Medicaid, TRICARE, the Federal Employee Health Benefit Program ("FEHBP"), and the United States Department of Veterans Affairs healthcare program ("VA");

WHEREAS, on or about November 21, 2016, the Relator filed a complaint in the United States District Court for the Southern District of New York pursuant to the *qui tam* provisions of the False Claims Act ("FCA"), 31 U.S.C. § 3729 *et seq.* (the "Relator Complaint"), alleging, *inter alia*, that Progenity engaged in illegal kickback schemes to induce physicians to order Progenity tests;

WHEREAS, prior to the filing of the Relator Complaint, the United States Attorney's Office for the Southern District of California ("USAO SDCA") and its law enforcement partners were investigating Progenity's use of Current Procedural Terminology ("CPT") code 88271 in the submission of claims to TRICARE and the FEHBP seeking reimbursement for certain cell-free DNA sequencing-based non-invasive prenatal tests ("NIPTs") that can screen for chromosomal aneuploidies and subchromosomal microdeletions to determine the risk that a fetus

will be born with certain genetic disorders or abnormalities through analysis of fetal DNA present in the woman's blood;

WHEREAS, contemporaneously herewith, the USAO SDCA has entered into a non-prosecution agreement as well as a separate civil settlement agreement with Progenity to resolve claims relating to the submission of false claims to TRICARE and the FEHBP seeking reimbursement for NIPTs, under which Progenity has agreed to pay a sum of $16,400,000;

WHEREAS, in addition to investigating the allegations in the Relator Complaint, the United States Attorney's Office for the Southern District of New York also initiated an investigation into Progenity's use of CPT code 88271 in the submission of claims to Medicaid and the VA seeking reimbursement for NIPTs;

WHEREAS, the Government alleges that from March 2014 through April 2016, in violation of the FCA, Progenity knowingly and willfully submitted false claims to Medicaid and the VA by fraudulently using CPT code 88271 to seek reimbursement for NIPTs when this code misrepresented the services Progenity actually provided, and, as a result, Progenity received payments for non-reimbursable tests, or received substantially higher payments than it was entitled to receive for the genetic testing services provided ("Miscoding Covered Conduct");

WHEREAS, the Government further alleges that, in violation of the Anti-Kickback Statute (the "AKS"), 42 U.S.C. §§ 13320a-7b(b), Progenity knowingly and willfully induced physicians to order Progenity tests for Federal healthcare program beneficiaries by: (1) from January 2012 through March 2016, offering and providing remuneration in the form of above fair market value payments, or "draw fees," to physicians or physician offices for blood specimens collected for Progenity tests; (2) from January 2012 through December 2018, offering and providing remuneration in the form of meals and happy hours for physicians and their

employees; and (3) from January 2012 through April 2018, routinely offering to reduce or waive, and routinely reducing or waiving, coinsurance and deductible payments that Federal healthcare program beneficiaries were required to pay without making individualized determinations of financial need or reasonable collection efforts. As a result of the foregoing, Progenity submitted false claims for payment to Federal healthcare programs. The conduct described in this paragraph is referred to as the "Kickback Covered Conduct";

WHEREAS, contemporaneous with the filing of this Stipulation, the Government, through the Office of the United States Attorney for the Southern District of New York, is filing a Notice of Election to Partially Intervene and a Complaint-In-Intervention in the above-referenced *qui tam* action ("Government Complaint"), in which it is asserting claims under the FCA against Progenity for the Miscoding Covered Conduct and the Kickback Covered Conduct;

WHEREAS, Progenity intends on entering into separate settlement agreements ("State Settlements") with various states that participate in Medicaid ("States") to resolve claims related to the Miscoding Covered Conduct and the Kickback Covered Conduct and has agreed to pay a total of $13,150,684 to the States pursuant to the State Settlements;

WHEREAS, in connection with settlement discussions and in order to allow the Government to assess Progenity's ability to make payments to resolve this matter, Progenity has submitted information concerning its financial condition to the Government, including but not limited to information relating to its assets, liabilities, expenses, revenues, profits, and financial projections (the "Progenity Financial Information");

WHEREAS, the Parties have, through this Stipulation, reached a mutually agreeable resolution addressing the claims asserted against Progenity in the Government Complaint and the Relator Complaint;

WHEREAS, the Relator's claim to a share of the proceeds from the settlement of claims arising from the Relator Complaint will be the subject of a separate agreement between the Relator and the United States, and the Relator acknowledges that this claim is limited to a share of the proceeds for the settlement of claims related to the Kickback Covered Conduct;

NOW, THEREFORE, upon the Parties' agreement, IT IS HEREBY ORDERED that:

**TERMS AND CONDITIONS**

1. The Parties agree that this Court has subject matter jurisdiction over this action and consent to this Court's exercise of personal jurisdiction over each of them.

2. Progenity admits, acknowledges, and accepts responsibility for the following conduct:

***Miscoding*:**

a. CPT codes are part of a numerical coding system that physicians and laboratories must use on claim forms to bill payors for healthcare services and to receive payments. The CPT code affects the rate that the payor will reimburse the provider. When there is no existing CPT code that accurately describes a specific service or test, an unlisted or miscellaneous CPT code should be used for a provider to seek reimbursement.

b. From March 2014 through April 2016, Progenity knowingly submitted false claims for payment to Medicaid and the VA by using CPT code 88271 to obtain reimbursement for NIPTs.

c. Progenity improperly used CPT code 88271, which applies to fluorescence in situ hybridization ("FISH") procedures, knowing that its genetic tests were cell-free DNA sequencing-based NIPTs that are not FISH procedures and that CPT code 88271 did not accurately represent the tests performed.

d. Until January 2015, there was no CPT code specific to NIPTs. In the absence of a designated code prior to January 2015, Progenity used CPT code 88271 when

seeking reimbursement for certain NIPTs, instead of the miscellaneous CPT code 81479. The Medicaid reimbursement rate for CPT code 88271 during the relevant period was substantially more than the reimbursement rate for the miscellaneous CPT code 81479.

e. On January 2, 2015, a new CPT code, 81420 (Genomic Sequencing Procedures and Other Molecular Multianalyte Assays), became active. Upon its implementation, CPT code 81420 became the correct code that Progenity should have used to bill for its NIPTs. However, Progenity knew that it would receive significantly higher reimbursement amounts by using CPT code 88271, and continued to knowingly submit false claims to Medicaid and the VA using the incorrect CPT code 88271.

f. In addition, Progenity knew that the Medicaid programs for some states, such as Texas, Kansas, and New York, explicitly excluded reimbursement for certain NIPTs, such as those that tested for microdeletions, and allowed reimbursement for other NIPTs only if the patient had one or more high-risk factors, such as being over the age of 35 or having an ultrasound result showing an increased risk of aneuploidy. Progenity submitted claims seeking reimbursement for tests provided to Medicaid beneficiaries in these states even though it was aware that the tests were not eligible for coverage.

g. As a result of fraudulently using CPT code 88721 and misrepresenting the type of test performed when submitting claims for payment to Medicaid and the VA for NIPTs, Progenity received payments for non-reimbursable tests, or received substantially higher payments than it was entitled to receive for the genetic testing services provided.

***Draw Fee Payments*:**

h. From January 2012 through March 2016, Progenity knowingly made “draw fee” payments to physicians or physicians’ offices for the collection of blood specimens for Progenity tests performed on Federal healthcare program beneficiaries. In total, Progenity paid over $1.7 million in draw fees during this period.

i. Progenity entered into agreements with physicians that specified the amount it would receive for each specimen collected for Progenity tests, and then paid the physician or physician’s office for those draws at the agreed-upon amount.

j. The draw fees paid by Progenity exceeded the fair market value of the services performed when collecting blood specimens. Progenity frequently paid physicians $20 or more for each blood draw. Progenity paid dozens of physicians and physician offices thousands of dollars in above fair market draw fee payments during the relevant time period.

***Meals and Happy Hours*:**

k. From 2012 through 2018, Progenity knowingly provided meals and happy hours to physicians who ordered Progenity tests for Federal healthcare program beneficiaries, as well to individuals who worked in physicians' offices. The value of these meals and happy hours exceeded Stark Law limits. In total, Progenity expended millions of dollars on food and drinks for physicians and their staff during this period.

l. Progenity's sales management directed sales representatives to make frequent contact with physicians' practices, and sales representatives were permitted to provide meals and happy hours in order to facilitate these contacts. Sales staff purchased food and drinks for physicians and their staff at gatherings that often involved little or no educational or informational content. These gatherings included happy hours at bars and other establishments.

m. During the vast majority of the relevant period, Progenity did not have effective systems in place to ensure that the company's expenses for meals and happy hours for physicians and their employees complied with the Stark Law and the AKS. For example, Progenity did not (i) reliably track the amount it spent on meals and happy hours for physicians or their staff; (ii) maintain accurate sign-in sheets reflecting attendance at Progenity-sponsored gatherings; (iii) keep records of materials or topics that were discussed during Progenity-sponsored gatherings; and (iv) implement and enforce limits on the total nonmonetary compensation that could be provided to physicians.

***Waiver of Patient Coinsurance and Deductible Payments*:**

n. From January 2012 through April 2018, Progenity knowingly routinely reduced or waived Federal healthcare program beneficiaries' coinsurance and deductible payments without making the required individualized determinations of financial need or reasonable collection efforts. Progenity offered to reduce or waive coinsurance and deductible payments as part of its sales efforts.

o. Some of the Progenity tests were costly and required significant patient payments. To market its costly tests, sales representatives informed physicians and their staff, as well as patients, that Progenity would waive coinsurance and deductibles, or limit the patient's payment to a certain maximum out-of-pocket amount regardless of the actual coinsurance or deductible amount. Progenity often referred to this practice as the "Peace of Mind" program. Progenity used the Peace of Mind program to induce physicians to prescribe, and patients to consent to, Progenity tests.

3. Progenity shall pay to the United States the sum of $19,449,316 plus applicable interest (the "Settlement Amount") to be paid in six installments according to the schedule set

forth below. Progenity shall make the below-referenced payments in accordance with instructions to be provided by the Financial Litigation Unit of the United States Attorney's Office for the Southern District of New York. Of the Settlement Amount, $9,724,658 plus applicable interest constitutes restitution to the United States. The sum of $9,664,998 plus applicable interest is being paid to resolve claims for the Miscoding Covered Conduct, and the sum of $9,784,318 plus applicable interest is being paid to resolve claims for the Kickback Covered Conduct. The Government will allocate each installment payment proportionally between the amount being paid to resolve claims for the Miscoding Covered Conduct and the amount being paid to resolve claims for the Kickback Covered Conduct.

a. Within fourteen (14) business days of the Effective Date (defined below in Paragraph 34), Progenity shall pay the United States the sum of $9,073,361.77.

b. On or before December 31, 2020, Progenity shall pay the United States the sum of $1,587,699.27, plus interest which shall be compounded annually at a rate of 1.25% accruing from the Effective Date.

c. On or before December 31, 2021, Progenity shall pay the United States the sum of $1,984,624.08, plus interest which shall be compounded annually at a rate of 1.25% accruing from the Effective Date.

d. On or before December 31, 2022, Progenity shall pay the United States the sum of $2,778,473.71, plus interest which shall be compounded annually at a rate of 1.25% accruing from the Effective Date.

e. On or before December 31, 2023, Progenity shall pay the United States the sum of $3,175,398.53, plus interest which shall be compounded annually at a rate of 1.25% accruing from the Effective Date.

f. On or before December 31, 2024, Progenity shall pay the United States the sum of $849,758.64, plus interest which shall be compounded annually at a rate of 1.25% accruing from the Effective Date.

4. In the event that, during any calendar year from 2020 through 2023, Progenity receives any civil settlements, damages awards, or tax refunds which exceed the aggregate value of $5,000,000 in a calendar year (referred to herein as a "Windfall Event"), Progenity shall pay to the United States 26% of the value of the Windfall Event. This payment shall be made within 15 days of the occurrence of the Windfall Event, and Progenity shall promptly notify the United States of the Windfall Event and its value prior to making the payment. Each payment made pursuant to this provision will proportionately reduce the amount due in the last remaining installment payment set forth in Paragraph 3 above. (For example, if Progenity were to receive $10,000,000 from a future Windfall Event that occurred in calendar year 2020, Progenity would be required to pay $2,600,000 to the United States within 15 days of the occurrence of the Windfall Event, and this payment would proportionately reduce future installment payments so that Progenity would no longer need to make the payment required in Paragraph 3(f) above, and the payment required in Paragraph 3(e) would be reduced to $1,425,157.17.) The aggregate amount of accelerated payments made pursuant to this Paragraph for the life of this Stipulation shall not exceed $4,200,000. This provision shall no longer be operative after the Settlement Amount due under Paragraph 3 has been fully paid ($19,449,316 plus applicable interest).

5. Harry G. Stylli, the Chief Executive Officer of Progenity, has executed a guaranty agreement with the United States personally guarantying up to $2,000,000 of the Settlement Amount owed to the United States by Progenity, a copy of which is attached hereto as Exhibit A.

6. Progenity shall execute and agree to the entry of a consent judgment in favor of the Government and against Progenity in the amount of $19,449,316, a copy of which is attached hereto as Exhibit B (the "Progenity Consent Judgment"). The Government may use the Progenity Consent Judgment to obtain a security interest in any asset or property of Progenity, but shall not engage in other collection activity with respect to the Progenity Consent Judgment so long as Progenity fully complies with the terms of this Stipulation. Should Progenity comply fully with the payment schedule set forth above as well as the other terms of this Stipulation, the Progenity Consent Judgment shall be deemed to be satisfied in full. Within thirty (30) calendar days after Progenity makes the final payment under the payment schedule, and upon Progenity's request, the Government shall file with the Clerk of the Court and deliver to Progenity a Full Satisfaction of Judgment. In the event that Progenity fully pays the Settlement Amount faster than as provided in the payment schedule set forth above, and fully complies with all other terms of the Stipulation, the Progenity Consent Judgment shall be deemed to be satisfied in full and, upon Progenity's request, the Government shall file with the Clerk of the Court and deliver to Progenity a Full Satisfaction of Judgment. Should Progenity fail to comply fully with the payment schedule set forth above or any other term of this Stipulation, Progenity shall be in default of this Stipulation, in which case the Government may take any of the actions set forth in Paragraph 16 below.

7. Progenity agrees to cooperate fully and truthfully with the United States' investigation of individuals and entities not released in this Stipulation. Upon reasonable notice, Progenity shall encourage, and agrees not to impair, the cooperation of Progenity's directors, officers, and employees, and shall use its best efforts to make available, and encourage, the cooperation of former directors, officers, and employees for interviews and testimony, consistent

with the rights and privileges of such individuals. Progenity further agrees to furnish to the United States, upon request, complete and unredacted copies of all non-privileged documents, reports, memoranda of interviews, and records in its possession, custody, or control concerning any investigation of the Miscoding Covered Conduct and Kickback Covered Conduct that it has undertaken, or that has been performed by another on its behalf.

8. Subject to the exceptions in Paragraphs 14 and 21 below (concerning excluded claims and bankruptcy proceedings), and conditioned upon Progenity's full compliance with the terms of this Stipulation, including full payment of the Settlement Amount to the United States pursuant to Paragraphs 3 and 4 above, the United States releases Progenity, including Progenity's subsidiaries and corporate predecessors, successors, and assigns, including Molecular Diagnostic Health Sciences, LLC, Progenity Holding Company, Inc., SPX3, Inc., Avero Laboratory Holdings LLC, Progenity UK Limited, and Progenity Pty Ltd, from any civil or administrative monetary claim that the United States has for the Miscoding Covered Conduct and the Kickback Covered Conduct under the FCA, the Civil Monetary Penalties Law, 42 U.S.C. § 1320a-7a, the Program Fraud Civil Remedies Act, 31 U.S.C. § 3801-3812, the civil monetary provisions of the Stark Law, 42 U.S.C. §§ 1395nn(g)(3) and (4), and the common law theories of fraud, payment by mistake, and unjust enrichment. For avoidance of doubt, this Stipulation does not release any current or former officer, director, employee, or agent of Progenity from liability of any kind.

9. In consideration of Progenity's obligations in this Settlement Stipulation and the Corporate Integrity Agreement ("CIA") entered into between OIG-HHS and Progenity, and conditioned upon Progenity's full payment of the Settlement Amount, and except as expressly reserved in this Paragraph and in Paragraph 14 (concerning excluded claims), the OIG-HHS

agrees to release and refrain from instituting, directing, or maintaining any administrative action seeking exclusion from Medicare, Medicaid, and other Federal healthcare programs (as defined in 42 U.S.C. § 1320a-7b(f)) against Progenity under 42 U.S.C. § 1320a-7a (Civil Monetary Penalties Law) or 42 U.S.C. § 1320a-7(b)(7) (permissive exclusion for fraud, kickbacks, and other prohibited activities) for the Miscoding Covered Conduct and the Kickback Covered Conduct. The OIG-HHS expressly reserves all rights to comply with any statutory obligations to exclude Progenity from Medicare, Medicaid, and other Federal healthcare programs under

42 U.S.C. § 1320a-7(a) (mandatory exclusion) based upon the Miscoding Covered Conduct and the Kickback Covered Conduct. Nothing in this Paragraph precludes the OIG-HHS from taking action against entities or persons, or for conduct and practices, for which claims have been reserved in Paragraph 14 below.

10. In consideration of the obligations of Progenity set forth in this Settlement Stipulation, and conditioned upon Progenity's full payment of the Settlement Amount, and except as expressly reserved in this Paragraph and in Paragraph 14 (concerning excluded claims), DHA agrees to release and refrain from instituting, directing, or maintaining any administrative action seeking exclusion from TRICARE against Progenity under 32 C.F.R. § 199.9 for the Kickback Covered Conduct. DHA expressly reserves authority to exclude Progenity from TRICARE under 32 C.F.R. §§ 199.9 (f)(1)(i)(A), (f)(1)(i)(B), and (f)(1)(iii) (mandatory exclusion), based upon the Kickback Covered Conduct. Nothing in this Paragraph precludes DHA or TRICARE from taking action against entities or persons, or for conduct and practices, for which claims have been reserved in Paragraph 14 below.

11. Progenity fully and finally releases the United States and its agencies, officers, employees, servants, and agents from any claims (including attorneys' fees, costs, and expenses

of every kind and however denominated) that Progenity has asserted, could have asserted, or may assert in the future against the United States and its agencies, officers, employees, servants, or agents related to the Miscoding Covered Conduct and Kickback Covered Conduct and the United States' investigation, prosecution and settlement thereof.

12. Conditioned on Progenity's timely payment of the full Settlement Amount pursuant to Paragraphs 3 and 4 above, the Relator, for herself and her heirs, successors, attorneys, agents, and assigns, releases Progenity, including its subsidiaries and corporate predecessors, successors and assigns, as well as all of their current and former officers, directors, employees, attorneys, and other agents, from any and all manner of claims, proceedings, liens, and causes of action of any kind or description that the Relator has against Progenity; provided, however, that nothing in this Stipulation shall preclude the Relator from seeking to recover her reasonable expenses and attorneys' fees and costs pursuant to 31 U.S.C. § 3730(d). Defendant's payment to the Relator for expenses, attorney's fees, and costs pursuant to 31 U.S.C. § 3730(d) shall be addressed by separate agreement.

13. In consideration of the execution of this Stipulation by the Relator and the Relator's release as set forth in Paragraph 12 above, Progenity, including Progenity's subsidiaries, predecessors, and corporate successors and assigns, as well as all of their current and former officers, directors, employees, attorneys, and other agents release the Relator and her successors, heirs, assigns, attorneys, and other agents, from any and all manner of claims, proceedings, liens, and causes of action of any kind or description that Progenity has against the Relator related to or arising from the Relator Complaint.

14. Notwithstanding the release given in Paragraph 8, or any other term of this Stipulation, the following claims of the Government are specifically reserved and are not released by this Stipulation:

a. any liability arising under Title 26, United States Code (Internal Revenue Code);

b. any criminal liability;

c. except as explicitly stated in this Stipulation, any administrative liability, including mandatory exclusion from Federal healthcare programs;

d. any liability to the United States (or its agencies) for any conduct other than the Miscoding Covered Conduct and the Kickback Covered Conduct;

e. any liability based upon obligations created by this Stipulation; and

f. any liability of individuals.

15. Progenity has provided the Progenity Financial Information to the United States, and the United States has relied on the accuracy and completeness of that information in reaching this Stipulation. Progenity warrants that the Progenity Financial Information is complete, truthful, and accurate. If the United States learns of any misrepresentation or inaccuracy in the Progenity Financial Information, or of assets in which Progenity had an interest at the time of this Stipulation that were not disclosed in the Progenity Financial Information, and if such nondisclosure or misrepresentation changes either the estimated net worth, annual net income, or assets set forth in the Progenity Financial Information by 5% or more, the United States may at its option: (i) rescind this Stipulation and reinstate the claims asserted against Progenity in the Government Complaint, or (ii) let the Stipulation stand and collect the full Settlement Amount plus one hundred percent (100%) of the value of the net worth, net income or

assets that were previously not disclosed. Progenity agrees not to contest any collection action undertaken by the United States pursuant to this provision, and immediately to pay the United States all reasonable costs incurred in such an action, including attorneys' fees and expenses.

16. Progenity shall be in default of this Stipulation if it fails to make the required payments set forth in Paragraphs 3 and 4 above on or before the due date for such payments, or if it fails to comply materially with any other term of this Stipulation ("Default"). The Government shall provide written notice to Progenity of any Default in the manner set forth in Paragraph 33 below. Progenity shall then have an opportunity to cure the Default within ten (10) calendar days from the date of delivery of the notice of Default. In the event that a Default is not fully cured within ten (10) calendar days of the delivery of the notice of Default ("Uncured Default"), interest shall accrue at the rate of 12% per annum compounded daily on the remaining unpaid principal balance of the settlement amount set forth in Paragraph 3 above, beginning ten (10) calendar days after mailing of the notice of Default. The United States may also, at its option, (a) rescind this Stipulation and reinstate the claims asserted against Progenity in the Government Complaint; (b) seek specific performance of this Stipulation; (c) offset the remaining unpaid balance of the Settlement Amount set forth in Paragraph 3 above from any amounts due and owing Progenity by any department, agency, or agent of the United States; or (d) exercise any other rights granted by law, or under the terms of this Stipulation, or recognizable at common law or in equity. Progenity shall not contest any offset imposed or any collection undertaken by the Government pursuant to this Paragraph, either administratively or in any Federal or State court. In addition, Progenity shall pay the Government all reasonable costs of collection and enforcement under this Paragraph, including attorneys' fees and expenses. In the event that the United States opts to rescind this Stipulation pursuant to this Paragraph, Progenity shall not

plead, argue, or otherwise raise any defenses under the theories of statute of limitations, laches, estoppel, or similar theories, to any civil or administrative claims that relate to the Miscoding Covered Conduct or Kickback Covered Conduct.

17. The Relator and her heirs, successors, attorneys, agents, and assigns shall not object to this Stipulation; the Relator agrees and confirms that the terms of this Stipulation are fair, adequate, and reasonable under all the circumstances, pursuant to 31 U.S.C. § 3730(c)(2)(B).

18. Progenity waives and shall not assert any defenses it may have to any criminal prosecution or administrative action relating to the Miscoding Covered Conduct or the Kickback Covered Conduct that may be based in whole or in part on a contention that, under the Double Jeopardy Clause in the Fifth Amendment of the Constitution, or under the Excessive Fines Clause in the Eighth Amendment of the Constitution, this Stipulation bars a remedy sought in such criminal prosecution or administrative action.

19. Progenity, having truthfully admitted to the conduct set forth in Paragraph 2 above (the "Admitted Conduct"), agrees that it shall not, through its attorneys, agents, officers, or employees, make any public statement, including but not limited to any statement in a press release, social media forum, or website, that contradicts or is inconsistent with the Admitted Conduct or suggests that the Admitted Conduct is not wrongful (a "Contradictory Statement"). Any Contradictory Statement by Progenity or its attorneys, agents, officers, or employees shall constitute a violation of this Stipulation, thereby authorizing the Government to pursue any of the remedies set forth in Paragraph 16 above, or seek other appropriate relief from the Court. Before pursuing any remedy, the Government shall notify Progenity that it has determined that Progenity has made a Contradictory Statement. Upon receiving such notice from the

Government, Progenity may cure the violation by repudiating the Contradictory Statement in a press release or other public statement within four business days. If Progenity learns of a potential Contradictory Statement by its attorneys, agents, officers, or employees, Progenity must notify the Government of the statement within 24 hours. The decision as to whether any statement constitutes a Contradictory Statement or will be imputed to Progenity for the purpose of this Stipulation, or whether Progenity adequately repudiated a Contradictory Statement to cure a violation of this Stipulation, shall be within the sole discretion of the Government. Consistent with this provision, Progenity may raise defenses and/or assert affirmative claims or defenses in any proceedings brought by private and/or public parties, so long as doing so would not contradict the Admitted Conduct.

20. Progenity represents and warrants that it has reviewed its financial situation, that it is currently not insolvent as such term is defined in 11 U.S.C. § 101(32), and that it reasonably believes it shall remain solvent following payment to the Government of the Settlement Amount referenced in Paragraph 3 above. Further, the Parties warrant that, in evaluating whether to execute this Stipulation, they (a) have intended that the mutual promises, covenants, and obligations set forth constitute a contemporaneous exchange for new value given to Progenity, within the meaning of 11 U.S.C. § 547(c)(1); and (b) have concluded that these mutual promises, covenants, and obligations do, in fact, constitute such a contemporaneous exchange. Further, the Parties warrant that the mutual promises, covenants, and obligations set forth herein are intended to and do, in fact, represent a reasonably equivalent exchange of value that is not intended to hinder, delay, or defraud any entity to which Progenity was or became indebted to on or after the date of this Stipulation, within the meaning of 11 U.S.C. § 548(a)(1).

21. If within 91 days of the Effective Date of this Stipulation or any payment made under this Stipulation, Progenity commences any case, action, or other proceeding under any law relating to bankruptcy, insolvency, reorganization, or relief of debtors, or a third party commences any case, action, or other proceeding under any law related to bankruptcy, insolvency, reorganization, or relief of debtors (a) seeking an order for relief of Progenity's debts, or seeking to adjudicate Progenity as bankrupt or insolvent; or (b) seeking appointment of a receiver, trustee, custodian, or other similar official for Progenity or for all or part of Progenity's assets, Progenity agrees as follows:

a. Progenity's obligations under this Stipulation may not be avoided pursuant to 11 U.S.C. § 547, and Progenity shall not argue or otherwise take the position in any such case, action, or proceeding that (i) Progenity's obligations under this Stipulation may be avoided under 11 U.S.C. § 547; (ii) Progenity is insolvent at the time this Stipulation was entered into; or (iii) the mutual promises, covenants, and obligations set forth in this Stipulation do not constitute a contemporaneous exchange for new value given to Progenity.

b. If any of Progenity's obligations under this Stipulation are avoided for any reason, including, but not limited to, through the exercise of a trustee's avoidance powers under the Bankruptcy Code, the Government, at its option, may rescind the release in this Stipulation and bring any civil and/or administrative claim, action, or proceeding against Progenity for the claims that would otherwise be covered by the release in Paragraph 8 above. Progenity agrees that (i) any such claim, action, or proceeding brought by the Government would not be subject to an "automatic stay" pursuant to

11 U.S.C. § 362(a) as a result of the case, action, or proceeding described in the first sentence of this Paragraph, and Progenity shall not argue or otherwise contend that the Government's claim, action, or proceeding is subject to an automatic stay; (ii) Progenity shall not plead, argue, or otherwise raise any defenses under the theories of statute of limitations, laches, estoppel, or similar theories, to any claim, action, or proceeding that is brought by the Government within 60 calendar days of written notification to Progenity that the release has been rescinded pursuant to this Paragraph, except to the extent such defenses were available on the date the Relator Complaint was filed; and (iii) the Government has an undisputed, noncontingent, and liquidated allowed claim against Progenity in the amount of the Settlement Amount set forth in Paragraph 3 above and the Government may pursue its claim in the case, action, or proceeding described in the first sentence of this Paragraph, as well as in any other case, action, or proceeding, and shall be allowed to offset the remaining unpaid balance of its claim from any amounts due and owing Progenity by any department, agency, or agent of the United States without seeking further authorization from any court under 11 U.S.C. § 362(a)(7).

c. Progenity acknowledges that the agreements in this Paragraph are provided in exchange for valuable consideration provided in this Stipulation.

22. Progenity agrees to the following:

a. Unallowable Costs Defined: All costs (as defined in the Federal Acquisition Regulation, 48 C.F.R. § 31.205-47; and in Titles XVIII and XIX of the Social

Security Act, 42 U.S.C. §§ 1395-1395kkk-1 and 1396-1396w-5; and the regulations and official program directives promulgated thereunder) incurred by or on behalf of Progenity, including Progenity's present or former officers, directors, employees, and agents in connection with:

(1) the matters covered by this Stipulation;

(2) the United States' audit(s) and civil investigation(s) of matters covered by this Stipulation;

(3) Progenity's investigation, defense, and corrective actions undertaken in response to the United States' audit(s) and civil investigation(s) in connection with matters covered by this Stipulation (including attorneys' fees);

(4) the negotiation and performance of this Stipulation;

(5) any payment Progenity makes to the United States pursuant to this Stipulation and any payment Progenity may make to the Relator, including expenses, costs, and attorneys' fees; and

(6) the negotiation of, and obligations undertaken pursuant to the CIA to:

(i) retain an independent review organization to perform annual reviews as described in the CIA; and (ii) prepare and submit reports to the OIG-HHS, are unallowable costs for government contracting purposes (hereinafter referred to as "Unallowable Costs").

b. Future Treatment of Unallowable Costs: Unallowable Costs shall be separately determined and accounted for by Progenity, and Progenity shall not

charge such Unallowable Costs directly or indirectly to any contracts with the United States.

c. Treatment of Unallowable Costs Previously Submitted for Payment: Within 90 days of the Effective Date of this Stipulation, Progenity shall identify and repay by adjustment to future claims for payment or otherwise any Unallowable Costs (as defined in this Paragraph) included in payments previously sought by Progenity from the United States. Progenity agrees that the United States, at a minimum, shall be entitled to recoup from Progenity any overpayment plus applicable interest and penalties as a result of the inclusion of such Unallowable Costs on previously-submitted requests for payment. Any payments due shall be paid to the United States pursuant to the direction of the Department of Justice and/or the affected agencies. The United States, including the Department of Justice and/or the affected agencies, reserves its right to audit, examine, or re-examine Progenity's books and records and to disagree with any calculation submitted by Progenity or any of Progenity's subsidiaries or affiliates regarding any Unallowable Costs included in payments previously sought by Progenity, or the effect of any such Unallowable Costs on the amounts of such payments.

d. Nothing in this Stipulation shall constitute a waiver of the rights of the United States to audit, examine, or re-examine Progenity's books and records to determine that no Unallowable Costs have been claimed in accordance with the provisions of this Paragraph.

23. This Stipulation is intended to be for the benefit of the Parties only. The Parties do not release any claims against any other person or entity except as otherwise provided herein.

24. Progenity agrees that it waives and shall not seek payment for any of the health care billings covered by this Stipulation from any healthcare beneficiaries or their parents, sponsors, legally responsible individuals, or third party payors based upon the claims defined as Miscoding Covered Conduct and Kickback Covered Conduct.

25. Each Party shall bear its own legal and other costs incurred in connection with this matter, including the preparation and performance of this Stipulation; provided, however, nothing in this Stipulation shall preclude the Relator from seeking to recover her expenses or attorneys' fees and costs from Progenity pursuant to 31 U.S.C. § 3730(d). Defendant's payment to the Relator for expenses, attorney's fees, and costs pursuant to 31 U.S.C. § 3730(d) shall be addressed by separate agreement.

26. Any failure by the Government to insist upon the full or material performance of any of the provisions of this Stipulation shall not be deemed a waiver of any of the provisions hereof, and the Government, notwithstanding that failure, shall have the right thereafter to insist upon the full or material performance of any and all of the provisions of this Stipulation.

27. This Stipulation is governed by the laws of the United States. The exclusive jurisdiction and venue for any dispute relating to this Stipulation is the United States District Court for the Southern District of New York. For purposes of construing this Stipulation, this Stipulation shall be deemed to have been drafted by all Parties to this Stipulation and shall not, therefore, be construed against any Party for that reason in any subsequent dispute.

28. This Stipulation constitutes the complete agreement between the Parties with respect to the subject matter hereof. This Stipulation may not be amended except by written consent of the Parties.

29. The undersigned counsel and other signatories represent and warrant that they are fully authorized to execute this Stipulation on behalf of the persons and the entities indicated below.

30. This Stipulation is binding on Progenity's successors, transferees, heirs, and assigns.

31. This Stipulation is binding on the Relator's successors, transferees, heirs, and assigns.

32. This Stipulation may be executed in counterparts, each of which constitutes an original and all of which constitute one and the same Stipulation. E-mails that attach signatures in PDF form or facsimiles of signatures shall constitute acceptable, binding signatures for purposes of this Stipulation.

33. Any notice pursuant to this Stipulation shall be in writing and shall, unless expressly provided otherwise herein, be delivered by hand, express courier, or e-mail transmission followed by postage-prepaid mail, and shall be addressed as follows:

TO THE UNITED STATES:
Jeffrey K. Powell, Esq.
Kirti Vaidya Reddy, Esq.
Assistant United States Attorneys
United States Attorney's Office
Southern District of New York
86 Chambers Street, Third Floor
New York, New York 10007

TO DEFENDANT PROGENITY, INC.:
M. Kendall Day, Esq.
Jonathan M. Phillips, Esq.
Gibson, Dunn & Crutcher LLP
1050 Connecticut Avenue, N.W.
Washington, D.C. 20036-5306

TO RELATOR:
Robert W. Sadowski, Esq.
800 Third Avenue, 28th Floor
New York, NY 10022

34. The effective date of this Stipulation is the date upon which the Stipulation is approved by the Court (the "Effective Date").

Agreed to by:

**THE UNITED STATES OF AMERICA**

Dated: July 21, 2020

AUDREY STRAUSS
Acting United States Attorney for the
Southern District of New York

By: /s/ Kirti Vaidya Reddy
Jeffrey K. Powell
Kirti Vaidya Reddy
Assistant United States Attorneys
86 Chambers Street, Third Floor
New York, New York 10007

Dated: July 20, 2020

Office of the Inspector General, the U.S.
Department of Health and Human Services

By: /s/ Lisa M. Re
Lisa M. Re
Assistant Inspector General
for Legal Affairs

**DEFENDANT**

Dated: July 21, 2020

DEFENDANT PROGENITY, INC.

By: /s/ Clarke Neumann
Clarke Neumann
General Counsel
GIBSON, DUNN & CRUTCHER LLP

By: /s/ M. Kendall Day
M. Kendall Day
Jonathan M. Phillips
1050 Connecticut Avenue, N.W.
Washington, D.C. 20036-5306

*Attorneys for Progenity, Inc.*

Dated: July 20, 2020

DEMETRIA KATSANOS

By: /s/ Demetria Katsanos
Demetria Katsanos

ROBERT W. SADOWSKI PLLC

By: /s/ Robert W. Sadowski
Robert W. Sadowski, Esq.
800 Third Avenue, 28th Floor
New York, NY 10022

*Attorney for Relator*

SO ORDERED:

/s/ Loretta A. Preska
HON. LORETTA A. PRESKA
UNITED STATES DISTRICT JUDGE

Dated: July 23, 2020
New York, New York

**EXHIBIT 10.27**

SETTLEMENT AGREEMENT

This Settlement Agreement ("Agreement") is entered into among the United States of America, acting through the United States Department of Justice and on behalf of the Defense Health Agency ("DHA"), acting on behalf of the TRICARE Program ("TRICARE"), and the Office of Personnel Management ("OPM"), which administers the Federal Employees Health Benefits Program ("FEHBP"), (collectively, "the United States"), and Progenity, Inc. ("Progenity") (hereafter collectively referred to as "the Parties"), through their authorized representatives.

RECITALS

A. At relevant times herein, Progenity was organized as a corporation under the laws of the State of Delaware, was a participating provider in federally-funded health care programs including TRICARE and FEHBP, and specialized in providing genetic testing laboratory services.

B. The United States contends that Progenity submitted or caused to be submitted claims for payment to TRICARE, 10 U.S.C. §§ 1071-1110b, and the FEHBP, 5 U.S.C. §§ 8901-8914.

C. The United States contends that it has certain civil claims against Progenity arising from the submission of claims for reimbursement to TRICARE and FEHBP for medical services, as follows:

1. Progenity specializes in providing cell-free DNA technology or non-invasive prenatal genetic testing ("NIPT") services to screen for chromosomal disorders including Down Syndrome.

2. Between April 1, 2013 and April 30, 2016, there existed an established Current Procedural Terminology ("CPT") code of 88271 for genetic testing procedures known as

“FISH” (fluorescence in situ hybridization) procedures. FISH procedures “map” the genetic material in a person’s cells while NIPT conducts testing on fragments of DNA in maternal plasma. During this time period, NIPT was not a covered service of TRICARE or FEHBP, as it was considered a laboratory-developed test and did not have FDA approval.

3. Until January 2, 2015, there was no CPT code specific to NIPT. On January 2, 2015, a new CPT code, 81420 (Genomic Sequencing Procedures and Other Molecular Multianalyte Assays) became active.

4. Between April 1, 2013 and April 30, 2016, Progenity knowingly submitted false claims for payment to TRICARE and FEHBP by using CPT code 88271 to obtain reimbursement for NIPTs. Progenity used CPT code 88271, a FISH code, despite knowing that its NIPTs are not FISH procedures. Progenity also misrepresented the number of units of service when it submitted claims under CPT code 88271 in order to receive a higher reimbursement rate.

5. Progenity continued to knowingly submit false claims to TRICARE and FEHBP using the 88271 code after the new CPT code 81420 became active in order to receive higher reimbursement amounts.

The conduct described above in Recital C is referred to below as the “Covered Conduct.”

D. This Settlement Agreement is neither an admission of liability by Progenity nor a concession by the United States that its claims are not well founded.

E. To avoid the delay, uncertainty, inconvenience, and expense of protracted litigation of the above claims, and in consideration of the mutual promises and obligations of this Settlement Agreement, the Parties agree and covenant as follows:

TERMS AND CONDITIONS

1. Progenity shall pay to the United States Sixteen Million, Four Hundred Thousand Dollars ($16,400,000), plus any interest in accordance with Paragraph 1.a. and 1.b. below and the Note referenced therein (the "Settlement Amount"), of which Nine Million, Nine Hundred Eighty-Seven Thousand, and Six Hundred and Ninety-Three Dollars ($9,987,693) constitutes restitution to the United States. Progenity will make a payment in the amount of Seven Million, Six Hundred and Sixty-Eight Thousand, One Hundred and Thirty-Five Dollars and Thirty Cents ($7,668,135.30) no later than ten days after the effective date of this agreement by electronic funds transfer pursuant to written instructions to be provided by the Office of the United States Attorney for the Southern District of California.

a. Over a period of 5 years, Progenity will pay the remaining Eight Million, Seven Hundred Thirty-One Thousand, Eight Hundred Sixty-Four Dollars and Seventy Cents ($8,731,864.70), plus interest at 1.25% per annum, pursuant to the promissory note (Note) in the form of Appendix A, that Progenity agrees to execute contemporaneously with this settlement agreement.

b. The Note shall be partially secured pursuant to the Guaranty Agreement, in the form of Appendix B, that Progenity agrees to cause to be issued contemporaneously with this Settlement Agreement. Progenity may, with the prior written approval of the United States, cause to be issued a substitute Guaranty Agreement of like terms and conditions. If the Guaranty Agreement expires before the entire outstanding balance due under the Note is paid, Progenity shall cause to be issued a substitute Guaranty Agreement of like terms and conditions.

c. Interest shall accrue on the unpaid settlement amount as indicated in the Note.

2. Subject to the exceptions in Paragraph 5 (concerning excluded claims) below, and conditioned upon Progenity's full payment of the Settlement Amount and subject to Paragraph 23, below (concerning bankruptcy proceedings commenced within 91 days of the Effective Date of this Agreement or any payment made under this Agreement), the United States releases Progenity from any civil or administrative monetary claim the United States has for the Covered Conduct under the False Claims Act, 31 U.S.C. §§ 3729-3733; the Civil Monetary Penalties Law, 42 U.S.C. § 1320a-7a; the Program Fraud Civil Remedies Act, 31 U.S.C. §§ 3801-3812; or the common law theories of payment by mistake, unjust enrichment, and fraud.

3. In consideration of the obligations of Progenity set forth in this Agreement, and conditioned upon Progenity's full payment of the Settlement Amount, and except as expressly reserved in this Paragraph and in Paragraph 5 (concerning excluded claims), DHA agrees to release and refrain from instituting, directing, or maintaining any administrative action seeking exclusion from TRICARE against Progenity under 32 C.F.R. § 199.9 for the Covered Conduct. DHA expressly reserves authority to exclude Progenity from TRICARE under 32 C.F.R. §§ 199.9 (f)(1)(i)(A), (f)(1)(i)(B), and (f)(1)(iii) (mandatory exclusion), based upon the Covered Conduct. Nothing in this Paragraph precludes DHA or TRICARE from taking action against entities or persons, or for conduct and practices, for which claims have been reserved in Paragraph 5, below.

4. In consideration of the obligations of Progenity in this Agreement, and conditioned upon Progenity's full payment of the Settlement Amount, OPM agrees to release and refrain from instituting, directing, or maintaining any administrative action seeking exclusion from FEHBP against Progenity under 5 U.S.C. § 8902a or 5 C.F.R. Part 890 Subpart J or Part 919 for the Covered Conduct, except as reserved in this Paragraph and in Paragraph 5 (concerning excluded claims), below, and except if excluded by the OIG-HHS pursuant to 42

U.S.C. § 1320a-7(a). OPM expressly reserves all rights to comply with any statutory obligation to debar Progenity from the FEHBP under 5 U.S.C. § 8902a(b) (mandatory exclusion) based upon the Covered Conduct. Nothing in this Paragraph precludes OPM from taking action against entities or persons, or for conduct and practices, for which claims have been reserved in Paragraph 5, below.

5. Notwithstanding the releases given in paragraph 2 of this Agreement, or any other term of this Agreement, the following claims of the United States are specifically reserved and are not released:

a. Any liability arising under Title 26, U.S. Code (Internal Revenue Code);

b. Any criminal liability;

c. Except as explicitly stated in this Agreement, any administrative liability, including mandatory or permissive exclusion from Federal health care programs;

d. Any liability to the United States (or its agencies) for any conduct other than the Covered Conduct;

e. Any liability based upon obligations created by this Agreement; and

f. Any liability of individuals.

6. Progenity has provided sworn financial disclosure statements (Financial Statements) to the United States and the United States has relied on the accuracy and completeness of those Financial Statements in reaching this Agreement. Progenity warrants that the Financial Statements are complete, truthful, and accurate. If the United States learns of asset(s) in which Progenity had an interest at the time of this Agreement that were not disclosed in the Financial Statements, or if the United States learns of any misrepresentation by Progenity on, or in connection with, the Financial Statements, and if such nondisclosure or

misrepresentation changes the estimated net worth set forth in the Financial Statements by 5% or more, the United States may at its option: (a) rescind this Agreement and file suit based on the Covered Conduct, or (b) let the Agreement stand and collect the full Settlement Amount plus one hundred percent (100%) of the value of the net worth of Progenity previously undisclosed. Progenity agrees not to contest any collection action undertaken by the United States pursuant to this provision, and immediately to pay the United States all reasonable costs incurred in such an action, including attorney's fees and expenses.

7. In the event that the United States, pursuant to Paragraph 6 (concerning disclosure of assets), above, opts to rescind this Agreement, Progenity agrees not to plead, argue, or otherwise raise any defenses under the theories of statute of limitations, laches, estoppel, or similar theories, to any civil or administrative claims that (a) are filed by the United States within 60 calendar days of written notification to Progenity that this Agreement has been rescinded, and (b) relate to the Covered Conduct, except to the extent these defenses were available on August 31, 2019.

8. Progenity waives and shall not assert any defenses Progenity may have to any criminal prosecution or administrative action relating to the Covered Conduct that may be based in whole or in part on a contention that, under the Double Jeopardy Clause in the Fifth Amendment of the Constitution, or under the Excessive Fines Clause in the Eighth Amendment of the Constitution, this Agreement bars a remedy sought in such criminal prosecution or administrative action.

9. Progenity fully and finally releases the United States, its agencies, officers, agents, employees, and servants, from any claims (including attorney's fees, costs, and expenses of every kind and however denominated) that Progenity has asserted, could have asserted, or may assert in the future against the United States, its agencies, officers, agents, employees, and

servants, related to the Covered Conduct and the United States' investigation and prosecution thereof.

10. The Settlement Amount shall not be decreased as a result of the denial of claims for payment now being withheld from payment by any TRICARE carrier or payer, or any FEHB carrier or payer related to the Covered Conduct; and Progenity agrees not to resubmit to any TRICARE carrier or payer or any FEHB carrier or payer any previously denied claims related to the Covered Conduct, agrees not to appeal any such denials of claims, and agrees to withdraw any such pending appeals.

11. Progenity agrees to the following:

a. Unallowable Costs Defined: All costs (as defined in the Federal Acquisition Regulation, 48 C.F.R. § 31.205-47; and in Titles XVIII and XIX of the Social Security Act, 42 U.S.C. §§ 1395-1395lll-1 and 1396-1396w-5; and the regulations and official program directives promulgated thereunder) incurred by or on behalf of Progenity, its present or former officers, directors, employees, shareholders, and agents in connection with:

(1) the matters covered by this Agreement and any Plea Agreement;

(2) the United States' audit(s) and civil and any criminal investigation(s) of the matters covered by this Agreement;

(3) Progenity's investigation, defense, and corrective actions undertaken in response to the United States' audit(s) and civil and any criminal investigation(s) in connection with the matters covered by this Agreement (including attorney's fees);

(4) the negotiation and performance of this Agreement and any Plea Agreement; and

(5) the payment Progenity makes to the United States pursuant to this Agreement and any payments that Progenity may make to Relator, including costs and attorneys' fees.

are unallowable costs for government contracting purposes and under TRICARE and FEHBP (hereinafter referred to as Unallowable Costs).

b. Future Treatment of Unallowable Costs: Unallowable Costs shall be separately determined and accounted for by Progenity, and Progenity shall not charge such Unallowable Costs directly or indirectly to any contracts with the United States or any State Medicaid program, or seek payment for such Unallowable Costs through any cost report, cost statement, information statement, or payment request submitted by Progenity or any of its subsidiaries or affiliates to TRICARE or FEHBP.

c. Treatment of Unallowable Costs Previously Submitted for Payment: Progenity further agrees that within 90 days of the Effective Date of this Agreement it shall identify to applicable TRICARE fiscal intermediaries, carriers, and/or contractors, and FEHBP fiscal agents, any Unallowable Costs (as defined in this Paragraph) included in payments previously sought from the United States, or any State Medicaid program, including, but not limited to, payments sought in any cost reports, cost statements, information reports, or payment requests already submitted by Progenity or any of its subsidiaries or affiliates, and shall request, and agree, that such cost reports, cost statements, information reports, or payment requests, even if already settled, be adjusted to account for the effect of the inclusion of the Unallowable Costs. Progenity agrees that the United States, at a minimum, shall be entitled to recoup from Progenity any overpayment plus applicable interest and penalties as a result of the inclusion of such Unallowable Costs on previously-submitted cost reports, information reports, cost statements, or requests for payment.

Any payments due after the adjustments have been made shall be paid to the United States pursuant to the direction of the Department of Justice and/or the affected agencies. The United States reserves its rights to disagree with any calculations submitted by Progenity or any of its subsidiaries or affiliates on the effect of inclusion of Unallowable Costs (as defined in this Paragraph) on Progenity or any of its subsidiaries or affiliates' cost reports, cost statements, or information reports.

d. Nothing in this Agreement shall constitute a waiver of the rights of the United States to audit, examine, or re-examine Progenity's books and records to determine that no Unallowable Costs have been claimed in accordance with the provisions of this Paragraph.

12. Progenity agrees to cooperate fully and truthfully with the United States' investigation of individuals and entities not released in this Agreement. Upon reasonable notice, Progenity shall encourage, and agrees not to impair, the cooperation of its directors, officers, and employees, and shall use its best efforts to make available, and encourage, the cooperation of former directors, officers, and employees for interviews and testimony, consistent with the rights and privileges of such individuals. Progenity further agrees to furnish to the United States, upon request, complete and unredacted copies of all non-privileged documents, reports, memoranda of interviews, and records in its possession, custody, or control concerning any investigation of the Covered Conduct that it has undertaken, or that has been performed by another on its behalf.

13. This Agreement is intended to be for the benefit of the Parties only. The Parties do not release any claims against any other person or entity, except to the extent provided for in Paragraph 14 (waiver for beneficiaries paragraph), below.

14. Progenity agrees that it waives and shall not seek payment for any of the health care billings covered by this Agreement from any health care beneficiaries or their parents,

sponsors, legally responsible individuals, or third party payors based upon the claims defined as Covered Conduct.

15. Progenity warrants that it has reviewed its financial situation and that it currently is solvent within the meaning of 11 U.S.C. §§ 547(b)(3) and 548(a)(1)(B)(ii)(I), and shall remain solvent following payment to the United States of the Settlement Amount. Further, the Parties warrant that, in evaluating whether to execute this Agreement, they (a) have intended that the mutual promises, covenants, and obligations set forth constitute a contemporaneous exchange for new value given to Progenity, within the meaning of 11 U.S.C. § 547(c)(1), and (b) conclude that these mutual promises, covenants, and obligations do, in fact, constitute such a contemporaneous exchange. Further, the Parties warrant that the mutual promises, covenants, and obligations set forth herein are intended to and do, in fact, represent a reasonably equivalent exchange of value that is not intended to hinder, delay, or defraud any entity to which Progenity was or became indebted to on or after the date of this transfer, within the meaning of 11 U.S.C. § 548(a)(1).

16. If within 91 days of the Effective Date of this Agreement or of any payment made under this Agreement, Progenity commences, or a third party commences, any case, proceeding, or other action under any law relating to bankruptcy, insolvency, reorganization, or relief of debtors (a) seeking to have any order for relief of Progenity's debts, or seeking to adjudicate Progenity as bankrupt or insolvent; or (b) seeking appointment of a receiver, trustee, custodian, or other similar official for Progenity or for all or any substantial part of Progenity's assets, Progenity agrees as follows:

a. Progenity's obligations under this Agreement may not be avoided pursuant to 11 U.S.C. § 547, and Progenity shall not argue or otherwise take the position in any such case, proceeding, or action that: (i) Progenity's obligations under this Agreement may be avoided under 11 U.S.C. § 547; (ii) Progenity was insolvent at the time this Agreement was

entered into, or became insolvent as a result of the payment made to the United States; or (iii) the mutual promises, covenants, and obligations set forth in this Agreement do not constitute a contemporaneous exchange for new value given to Progenity.

b. If Progenity's obligations under this Agreement are avoided for any reason, including, but not limited to, through the exercise of a trustee's avoidance powers under the Bankruptcy Code, the United States, at its sole option, may rescind the releases in this Agreement and bring any civil and/or administrative claim, action, or proceeding against Progenity for the claims that would otherwise be covered by the releases provided in Paragraph 2 above. Progenity agrees that (i) any such claims, actions, or proceedings brought by the United States are not subject to an "automatic stay" pursuant to 11 U.S.C. § 362(a) as a result of the action, case, or proceedings described in the first clause of this Paragraph, and Progenity shall not argue or otherwise contend that the United States' claims, actions, or proceedings are subject to an automatic stay; (ii) Progenity shall not plead, argue, or otherwise raise any defenses under the theories of statute of limitations, laches, estoppel, or similar theories, to any such civil or administrative claims, actions, or proceeding that are brought by the United States within 30 calendar days of written notification to Progenity that the releases have been rescinded pursuant to this Paragraph, except to the extent such defenses were available on August 31, 2019; and (iii) the United States has a valid claim against Progenity in the amount of $29,963,079, and the United States may pursue its claim in the case, action, or proceeding referenced in the first clause of this Paragraph, as well as in any other case, action, or proceeding.

c. Progenity acknowledges that its agreements in this Paragraph are provided in exchange for valuable consideration provided in this Agreement.

17. Each Party shall bear its own legal and other costs incurred in connection with this matter, including the preparation and performance of this Agreement.

18. Each party and signatory to this Agreement represents that it freely and voluntarily enters in to this Agreement without any degree of duress or compulsion.

19. This Agreement is governed by the laws of the United States. The exclusive jurisdiction and venue for any dispute relating to this Agreement is the United States District Court for the Southern District of California. For purposes of construing this Agreement, this Agreement shall be deemed to have been drafted by all Parties to this Agreement and shall not, therefore, be construed against any Party for that reason in any subsequent dispute.

20. This Agreement constitutes the complete agreement between the Parties. This Agreement may not be amended except by written consent of the Parties.

21. The undersigned counsel represent and warrant that they are fully authorized to execute this Agreement on behalf of the persons and entities indicated below.

22. This Agreement may be executed in counterparts, each of which constitutes an original and all of which constitute one and the same Agreement.

23. This Agreement is binding on Progenity's successors, transferees, heirs, and assigns.

24. All parties consent to the United States' disclosure of this Agreement, and information about this Agreement, to the public.

25. This Agreement is effective on the date of signature of the last signatory to the Agreement (Effective Date of this Agreement). Facsimiles and electronic transmissions of signatures shall constitute acceptable, binding signatures for purposes of this Agreement.

**THE UNITED STATES OF AMERICA**

DATED: July 21, 2020

BY: /s/ Paul Starita
Paul Starita
Assistant United States Attorney
United States Attorney's Office
for the Southern District of California

DATED: July 23, 2020

BY: /s/ Paul Nicholas Bley
For: Salvatore M. Maida
General Counsel
Defense Health Agency
United States Department of Defense

DATED: July 20, 2020

BY: /s/ Edward M. Deharde
Edward M. Deharde
Assistant Director of Federal Employee
Insurance Operations
Healthcare and Insurance
United States Office of Personnel Management

DATED: July 20, 2020

BY: /s/ Paul St. Hillaire
Paul St. Hillaire
Assistant Inspector General
for Legal & Legislative Affairs
Office of the Inspector General
United States Office of Personnel Management

**DEFENDANT**

DATED: July 21, 2020

BY: /s/ Clarke Neumann

Clarke Neumann, Esq.
Senior Vice President, General Counsel and Secretary
Progenity, Inc.
4330 La Jolla Village Drive Suite 200
San Diego, CA 92122

DATED: July 21, 2020

BY: /s/ M. Kendall Day

M. Kendall Day, Esq.
Jonathan Phillips, Esq.
Gibson, Dunn, & Crutcher
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5306
Attorneys for Progenity, Inc.

**EXHIBIT 10.28**

**Promissory Note**

1. For value received, and pursuant to a Settlement Agreement dated July 21, 2020 attached hereto (Settlement Agreement), Progenity, Inc., ("Progenity" or "Maker"), for itself and its successors and assigns, promises to pay to the United States of America ("Holder"), or its assignee, the full principal sum of $16,400,000.00, together with interest accruing at the rate of 1.25% per annum through year 5 ("Outstanding Balance") as set forth below.

Schedule of Payments (including interest)

| | Payment Number | Date Due | Payment | Principal | Interest (1.25%) | Balance |
|---|---|---|---|---|---|---|
| **Down Payment** | | 7/31/2020 | $ 7,668,135.30 | $ 7,668,135.30 | | $8,731,864.70 |
| | 1 | 12/31/2020 | $ 1,384,253.97 | $ 1,338,775.51 | $ 45,478.46 | $7,393,089.19 |
| | 2 | 12/31/2021 | $ 1,765,883.00 | $ 1,673,469.39 | $ 92,413.61 | $5,719,619.80 |
| | 3 | 12/31/2022 | $ 2,414,352.39 | $ 2,342,857.14 | $ 71,495.25 | $3,376,762.66 |
| | 4 | 12/31/2023 | $ 2,719,760.55 | $ 2,677,551.02 | $ 42,209.53 | $ 699,211.64 |
| | 5 | 12/31/2024 | $ 707,951.79 | $ 699,211.64 | $ 8,740.15 | $ 0.00 |
| **Total, All Years** | | | $16,660,337.00 | $16,400,000.00 | $260,337.00 | |

2. Payments will be made by wire transfer as indicated pursuant to written instructions provided by the United States Attorney's Office for the Southern District of California. If there is any change in the method or instructions of payment, the Holder shall inform the Maker at least 5 business days before payment is due.

3. This Note may be prepaid, in whole or in part, without penalty or premium. Partial payment does not alter the interest rate applicable each year as reflected in paragraph 1 of this Note.

4. Acceleration Windfall Clause: In the event that, during any calendar year from 2020 through 2023, Progenity receives any civil settlements, damages awards, or tax refunds which exceed the aggregate value of $5,000,000 in a calendar year (referred to herein as a "Windfall Event"), Progenity shall pay to the United States 22% of the value of the Windfall Event. This payment shall be made within 15 days of the occurrence of the Windfall Event, and Progenity shall promptly notify the United States of the Windfall Event and its value prior to making the payment. Each payment made pursuant to this provision will proportionately reduce the amount due in the last remaining installment payment set forth in Paragraph 1 above. (For example, if Progenity were to receive $10,000,000 from a future Windfall Event that occurred in calendar year 2020, Progenity would be required to pay $2,200,000 to the United States within 15 days of the occurrence of the Windfall Event, and this payment would proportionately reduce future installment payments so that Progenity would no longer need to make the payment required on 12/31/2024 in Paragraph 1 above, and the payment required on 12/31/2023 in Paragraph 1 above

would be reduced to $1,227,712.34 plus applicable interest.) The aggregate amount of accelerated payments made pursuant to this Paragraph for the life of Settlement Agreement shall not exceed $3,449,400. This provision shall no longer be operative after the Settlement Amount due under Paragraph 1 of the Terms and Conditions of the Settlement Agreement has been fully paid ($16,400,000 plus applicable interest).

5. Maker is in default of this Note on the date of occurrence of any of the following events ("Events of Default").

A. Maker's failure to pay any amount provided for in this Note within ten days of when such payment is due and payable; provided, however, that an Event of Default does not occur if because of events outside of Maker's control, the Holder does not receive the paid amount after transmission by Maker. Maker will make its best efforts to ensure Holder's receipt of the paid amount.

B. As provided in Paragraph 6 of the Terms and Conditions in the Settlement Agreement.

C. If prior to making the full payment of the amount due under this Note, any case, proceeding, or other action is instituted:

a. under any law relating to bankruptcy, insolvency, reorganization, or relief of debtors, seeking to have any order for relief of debtors, or seeking to adjudicate Maker as bankrupt or insolvent; or

b. seeking appointment of a receiver, trustee, custodian or other similar official for Progenity or for all or any substantial part of Maker's assets.

6. The Maker shall provide the United States written notice of an Event of Default falling under Paragraph 5.C within two (2) business days of such event by overnight mail, delivered to the Office of the United States Attorney for the Southern District of California (USAO), at 880 Front Street, Suite 6293, San Diego, CA 92101.

7. With regard to an Event of Default under Paragraph 5.A (failure to timely pay), the Government shall provide written notice to the Maker of any such Event of Default. The Maker shall then have an opportunity to cure the Event of Default within ten (10) calendar days from the date of delivery of the notice of Default. In the event that an Event of Default under Paragraph 5.A is not fully cured within ten (10) calendar days of the delivery of the notice of the Event of Default ("Uncured Event of Default"), interest shall accrue at the rate of 12 per cent per annum compounded daily on the remaining unpaid principal balance of the settlement amount set forth in Paragraph 1 above, beginning ten (10) calendar days after mailing of the notice of Default.

8. Upon the occurrence of an Event of Default under Paragraph 5.B and Paragraph 5.C, or in the event of an Uncured Event of Default under Paragraph 5.A and Paragraph 7, without further notice or presentment and demand by the United States:

A. The portion of the Outstanding Balance secured by this Note shall become immediately due and payable ("Default Amount"). Interest shall accrue on the default amount from the date of the Event of Default at 12 per cent per annum, compounded daily.

B. The United States may take any and all actions provided under law and equity, or provided by the Settlement Agreement, to collect the Outstanding Balance pursuant to this Note.

C. The United States retains any and all other rights and remedies it has or may have under law and equity, and may exercise those rights or remedies.

D. No failure or delay on the part of the United States to exercise any right or remedy shall operate as a waiver of the United States' rights. No partial or single exercise by the United States of any right or remedy shall operate as a waiver of the United States' rights.

E. Maker will pay the United States all reasonable costs of collection, including reasonable attorneys' fees and expenses.

9. Waiver by the Holder of any default by Maker, its successors, or assigns will not constitute a waiver of a subsequent default. Failure by the Holder to exercise any right, power, or privilege which it may have by reason of default will not preclude the exercise of such right, power, or privilege so long as such default remains uncured or if a subsequent default occurs.

10. This Note shall be governed and construed according to the laws of the United States of America.

11. Maker acknowledges that it is entering into this Note, freely, voluntarily and with no degree of compulsion whatsoever.

12. Any notice to the Maker pursuant to this Note shall be in writing and shall be delivered by hand, express courier, or e-mail transmission followed by postage-prepaid mail, and shall be addressed as follows:

M. Kendall Day, Esq.
Jonathan M. Phillips, Esq.
Gibson, Dunn & Crutcher LLP
1050 Connecticut Avenue, N.W.
Washington, D.C. 20036-5306

IN WITNESS THEREOF, Maker intending to be legally bound hereby and so bind its successors and assigns, has caused this Note to be executed by its proper corporate officer, duly attested this 21st day of July, 2020.

PROGENITY, INC.

by:

/s/ Clarke Neumann

Clarke Neumann
General Counsel, Progenity
July 21, 2020

**EXHIBIT 10.29**

**U.S. Department of Justice**

***ROBERT S. BREWER, JR.***
*United States Attorney*
*Southern District of California*

*VALERIE H. CHU*

*San Diego County Office*
*Federal Office Building*
*880 Front Street, Room 6293*
*San Diego, California 92101-8893*

*Imperial County Office*
*516 Industry Way*
*Suite C*
*Imperial County, California 92251-5782*

July 2, 2020

Via Electronic Mail

M. Kendall Day
Gibson, Dunn & Crutcher LLP
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5306
KDay@gibsondunn.com

Re: Progenity, Inc.

Dear Mr. Day:

On the understandings specified below, the Office of the United States Attorney for the Southern District of California ("this Office") will not criminally prosecute Progenity, Inc. for any crimes (except for criminal tax violations, as to which this Office cannot and does not make any agreement) related to the fraudulent billing of non-invasive-prenatal tests ("NIPT") using the incorrect Current Procedure Terminology ("CPT") Code 88271, further described in Appendix A to this letter, which is incorporated by reference herein.

The Office enters into this Non-Prosecution Agreement based on the individual facts and circumstances presented by this case and the Company. Among the facts considered were the following: (a) Progenity has engaged in extensive remediation, including terminating the employment of officers and employees responsible for the corrupt payments; enhancing its compliance program, including creating a Compliance Committee independent from the Board composed of senior personnel, instituting third-party review of Progenity's CPT code selection, and conducting regular audits of claims to government payors; (b) Progenity's cooperation with the Office in the ongoing investigation of the conduct of Progenity, and its offer to cooperate in any investigation of the conduct of Progenity's officers, directors, employees, agents, and consultants relating to the violations set forth in Appendix A; (c) the significant collateral consequences to health care beneficiaries and the public from further criminal prosecution of Progenity; and (d) Progenity's payment of civil monetary penalties as a result of the conduct described in Appendix A.

Progenity admits, accepts, and acknowledges that it is responsible under United States law for the acts of its officers, directors, employees, and agents as set forth in the Statement of Facts

attached hereto as Appendix A and incorporated by reference into this Agreement, and that the facts described in Appendix A are true and accurate. Progenity also admits, accepts, and acknowledges that the facts described in Attachment A implicate Title 18, United States Code, Section 1347. Progenity expressly agrees that it shall not, through present or future attorneys, officers, directors, employees, agents or any other person authorized to speak for Progenity, make any public statement, in litigation or otherwise, contradicting the acceptance of responsibility by the Progenity set forth above or the facts described in the Statement of Facts attached hereto as Appendix A. It is further understood that Progenity and the Office may disclose this Agreement to the public. Progenity agrees that if it issues a press release or holds any press conference in connection with this Agreement, the Progenity shall first consult the Office to determine (a) whether the text of the release or proposed statements at the press conference are true and accurate with respect to matters between the Office and the Progenity; and (b) whether the Office has any objection to the release.

This Agreement shall have a term of 12 months from the date this Agreement is executed by all parties ("Term"). For the Term of the Agreement, Progenity shall: (a) commit no crimes whatsoever; (b) truthfully and completely disclose relevant information with respect to the activities of Progenity, its officers and employees, and others concerning all matters, relating to the conduct described in Appendix A, about which this Office inquires of it, which information can be used for any purpose, except as otherwise limited in this Agreement; and (c) bring to this Office's attention all criminal conduct by, or criminal investigations of, Progenity or any of its employees that could bind Progenity and that comes to the attention of Progenity or its senior management, as well as any administrative proceeding or civil action brought by any governmental authority that alleges fraud by Progenity. The parties agree that, during the Term, the Office may unilaterally, upon notice to Progenity, extend the Term of the Agreement in 6-month increments, for a maximum total Term of 24 months (that is, two 6-month extensions).

Until the date upon which all investigations and prosecutions arising out of the conduct described in this Agreement are concluded, whether or not they are concluded within the Term specified in the preceding paragraph, Progenity shall: (a) cooperate fully with this Office, the Federal Bureau of Investigation, the Defense Criminal Investigative Service, and any other law enforcement agency designated by this Office, in connection with any investigation related to the matters described in Appendix A; (b) use its best efforts promptly to secure the attendance and truthful statements or testimony of any officer, agent or employee at any meeting or interview or before the grand jury or at any trial or other court proceeding as requested by this Office; and (c) provide this Office, upon request, all relevant information, documents, records, or other tangible evidence about which this Office or any designated law enforcement agency inquires. Cooperation pursuant to this Paragraph is subject to applicable law and regulations, and does not require the Company to waive any valid claims of attorney-client privilege or attorney work product doctrine.

As a further condition of this Agreement, Progenity agrees to pay restitution to TRICARE and the Federal Employee Health Care Employee Benefits Program ("FEHBP"). The amount of restitution to TRICARE and FEHBP that shall satisfy this Agreement shall be the amount set forth in the settlement agreement between Progenity and the Civil Division of this Office, that is, $7,955,437 as to TRICARE, and $2,032,256 as to FEHBP. The parties agree that Progenity's payment of that settlement amount shall be wholly credited against the restitution amount required

under this Agreement. The parties intend that result, and do not intend that this Agreement require additional monetary payment beyond the restitution to TRICARE and FEHBP strictly for the billing fraud via fraudulent misuse of CPT Code 88271 for NIPT.

In addition, during the term of the Agreement, should Progenity learn of credible evidence or allegations of a violation of U.S. federal law by Progenity, Progenity shall promptly report such evidence or allegations to the Office. No later than thirty (30) days after the expiration of the term of this Agreement, Progenity, by its Chief Executive Officer and its Chief Financial Officer, will certify to the Office that Progenity has met its disclosure obligations pursuant to this Agreement. Such certification will be deemed a material statement and representation by Progenity to the executive branch of the United States for purposes of 18 U.S.C. § 1001.

Progenity represents that it has implemented and will continue to implement a compliance and ethics program designed to prevent and detect violations of 18 USC § 1347, and 42 U.S.C. 1320a-7b(b), and other applicable fraud and kickback laws throughout its operations. In addition, Progenity agrees that it will report to the Office within 6 months after the Agreement is executed regarding its remediation and implementation of the compliance measures, and any potential breach of this Agreement.

If, during the Term of this Agreement, Progenity (a) commits any felony under U.S. federal law; (b) provides in connection with this Agreement deliberately false, incomplete, or misleading information; (c) fails to cooperate as set forth in this Agreement; (d) fails to implement a compliance program; or (e) otherwise fails specifically to perform or to fulfill completely each of Progenity's obligations under the Agreement, regardless of whether the Office becomes aware of such a breach after the Term of the Agreement is complete, Progenity shall thereafter be subject to prosecution for any federal criminal violation of which the Office has knowledge, including, but not limited to, the conduct described in Appendix A, which may be pursued by the Office in the U.S. District Court for the Southern District of California or any other appropriate venue. Determination of whether Progenity has breached the Agreement and whether to pursue prosecution of Progenity shall be in the Office's sole discretion. Any such prosecution may be premised on information provided by Progenity. Any such prosecution relating to the conduct described in Appendix A or relating to conduct known to the Office prior to the date on which this Agreement was signed that is not time-barred by the applicable statute of limitations on the date of the signing of this Agreement may be commenced against Progenity, notwithstanding the expiration of the statute of limitations, between the signing of this Agreement and the expiration of the Term plus one year. Thus, by signing this Agreement, Progenity agrees that the statute of limitations with respect to any such prosecution that is not time-barred on the date of the signing of this Agreement shall be tolled for the term plus one year. In addition, the Company agrees that the statute of limitations as to any violation of federal law that occurs during the Term will be tolled from the date upon which the violation occurs until the date upon which the Office is made aware of the violation.

In the event the Office determines that Progenity has breached this Agreement, the Office agrees to provide Progenity with written notice of such breach prior to instituting any prosecution resulting from such breach. Within thirty (30) days of receipt of such notice, Progenity shall have the opportunity to respond to the Office in writing to explain the nature and circumstances of such

breach, as well as the actions Progenity has taken to address and remediate the situation, which explanation the Office shall consider in determining whether to pursue criminal prosecution of Progenity.

In the event that the Office determines that the Company has breached this Agreement: (a) all statements made by or on behalf of Progenity to the Office, including Appendix A, and any testimony given by the Company before a court, or any tribunal, or at any legislative hearings, whether prior or subsequent to this Agreement, and any leads derived from such statements or testimony, shall be admissible in evidence in any and all criminal proceedings brought by the Office against Progenity; (b) the Company shall not assert any claim under the United States Constitution, Rule 11(f) of the Federal Rules of Criminal Procedure, Rule 410 of the Federal Rules of Evidence, or any other federal rule that any such statements or testimony made by or on behalf of Progenity prior or subsequent to this Agreement, or any leads derived therefrom, should be suppressed or are otherwise inadmissible; and (c) Progenity agrees that the intended loss amount for sentencing purposes shall be determined pursuant to the November 2019 Sentencing Guidelines Manual ("Guidelines" or "USSG"), Section 2B1.1, and that amount of the intended loss enhancement shall be the amount set forth in the settlement agreement between Progenity and the Civil Division of the Office. Parties further agree that the culpability score shall be 2 (starting from 3 for involvement in criminal activity by high-level personnel, USSG § 8C2.5(b), and subtracting 1 for acceptance of responsibility, USSG § 8C2.5(g)). The decision whether conduct or statements of any current director, officer or employee, or any person acting on behalf of, or at the direction of, Progenity, will be imputed to Progenity for the purpose of determining whether Progenity has violated any provision of this Agreement shall be in the sole discretion of the Office.

Except as may otherwise be agreed by the parties in connection with a particular transaction, Progenity agrees that in the event that, during the Term of the Agreement, it undertakes any change in corporate form, including if it sells, merges, or transfers a substantial portion of its business operations as they exist as of the date of this Agreement, whether such sale is structured as a sale, asset sale, merger, transfer, or other change in corporate form, it shall include in any contract for sale, merger, transfer, or other change in corporate form a provision binding the purchaser, or any successor in interest thereto, to the obligations described in this Agreement. Progenity shall obtain approval from the Office at least thirty (30) days prior to undertaking any such sale, merger, transfer, or other change in corporate form, including dissolution, in order to give the Office an opportunity to determine if such change in corporate form would impact the terms or obligations of the Agreement.

This Agreement is binding on Progenity and the Office but specifically does not bind any other federal agencies, or any state, local or foreign law enforcement or regulatory agencies, or any other authorities, although the Office will bring the cooperation of Progenity and its compliance with its other obligations under this Agreement to the attention of such agencies and authorities if requested to do so by Progenity.

This Agreement sets forth all the terms of the agreement between the Company and the Office. No amendments, modifications or additions to this Agreement shall be valid unless they are in writing and signed by the Office, the attorneys for Progenity, and a duly authorized representative of Progenity.

Sincerely,

ROBERT S. BREWER, JR.
United States Attorney
Southern District of California

Date: July 2, 2020

BY: /s/ Valerie H. Chu
VALERIE H. CHU
Assistant United States Attorney

AGREED AND CONSENTED TO:

PROGENITY, INC.

Date: July 21, 2020

BY: /s/ Clarke Neumann
CLARKE NEUMANN
General Counsel
PROGENITY, INC.

Date: July 21, 2020

BY: /s/ M. Kendall Day
M. KENDALL DAY
Gibson, Dunn, & Crutcher, LLP

**APPENDIX A**
**STATEMENT OF FACTS**

The following Statement of Facts is incorporated by reference as part of the Non-Prosecution Agreement (the "Agreement"), dated July 2, 2020, between the United States Attorney's Office for the Southern District of California (the "Office") and Progenity, Inc. ("Progenity"). Progenity admits, accepts, and acknowledges, and Progenity and the Office stipulate, that the following information is true and accurate, and that Progenity is responsible for the acts set forth below.

1. At all times relevant to this Agreement, Progenity (formerly known as Ascendant MDx, Inc., with a name change on July 25, 2013 and amended certificate of incorporation filed August 21, 2013) operated a clinical laboratory. Progenity was headquartered first in Carlsbad, California and then in San Diego, California.

2. Progenity offered, among other genetic testing services, certain cell-free DNA sequencing-based noninvasive prenatal tests ("NIPT") for pregnant women. These NIPT tests provided methods of determining the risk that a fetus would be born with certain genetic disorders or abnormalities, through analysis of fetal DNA present in the woman's blood.

3. TRICARE is a health care program of the United States Department of Defense Military Health System. On March 6, 2013, Progenity (then under the name Ascendant MDx) ("Provider"), executed a Provider Services Agreement ("Services Agreement") with Humana Military Healthcare Services ("HMHS"), the support contractor for TRICARE Management Agency ("TMA"), with an effective date of April 1, 2013, permitting Provider to become a TRICARE program participating provider authorized to provide services to TRICARE beneficiaries. The Services Agreement states, in part, that the Provider:

a. Agrees to provide health care services for beneficiaries in accordance with the TRICARE program regulations, polices, and procedures;

b. Agrees to abide by all quality assurance, utilization management, grievance, appeals, rules, regulations and other policies and procedures including claims submission policies and TRICARE program payment methodologies applicable to the TRICARE program;

c. Understands that no payment may be made to Provider for services rendered to beneficiaries which are, in the opinion of HMHS or TMA, not medically necessary, or not otherwise a covered benefit under the TRICARE program;

d. Shall use the most current and applicable billing codes on all forms submitted with respect to its claims for payment for services provided to beneficiaries;

e. Will abide by all TRICARE program and HMHS rules and guidelines for coding that are applicable (including inclusive procedure codes) to the services provided hereunder; and

f. Agrees to be bound by and comply with the provisions of all applicable state and federal laws and regulations.

4. The Federal Health Care Employee Benefits Program ("FEHBP") was established by the Federal Employees Health Benefits Act (the ACT), enacted on September 28, 1959. The FEHBP was created to provide health insurance benefits for Federal employees, annuitants, and dependents. The provisions of the Act are implemented by the Office of Personnel Management through regulations, which are codified in Title 5, Chapter 1, Part 890 of the Code of Federal

Regulations. Health insurance coverage is made available through contracts with various health insurance carriers.

5. Progenity submitted reimbursement claims for NIPT genetic testing services to TRICARE and the FEHBP. The reimbursement claims for these testing services identified them with a Current Procedural Terminology ("CPT") code. CPT codes are part of a numerical coding system that describes defined health care procedures. CPT codes are used, *inter alia*, in billing for health care services. The CPT code used on a reimbursement claim can affect the reimbursement rate for the service, as procedures, and their corresponding codes, are reimbursed at rates that are assigned to them.

6. CPT code 88271 covers a range of fluorescence in situ hybridization ("FISH") procedures. Cell-free DNA sequencing-based NIPT is not a FISH procedure.

7. Until January 2, 2015, there was no CPT code specific to NIPT. Prior to January 2, 2015, at various times, Progenity submitted NIPT claims to TRICARE and the FEHBP using the 88271 code.

8. On January 2, 2015, a new CPT code, 81420 (Genomic Sequencing Procedures and Other Molecular Multianalyte Assays) became active. Upon its implementation, 81420 became the correct code that Progenity should have used to bill for its basic and enhanced NIPT products. However, Progenity did not completely switch to the 81420 code when it billed TRICARE and the FEHBP for NIPT, and instead continued to bill for NIPT using the 88271 code, which represented to TRICARE and the FEHBP that the test being billed was a "FISH" procedure. Progenity knew that 88271 represented FISH procedures, and therefore was not the appropriate CPT code for NIPT, starting no later than January 2, 2015, and nevertheless Progenity knowingly and willfully

continued using the incorrect 88271 CPT code to bill TRICARE and the FEHBP, at least in part, because of its reimbursement potential.

9. TRICARE and the FEHPB reimbursed some of Progenity's claims for NIPT using CPT code 88271, with dates of service after January 2, 2015.

10. As a result of the facts and practices described above, Progenity knowingly and willfully made false and misleading claims to TRICARE and the FEHBP using 88271 to misrepresent NIPT from January 2, 2015 through submission of a claim with a date of service in approximately March 2016, in order to obtain reimbursement from TRICARE and the FEHBP.

# CORPORATE INTEGRITY AGREEMENT
# BETWEEN THE
# OFFICE OF INSPECTOR GENERAL
# OF THE
# DEPARTMENT OF HEALTH AND HUMAN SERVICES
# AND
# PROGENITY, INC.

## I. PREAMBLE

Progenity, Inc. (Progenity) hereby enters into this Corporate Integrity Agreement (CIA) with the Office of Inspector General (OIG) of the United States Department of Health and Human Services (HHS) to promote compliance with the statutes, regulations, and written directives of Medicare, Medicaid, and all other Federal health care programs (as defined in 42 U.S.C. § 1320a-7b(f)) (Federal health care program requirements). Contemporaneously with this CIA, Progenity is entering into a Settlement Agreement with the United States.

Prior to the Effective Date of this CIA, Progenity voluntarily established a Compliance Program which includes, among other things, a Chief Compliance Officer (CCO) and Compliance Committee, internal monitoring by the CCO and Compliance Committee, compliance updates provided to the Board of Directors, regular compliance training and education for employees, written compliance policies and procedures, and a disclosure program. Progenity shall continue these and other aspects of its Compliance Program throughout the term of this CIA and shall do so in accordance with the terms set forth below.

## II. TERM AND SCOPE OF THE CIA

A. The period of the compliance obligations assumed by Progenity under this CIA shall be five years from the effective date of this CIA. The "Effective Date" shall be the date on which the final signatory of this CIA executes this CIA. Each one-year period, beginning with the one-year period following the Effective Date, shall be referred to as a "Reporting Period."

B. Sections VII, X, and XI shall expire no later than 120 days after OIG's receipt of: (1) Progenity's final annual report; or (2) any additional materials submitted by Progenity pursuant to OIG's request, whichever is later.

C. The scope of this CIA shall be governed by the following definitions:

1. "Arrangements" shall mean:

   a. every arrangement or transaction that involves, directly or indirectly, the offer, payment, solicitation, or receipt of anything of value; and is between Progenity and any actual or potential source of health care business or referrals to Progenity or any actual or potential recipient of health care business or referrals from Progenity; or

   b. every financial relationship (as defined in 42 C.F.R. § 411.354(a)) that is between Progenity and a physician (or a physician's immediate family member (as defined at 42 C.F.R. § 411.351)) who makes a referral (as defined at 42 U.S.C. § 1395nn(h)(5)) to Progenity for designated health services (as defined at 42 U.S.C. § 1395nn(h)(6)).

2. The term "source of health care business or referrals" shall mean any individual or entity that refers, recommends, arranges for, orders, leases, or purchases any good, facility, item, or service for which payment may be made in whole or in part by a Federal health care program.

3. The term "recipient of health care business or referrals" shall mean any individual or entity (1) to whom Progenity refers an individual for the furnishing or arranging for the furnishing of any item or service, or (2) from whom Progenity purchases, leases or orders or arranges for or recommends the purchasing, leasing, or ordering of any good, facility, item, or service for which payment may be made in whole or in part by a Federal health care program.

4. "Focus Arrangements" means every Arrangement that:

a. is between Progenity and any actual source or recipient of health care business or referrals and involves, directly or indirectly, the offer, payment, or provision of anything of value; or

b. is between Progenity and any physician (or a physician's immediate family member (as defined at 42 C.F.R. § 411.351)) who makes a referral (as defined at 42 U.S.C. § 1395nn(h)(5)) to Progenity for designated health services (as defined at 42 U.S.C. §1395nn(h)(6)).

Notwithstanding the foregoing provisions of Section II.C.4, any Arrangement that satisfies the requirements of 42 C.F.R. § 411.356 (ownership or investment interests), 42 C.F.R. § 411.357(g) (remuneration unrelated to the provision of designated health services); 42 C.F.R. § 411.357(i) (payments by a physician for items and services); 42 C.F.R. § 411.357(k) (non-monetary compensation); 42 C.F.R. § 411.357(m) (medical staff incidental benefits), 42 C.F.R. § 411.357(o) (compliance training), 42 C.F.R. § 411.357(q) (referral services), 42 C.F.R. § 411.357(s) (professional courtesy), or 42 C.F.R. § 357(u) (community-wide health information systems), shall not be considered a Focus Arrangement for purposes of this CIA, provided that Progenity maintains sufficient documentation to demonstrate compliance with the applicable exceptions to 42 U.S.C. § 1395nn (Stark Law). Such documentation shall be made available to OIG upon request.

5. "Covered Persons" includes:

a. all owners who are natural persons (other than shareholders who: (1) have an ownership interest of less than 5% and (2) acquired the ownership interest through public trading), officers, directors, and employees of Progenity; and

b. all contractors, subcontractors, agents, and other persons who furnish patient care items or services or who perform billing or coding functions on behalf of Progenity excluding vendors whose sole connection with Progenity is selling or otherwise providing medical supplies or equipment to Progenity.

Notwithstanding the above, this term presumptively does not include part-time or per diem employees, contractors, subcontractors, agents, and other persons who are not reasonably expected to work more than 160 hours per year, except that any such natural persons in such categories shall become "Covered Persons" at the point when they work more than 160 hours during a Reporting Period.

6. "Arrangements Covered Persons" includes each Covered Person who is involved with the development, approval, management, or review of Progenity's Arrangements.

## III. CORPORATE INTEGRITY OBLIGATIONS

Progenity shall establish and maintain a Compliance Program that includes the following elements:

A. Compliance Officer and Committee, Board of Directors, and Management Compliance Obligations

1. *Compliance Officer*. Within 90 days after the Effective Date, Progenity shall appoint a Compliance Officer and shall maintain a Compliance Officer for the term of the CIA. The Compliance Officer shall be an employee and a member of senior management of Progenity, shall report directly to the Chief Executive Officer or the President of Progenity, and shall not be, or be subordinate to, the General Counsel or Chief Financial Officer or have any responsibilities that involve acting in any capacity as legal counsel or supervising legal counsel functions for Progenity. The Compliance Officer shall be responsible for, without limitation:

a. developing and implementing policies, procedures, and practices designed to ensure compliance with the requirements set forth in this CIA and with Federal health care program requirements;

b. making periodic (at least quarterly) reports regarding compliance matters in person to the Board of Directors of Progenity (Board) and shall be authorized to report on such matters to the Board at any time. Written documentation of

the Compliance Officer's reports to the Board shall be made available to OIG upon request; and

c. monitoring the day-to-day compliance activities engaged in by Progenity as well as any reporting obligations created under this CIA.

Any noncompliance job responsibilities of the Compliance Officer shall be limited and must not interfere with the Compliance Officer's ability to perform the duties outlined in this CIA.

Progenity shall report to OIG, in writing, any changes in the identity of the Compliance Officer, or any actions or changes that would affect the Compliance Officer's ability to perform the duties necessary to meet the obligations in this CIA, within five business days after such a change.

2. *Compliance Committee*. Within 90 days after the Effective Date, Progenity shall appoint a Compliance Committee. The Compliance Committee shall, at a minimum, include the Compliance Officer and other members of senior management necessary to meet the requirements of this CIA (e.g., senior executives of relevant departments, such as billing, clinical, human resources, audit, and operations). The Compliance Officer shall chair the Compliance Committee and the Compliance Committee shall support the Compliance Officer in fulfilling his/her responsibilities (e.g., shall assist in the analysis of Progenity's risk areas and shall oversee monitoring of internal and external audits and investigations). The Compliance Committee shall meet at least quarterly. The minutes of the Compliance Committee meetings shall be made available to OIG upon request.

Progenity shall report to OIG, in writing, any changes in the composition of the Compliance Committee, or any actions or changes that would affect the Compliance Committee's ability to perform the duties necessary to meet the obligations in this CIA, within 15 business days after such a change.

3. *Board Compliance Obligations.* The Board of Progenity shall be responsible for the review and oversight of matters related to compliance with Federal health care program requirements and the obligations of this CIA. The Board must include independent (i.e., non-employee and non-executive) members.

The Board shall, at a minimum, be responsible for the following:

a. meeting at least quarterly to review and oversee Progenity's compliance program, including but not limited to the performance of the Compliance Officer and Compliance Committee;

b. submitting to the OIG a description of the documents and other materials it reviewed, as well as any additional steps taken, such as the engagement of an independent advisor or other third party resources, in its oversight of the compliance program and in support of making the resolution below during each Reporting Period; and

c. for each Reporting Period of the CIA, adopting a resolution, signed by each member of the Board summarizing its review and oversight of Progenity's compliance with Federal health care program requirements and the obligations of this CIA.

At minimum, the resolution shall include the following language:

> "The Board has made a reasonable inquiry into the operations of Progenity's Compliance Program including the performance of the Compliance Officer and the Compliance Committee. Based on its inquiry and review, the Board has concluded that, to the best of its knowledge, Progenity has implemented an effective Compliance Program to meet Federal health care program requirements and the obligations of the CIA."

If the Board is unable to provide such a conclusion in the resolution, the Board shall include in the resolution a written explanation of the reasons why it is unable to provide the conclusion and the steps it is taking to implement an effective Compliance Program at Progenity.

Progenity shall report to OIG, in writing, any changes in the composition of the Board, or any actions or changes that would affect the Board's ability to perform the

duties necessary to meet the obligations in this CIA, within 15 business days after such a change.

4. *Management Certifications.* In addition to the responsibilities set forth in this CIA for all Covered Persons, certain Progenity employees (Certifying Employees) are specifically expected to monitor and oversee activities within their areas of authority and shall annually certify that the applicable Progenity department is in compliance with applicable Federal health care program requirements and with the obligations of this CIA. These Certifying Employees shall include, at a minimum, the following: Chief Executive Officer; Chief Financial Officer; Chief Operating Officer; Chief Commercial Officer; Chief Scientific Officer; Chief Medical Officer; and Chief Information Officer. For each Reporting Period, each Certifying Employee shall sign a certification that states:

> "I have been trained on and understand the compliance requirements and responsibilities as they relate to [insert name of department], an area under my supervision. My job responsibilities include ensuring compliance with regard to the [insert name of department] with all applicable Federal health care program requirements, obligations of the Corporate Integrity Agreement, and Progenity policies, and I have taken steps to promote such compliance. To the best of my knowledge, the [insert name of department] of Progenity is in compliance with all applicable Federal health care program requirements and the obligations of the Corporate Integrity Agreement. I understand that this certification is being provided to and relied upon by the United States."

If any Certifying Employee is unable to provide such a certification, the Certifying Employee shall provide a written explanation of the reasons why he or she is unable to provide the certification outlined above.

Within 90 days after the Effective Date, Progenity shall develop and implement a written process for Certifying Employees to follow for the purpose of completing the certification required by this section (e.g., reports that must be reviewed, assessments that must be completed, sub-certifications that must be obtained, etc. prior to the Certifying Employee making the required certification).

B. Written Standards

Within 90 days after the Effective Date, Progenity shall develop and implement written policies and procedures regarding the operation of its compliance program, including the compliance program requirements outlined in this CIA and Progenity's compliance with Federal health care program requirements (Policies and Procedures). The Policies and Procedures also shall address:

a. 42 U.S.C. § 1320a-7b(b) (Anti-Kickback Statute) and the Stark Law, and the regulations and other guidance documents related to these statutes, and business or financial arrangements or contracts that generate unlawful Federal health care program business in violation of the Anti-Kickback Statute or the Stark Law; and

b. the requirements set forth in Section III.D (Compliance with the Anti-Kickback Statute and Stark Law).

The Policies and Procedures shall be made available to all Covered Persons. Throughout the term of this CIA, Progenity shall enforce its Policies and Procedures and shall make compliance with its Policies and Procedures an element of evaluating the performance of all employees.

At least annually (and more frequently, if appropriate), Progenity shall assess and update, as necessary, the Policies and Procedures. Any revised or new Policies and Procedures shall be made available to all Covered Persons.

All Policies and Procedures shall be made available to OIG upon request.

C. Training and Education

1. *Covered Persons Training.* Within 90 days after the Effective Date, Progenity shall develop a written plan (Training Plan) that outlines the steps Progenity will take to ensure that all Covered Persons receive at least annual training regarding Progenity's CIA requirements and Compliance Program and the applicable Federal health care program requirements, including the requirements of the Anti-Kickback Statute and the Stark Law; and that all Arrangements Covered Persons receive at least annual training

regarding: (i) Arrangements that potentially implicate the Anti-Kickback Statute or the Stark Law, as well as the regulations and other guidance documents related to these statutes; (ii) Progenity's policies, procedures, and other requirements relating to Arrangements and Focus Arrangements, including but not limited to the Focus Arrangements Tracking System, the internal review and approval process, and the tracking of remuneration to and from sources of health care business or referrals required by Section III.D of the CIA; (iii) the personal obligation of each individual involved in the development, approval, management, or review of Progenity's Arrangements to know the applicable legal requirements and the Progenity's policies and procedures; (iv) the legal sanctions under the Anti-Kickback Statute and the Stark Law; and (v) examples of violations of the Anti-Kickback Statute and the Stark Law.

The Training Plan shall include information regarding the following: training topics, identification of Covered Persons and Arrangements Covered Persons required to attend each training session, length of the training sessions(s), schedule for training, and format of the training. Progenity shall furnish training to its Covered Persons and Arrangements Covered Persons pursuant to the Training Plan during each Reporting Period.

2. *Board Training*. In addition to the training described in Section III.C.1, within 90 days after the Effective Date, each member of the Board shall receive training regarding the corporate governance responsibilities of board members, and the responsibilities of board members with respect to review and oversight of the Compliance Program. Specifically, the training shall address the unique responsibilities of health care Board members, including the risks, oversight areas, and strategic approaches to conducting oversight of a health care entity. This training may be conducted by an outside compliance expert hired by the Board and should include a discussion of the OIG's guidance on Board member responsibilities.

New members of the Board shall receive the Board training described above within 30 days after becoming a member or within 90 days after the Effective Date, whichever is later.

3. *Training Records.* Progenity shall make available to OIG, upon request, training materials and records verifying the training described in Sections III.C.1 and IIIC.2 has been provided as required.

D. Compliance with the Anti-Kickback Statute and Stark Law

1. *Focus Arrangements Procedures*. Within 90 days after the Effective Date, Progenity shall create procedures reasonably designed to ensure that each existing and new or renewed Focus Arrangement does not violate the Anti-Kickback Statute and/or the Stark Law or the regulations and guidance related to these statutes (Focus Arrangements Procedures). These procedures shall include the following:

a. creating and maintaining a centralized tracking system for all existing and new or renewed Focus Arrangements and the information specified in Sections III.D.1.b-f below for each existing and new or renewed Focus Arrangement (Focus Arrangements Tracking System);

b. documenting the names and positions of the Arrangements Covered Person(s) involved in the negotiation, review, and approval of all Focus Arrangements;

c. tracking all remuneration to and from all parties to Focus Arrangements, to ensure that the parties are complying with the financial terms of the Focus Arrangements and that the Focus Arrangements are commercially reasonable;

d. documenting all fair market value determination(s) for any Focus Arrangement, including the fair market value amount or range and corresponding time period(s), the date(s) of completion of the fair market valuation(s), the individuals or entities that determined the fair market value amount or range, and the names and positions of the Covered Person(s) who received and/or were otherwise involved with the fair market value determination(s);

e. tracking service and activity logs to ensure that parties to the Focus Arrangement are performing the services required under the applicable Focus Arrangement(s) (if applicable);

f. monitoring the use of leased space, medical supplies, medical devices, equipment, or other patient care items to ensure that such use is consistent with the terms of the applicable Focus Arrangement(s) (if applicable);

g. establishing and implementing a written review and approval process for Focus Arrangements, the purpose of which is to ensure that all existing and new or renewed Focus Arrangements do not violate the Anti-Kickback Statute and Stark Law, and that includes at least the following: (i) a legal review of all Focus Arrangements by counsel with expertise in the Anti-Kickback Statute and Stark Law, (ii) a process for specifying and documenting the business need or business rationale for all Focus Arrangements, and (iii) a process for determining and documenting the fair market value of the remuneration specified in the Focus Arrangement;

h. ensuring that all existing Focus Arrangements are subject to the review and approval process described in Section III.D.1.g above;

i. requiring the Compliance Officer to review the Focus Arrangements Tracking System, internal review and approval process, and other Focus Arrangements Procedures on at least an annual basis and to provide a report on the results of such review to the Compliance Committee; and

j. implementing effective responses when suspected violations of the Anti-Kickback Statute and Stark Law are discovered, including disclosing Reportable Events and quantifying and repaying Overpayments pursuant to Sections III.J and III.K when appropriate.

2. *New or Renewed Focus Arrangements*. No later than 90 days after the Effective Date, and prior to entering into new Focus Arrangements or renewing existing Focus Arrangements, in addition to complying with the Focus Arrangements

Procedures set forth above, Progenity shall comply with the following requirements (Focus Arrangements Requirements):

a. Ensure that all new or renewed written Focus Arrangements are signed by Progenity and the other party(ies) to the Focus Arrangement prior to the payment or receipt of any remuneration pursuant to the Focus Arrangement;

b. Ensure that all new or renewed Focus Arrangements have been subject to the written review and approval process described in Section III.D.1.g prior to the payment or receipt of any remunerations pursuant to the Focus Arrangement, and that Progenity maintains appropriate documentation of the review and approval of such Focus Arrangement; and

c. Include in any new or renewed written agreement a certification by the parties to the Focus Arrangement that the parties shall not violate the Anti-Kickback Statute and the Stark Law with respect to the performance of the Arrangement.

3. *Records Retention and Access*. Progenity shall retain and make available to OIG, upon request, the Focus Arrangements Tracking System and all supporting documentation of the Focus Arrangements subject to this Section and, to the extent available, all non-privileged communications related to the Focus Arrangements and the actual performance of the duties under the Focus Arrangements.

E. Review Procedures

1. *General Description*.

a. *Engagement of Independent Review Organization*. Within 90 days after the Effective Date, Progenity shall engage an entity (or entities), such as an accounting, auditing or consulting firm, to perform the claims review described in Section III.E.3 and, within 90 days after the Effective Date, Progenity shall engage a law or consulting firm or a lawyer to perform

the arrangements review described in Section III.E.2. The entity (or entities) engaged to perform the claims review and the arrangements review are referred to hereinafter as the "Independent Review Organization" or "IRO." The applicable requirements relating to the IRO are outlined in Appendix A to this CIA, which is incorporated by reference.

b. *Retention of Records*. The IRO and Progenity shall retain and make available to OIG, upon request, all work papers, supporting documentation, correspondence, and draft reports (those exchanged between the IRO and Progenity) related to the reviews.

c. *Responsibilities and Liabilities*. Nothing in this Section III.E affects Progenity's responsibilities or liabilities under any criminal, civil, or administrative laws or regulations applicable to any Federal health care program including, but not limited to, the Anti-Kickback Statute and/or the Stark Law.

d. *Access to Records and Personnel.* Progenity shall ensure that the IRO has access to all records and personnel necessary to complete the reviews listed in this Section III.E and that all records furnished to the IRO are accurate and complete.

2. *Arrangements Review*. The IRO shall perform an Arrangements Review and prepare an Arrangements Review Report as outlined in Appendix B to this CIA, which is incorporated by reference.

3. *Claims Review*. The IRO shall review claims submitted by Progenity and reimbursed by the Medicare and Medicaid programs, to determine whether the medical necessity of the items and services furnished was appropriately documented and whether the claims were correctly coded, submitted and reimbursed (Claims Review) and shall prepare a Claims Review Report, as outlined in Appendix C to this CIA, which is incorporated by reference.

4. *Certifications*. The IRO for the Claims Reviews shall include in its report(s) to Progenity a certification that the IRO has (a) evaluated its professional independence and objectivity with respect to the reviews required under this Section III.E and (b) concluded that it is, in fact, independent and objective, in accordance with the requirements specified in Appendix A to this CIA. The IRO's certification shall include a summary of all current and prior engagements between Progenity and the IRO. The IRO for the Arrangements Review shall include in its report(s) to Progenity a certification that the IRO (a) does not currently represent or is not currently employed or engaged by Progenity and (b) does not have a current or prior relationship to Progenity or its owners, officers, or directors that would cause a reasonable person to question the IRO's objectivity in performing the reviews required by Section III.E. The IRO's certification shall include a summary of any current and prior relationships between Progenity or its owners, officers, or directors and the IRO.

F. Risk Assessment and Internal Review Process

Within 90 days after the Effective Date, Progenity shall develop and implement a centralized annual risk assessment and internal review process to identify and address risks associated with Arrangements (as defined in Section II.C.1 above) and Progenity's participation in the Federal health care programs, including but not limited to the risks associated with the submission of claims for items and services furnished to Medicare and Medicaid program beneficiaries. The Compliance Committee shall be responsible for implementation and oversight of the risk assessment and internal review process. The risk assessment and internal review process shall be conducted at least annually and shall require Progenity to: (1) identify and prioritize risks, (2) develop internal audit work plans related to the identified risk areas, (3) implement the internal audit work plans, (4) develop corrective action plans in response to the results of any internal audits performed, and (5) track the implementation of the corrective action plans in order to assess the effectiveness of such plans. Progenity shall maintain the risk assessment and internal review process for the term of the CIA.

G. Disclosure Program

Within 90 days after the Effective Date, Progenity shall establish a Disclosure Program that includes a mechanism (e.g., a toll-free compliance telephone line) to enable individuals to disclose, to the Compliance Officer or some other person who is not in the disclosing individual's chain of command, any identified issues or questions associated

with Progenity's policies, conduct, practices, or procedures with respect to a Federal health care program believed by the individual to be a potential violation of criminal, civil, or administrative law. Progenity shall appropriately publicize the existence of the disclosure mechanism (e.g., via periodic e-mails to employees or by posting the information in prominent common areas).

The Disclosure Program shall emphasize a nonretribution, nonretaliation policy, and shall include a reporting mechanism for anonymous communications for which appropriate confidentiality shall be maintained. The Disclosure Program also shall include a requirement that all of Progenity's Covered Persons shall be expected to report suspected violations of any Federal health care program requirements to the Compliance Officer or other appropriate individual designated by Progenity. Upon receipt of a disclosure, the Compliance Officer (or designee) shall gather all relevant information from the disclosing individual. The Compliance Officer (or designee) shall make a preliminary, good faith inquiry into the allegations set forth in every disclosure to ensure that he or she has obtained all of the information necessary to determine whether a further review should be conducted. For any disclosure that is sufficiently specific so that it reasonably: (1) permits a determination of the appropriateness of the alleged improper practice; and (2) provides an opportunity for taking corrective action, Progenity shall conduct an internal review of the allegations set forth in the disclosure and ensure that proper follow-up is conducted.

The Compliance Officer (or designee) shall maintain a disclosure log and shall record all disclosures, whether or not related to a potential violation of criminal, civil, or administrative law related to the Federal health care programs, in the disclosure log within two business days of receipt of the disclosure. The disclosure log shall include a summary of each disclosure received (whether anonymous or not), the individual or department responsible for reviewing the disclosure, the status of the review, and any corrective action taken in response to the review.

H. Ineligible Persons

1. *Definitions*. For purposes of this CIA:

a. an "Ineligible Person" shall include an individual or entity who:

i. is currently excluded from participation in any Federal health care program; or

ii. has been convicted of a criminal offense that falls within the scope of 42 U.S.C. § 1320a-7(a), but has not yet been excluded.

b. "Exclusion List" means the HHS/OIG List of Excluded Individuals/Entities (LEIE) (available through the Internet at http://www.oig.hhs.gov).

2. *Screening Requirements.* Progenity shall ensure that all prospective and current Covered Persons are not Ineligible Persons, by implementing the following screening requirements.

a. Progenity shall screen all prospective Covered Persons against the Exclusion List prior to engaging their services and, as part of the hiring or contracting process or medical staff credentialing process, shall require such Covered Persons to disclose whether they are Ineligible Persons.

b. Progenity shall screen all current Covered Persons against the Exclusion List within 90 days after the Effective Date and on a monthly basis thereafter.

c. Progenity shall implement a policy requiring all Covered Persons to disclose immediately if they become an Ineligible Person.

Nothing in this Section III.H affects Progenity's responsibility to refrain from (and liability for) billing Federal health care programs for items or services furnished, ordered, or prescribed by an excluded person. Progenity understands that items or services furnished, ordered, or prescribed by excluded persons are not payable by Federal health care programs and that Progenity may be liable for overpayments and/or criminal, civil, and administrative sanctions for employing or contracting with an excluded person regardless of whether Progenity meets the requirements of Section III.H.

3. *Removal Requirement.* If Progenity has actual notice that a Covered Person has become an Ineligible Person, Progenity shall remove such Covered Person from responsibility for, or involvement with, Progenity's business operations related to the Federal health care program(s) from which such Covered Person has been excluded and shall remove such Covered Person from any position for which the Covered Person's compensation or the items or services furnished, ordered, or prescribed by the Covered Person are paid in whole or part, directly or indirectly, by any Federal health care program(s) from which the Covered Person has been excluded at least until such time as the Covered Person is reinstated into participation in such Federal health care program(s).

4. *Pending Charges and Proposed Exclusions*. If Progenity has actual notice that a Covered Person is charged with a criminal offense that falls within the scope of 42 U.S.C. §§ 1320a-7(a), 1320a-7(b)(1)-(3), or is proposed for exclusion during the Covered Person's employment or contract term or during the term of a physician's or other practitioner's medical staff privileges, Progenity shall take all appropriate actions to ensure that the responsibilities of that Covered Person have not and shall not adversely affect the quality of care rendered to any beneficiary or the accuracy of any claims submitted to any Federal health care program.

I. Notification of Government Investigation or Legal Proceeding

Within 30 days after discovery, Progenity shall notify OIG, in writing, of any ongoing investigation or legal proceeding known to Progenity conducted or brought by a governmental entity or its agents involving an allegation that Progenity has committed a crime or has engaged in fraudulent activities. This notification shall include a description of the allegation, the identity of the investigating or prosecuting agency, and the status of such investigation or legal proceeding. Progenity shall also provide written notice to OIG within 30 days after the resolution of the matter, and shall provide OIG with a description of the findings and/or results of the investigation or proceeding, if any.

J. Overpayments

1. *Definition of Overpayments*. An "Overpayment" means any funds that Progenity receives or retains under any Federal health care program to which Progenity, after applicable reconciliation, is not entitled to under such Federal health care program.

2. *Overpayment Policies and Procedures.* Within 90 days after the Effective Date, Progenity shall develop and implement written policies and procedures regarding the identification, quantification and repayment of Overpayments received from any Federal health care program.

K. Reportable Events

1. *Definition of Reportable Event*. For purposes of this CIA, a "Reportable Event" means anything that involves:

a. a substantial Overpayment;

b. a matter that a reasonable person would consider a probable violation of criminal, civil, or administrative laws applicable to any Federal health care program for which penalties or exclusion may be authorized;

c. the employment of or contracting with a Covered Person who is an Ineligible Person as defined by Section III.H.1.a; or

d. the filing of a bankruptcy petition by Progenity.

A Reportable Event may be the result of an isolated event or a series of occurrences.

2. *Reporting of Reportable Events*. If Progenity determines (after a reasonable opportunity to conduct an appropriate review or investigation of the allegations) through any means that there is a Reportable Event, Progenity shall notify OIG, in writing, within 30 days after making the determination that the Reportable Event exists.

3. *Reportable Events under Section III.K.1.a. and III.K.1.b.* For Reportable Events under Section III.K.1.a and b, the report to OIG shall include:

a. a complete description of all details relevant to the Reportable Event, including, at a minimum, the types of claims, transactions, or other conduct giving rise to the Reportable Event; the period during which the conduct occurred; and the

names of entities and individuals believed to be implicated, including an explanation of their roles in the Reportable Event;

b. a statement of the Federal criminal, civil or administrative laws that are probably violated by the Reportable Event, if any;

c. the Federal health care programs affected by the Reportable Event;

d. a description of the steps taken by Progenity to identify and quantify any Overpayments; and

e. a description of Progenity's actions taken to correct the Reportable Event and prevent it from recurring.

If the Reportable Event involves an Overpayment, within 60 days of identification of the Overpayment, Progenity shall repay the Overpayment, in accordance with the requirements of 42 U.S.C. § 1320a-7k(d) and any applicable regulations and Centers for Medicare and Medicaid (CMS) guidance and provide OIG with a copy of the notification and repayment.

4. *Reportable Events under Section III.K.1.c.* For Reportable Events under Section III.K.1.c, the report to OIG shall include:

a. the identity of the Ineligible Person and the job duties performed by that individual;

b. the dates of the Ineligible Person's employment or contractual relationship or medical staff membership;

c. a description of the Exclusion List screening that Progenity completed before and/or during the Ineligible Person's employment or contract or medical staff membership and any flaw or breakdown in the Ineligible Persons screening process

that led to the hiring or contracting with or credentialing the Ineligible Person;

d. a description of how the Ineligible Person was identified; and

e. a description of any corrective action implemented to prevent future employment or contracting with or credentialing an Ineligible Person.

5. *Reportable Events under Section III.K.1.d*. For Reportable Events under Section III.K.1.d, the report to the OIG shall include documentation of the bankruptcy filing and a description of any Federal health care program authorities implicated.

6. *Reportable Events Involving the Stark Law*. Notwithstanding the reporting requirements outlined above, any Reportable Event that involves solely a probable violation of the Stark Law should be submitted by Progenity to the Centers for Medicare & Medicaid Services (CMS) through the self-referral disclosure protocol (SRDP), with a copy to the OIG. If Progenity identifies a probable violation of the Stark Law and repays the applicable Overpayment directly to the CMS contractor, then Progenity is not required by this Section III.K to submit the Reportable Event to CMS through the SRDP.

**IV. SUCCESSOR LIABILITY**

In the event that, after the Effective Date, Progenity proposes to (a) sell any or all of its business, business units, or locations (whether through a sale of assets, sale of stock, or other type of transaction) relating to the furnishing of items or services that may be reimbursed by a Federal health care program; or (b) purchase or establish a new business, business unit, or location relating to the furnishing of items or services that may be reimbursed by a Federal health care program, the CIA shall be binding on the purchaser of any business, business unit, or location and any new business, business unit, or location (and all Covered Persons at each new business, business unit, or location) shall be subject to the applicable requirements of this CIA, unless otherwise determined and agreed to in writing by OIG. Progenity shall give notice of such sale or purchase to OIG within 30 days following the closing of the transaction.

If, in advance of a proposed sale or proposed purchase, Progenity wishes to obtain a determination by OIG that the proposed purchaser or the proposed acquisition will not be subject to the requirements of the CIA, Progenity must notify OIG in writing of the proposed sale or purchase at least 30 days in advance. This notification shall include a description of the business, business unit, or location to be sold or purchased, a brief description of the terms of the transaction and, in the case of a proposed sale, the name and contact information of the prospective purchaser.

## V. IMPLEMENTATION AND ANNUAL REPORTS

A. Implementation Report

Within 120 days after the Effective Date, Progenity shall submit a written report to OIG summarizing the status of its implementation of the requirements of this CIA (Implementation Report). The Implementation Report shall, at a minimum, include:

1. the name, business address, business phone number, and position description of the Compliance Officer required by Section III.A, and a summary of other noncompliance job responsibilities the Compliance Officer may have;

2. the names and positions of the members of the Compliance Committee required by Section III.A;

3. the names of the Board members who are responsible for satisfying the Board compliance obligations described in Section III.A.3;

4. the names and positions of the Certifying Employees required by Section III.A.4 and a copy of the written process for Certifying Employees to follow in order to complete the certification required by Section III.A.4;

5. a list of all Policies and Procedures required by Section III.B;

6. the Training Plan required by Section III.C.1 and a description of the Board training required by Section III.C.2 (including a summary of the topics covered, the length of the training, and when the training was provided);

7. a description of (a) the Focus Arrangements Tracking System required by Section III.D.1.a, (b) the internal review and approval process required by Section III.D.1.g; and (c) the tracking and monitoring procedures and other Focus Arrangements Procedures required by Section III.D.1;

8. the following information regarding the IRO(s): (a) identity, address, and phone number; (b) a copy of the engagement letter; (c) information to demonstrate that the IRO has the qualifications outlined in Appendix A to this CIA; and (d) a certification from the IRO regarding its professional independence and objectivity with respect to Progenity or that it does not have a prohibited relationship with Progenity as set forth in Section III.E.4, that includes a summary of all current and prior engagements or relationships between Progenity and the IRO, as applicable;

9. a description of the risk assessment and internal review process required by Section III.F;

10. a description of the Disclosure Program required by Section III.G;

11. a description of the Ineligible Persons screening and removal process required by Section III.H;

12. a copy of Progenity's policies and procedures regarding the identification, quantification and repayment of Overpayments required by Section III.J;

13. a description of Progenity's corporate structure, including identification of any individual owners in addition to its parent and sister companies, subsidiaries, and their respective lines of business;

14. a list of all of Progenity's locations (including locations and mailing addresses), the corresponding name under which each location is doing business, and each location's Medicare and state Medicaid program provider number(s) and/or supplier number(s); and

15. the certifications required by Section V.C.

B. Annual Reports

Progenity shall submit to OIG a report on its compliance with the CIA requirements for each of the five Reporting Periods (Annual Report). Each Annual Report shall include, at a minimum, the following information:

1. any change in the identity, position description, or other noncompliance job responsibilities of the Compliance Officer; a current list of the Compliance Committee members, a current list of the Board members who are responsible for satisfying the Board compliance obligations, and a current list of the Certifying Employees, along with the identification of any changes made during the Reporting Period to the Compliance Committee, Board, and Certifying Employees;

2. a description of any changes to the written process for Certifying Employees to follow in order to complete the certification required by Section III.A.4;

3. the dates of each report made by the Compliance Officer to the Board (written documentation of such reports shall be made available to OIG upon request);

4. the Board resolution required by Section III.A.3 and a description of the documents and other materials reviewed by the Board, as well as any additional steps taken, in its oversight of the compliance program and in support of making the resolution;

5. a list of any new or revised Policies and Procedures developed during the Reporting Period;

6. a description of any changes to Progenity's Training Plan developed pursuant to Section III.C, and a summary of any Board training provided during the Reporting Period;

7. a description of (a) any changes to the Focus Arrangements Tracking System required by Section III.D.1.a; (b) any changes to the internal review and approval process required by Section III.D.1.g; and (c) any changes to the tracking and monitoring procedures and other Arrangements Procedures required by Section III.D.1;

8. a complete copy of all reports prepared pursuant to Section III.E and Progenity's response to the reports, along with corrective action plan(s) related to any issues raised by the reports, including Progenity's determination of whether the CMS overpayment rule requires the repayment of an extrapolated Overpayment (as defined in Appendix B);

9. a certification from the IRO regarding its professional independence and objectivity with respect to Progenity or that the IRO does not have a prohibited relationship with Progenity, as described in Section III.E.4, including a summary of all current and prior engagements or relationships between Progenity and the IRO, as applicable;

10. a description of any changes to the risk assessment and internal review process required by Section III.F, including the reasons for such changes;

11. a summary of the following components of the risk assessment and internal review process during the Reporting Period: (a) work plans developed, (b) internal audits performed, (c) corrective action plans developed in response to internal audits, and (d) steps taken to track the implementation of the corrective action plans. Copies of any work plans, internal audit reports, and corrective actions plans shall be made available to OIG upon request;

12. a summary of the disclosures in the disclosure log required by Section III.G that: (a) relate to Federal health care programs; or (b) involve allegations of conduct that may involve illegal remuneration or inappropriate referrals in violation of the Anti-Kickback Statute or Stark law (the complete disclosure log shall be made available to OIG upon request);

13. a description of any changes to the Ineligible Persons screening and removal process required by Section III.H, including the reasons for such changes;

14. a summary describing any ongoing investigation or legal proceeding required to have been reported pursuant to Section III.I. The summary shall include a description of the allegation, the identity of the investigating or prosecuting agency, and the status of such investigation or legal proceeding;

15. a description of any changes to the Overpayment policies and procedures required by Section III.J, including the reasons for such changes;

16. a summary of Reportable Events (as defined in Section III.K) identified during the Reporting Period;

17. a description of all changes to the most recently provided list of Progenity's locations (including addresses) as required by Section V.A.14;

18. a description of any changes to Progenity's corporate structure, including any individual owners, parent and sister companies, subsidiaries, and their respective lines of business; and

19. the certifications required by Section V.C.

The first Annual Report shall be received by OIG no later than 60 days after the end of the first Reporting Period. Subsequent Annual Reports shall be received by OIG no later than the anniversary date of the due date of the first Annual Report.

C. Certifications

1. *Certifying Employees.* In each Annual Report, Progenity shall include the certifications of Certifying Employees as required by Section III.A.4;

2. *Compliance Officer and Chief Executive Officer.* The Implementation Report and each Annual Report shall include a certification by the Compliance Officer and Chief Executive Officer that:

a. to the best of his or her knowledge, except as otherwise described in the report, Progenity is in compliance with all of the requirements of this CIA;

b. to the best of his or her knowledge, Progenity has implemented procedures reasonably designed to ensure that all Focus Arrangements do not violate the Anti-Kickback Statute and Stark Law, including the Focus Arrangements Procedures required in Section III.D of the CIA;

c. to the best of his or her knowledge, Progenity has fulfilled the requirements for New and Renewed Focus Arrangements under Section III.D.2 of the CIA;

d. he or she has reviewed the report and has made reasonable inquiry regarding its content and believes that the information in the report is accurate and truthful; and

e. he or she understands that the certification is being provided to and relied upon by the United States.

3. *Chief Financial Officer.* The first Annual Report shall include a certification by the Chief Financial Officer that, to the best of his or her knowledge, Progenity has complied with its obligations under the Settlement Agreement: (a) not to resubmit to any Federal health care program payors any previously denied claims related to the Covered Conduct addressed in the Settlement Agreement, and not to appeal any such denials of claims; (b) not to charge to or otherwise seek payment from federal or state payors for unallowable costs (as defined in the Settlement Agreement); (c) to identify and adjust any past charges or claims for unallowable costs; and (d) he or she understands that the certification is being provided to and relied upon by the United States.

D. Designation of Information

Progenity shall clearly identify any portions of its submissions that it believes are trade secrets, or information that is commercial or financial and privileged or confidential, and therefore potentially exempt from disclosure under the Freedom of Information Act (FOIA), 5 U.S.C. § 552. Progenity shall refrain from identifying any information as exempt from disclosure if that information does not meet the criteria for exemption from disclosure under FOIA.

## VI. NOTIFICATIONS AND SUBMISSION OF REPORTS

Unless otherwise stated in writing after the Effective Date, all notifications and reports required under this CIA shall be submitted to the following entities:

*Progenity, Inc.*
*Corporate Integrity Agreement*

OIG:

Administrative and Civil Remedies Branch
Office of Counsel to the Inspector General
Office of Inspector General
U.S. Department of Health and Human Services
Cohen Building, Room 5527
330 Independence Avenue, S.W.
Washington, DC 20201
Telephone: 202.619.2078
Facsimile: 202.205.0604

Progenity:

Hutan Hashemi
Chief Compliance Officer
Progenity, Inc.
4330 La Jolla Village Drive, Suite 200
San Diego, CA 92122

Unless otherwise specified, all notifications and reports required by this CIA may be made by overnight mail, hand delivery, or other means, provided that there is proof that such notification was received. For purposes of this requirement, internal facsimile confirmation sheets do not constitute proof of receipt. Upon request by OIG, Progenity may be required to provide OIG with an additional copy of each notification or report required by this CIA, in OIG's requested format (electronic or paper).

## VII. OIG INSPECTION, AUDIT, AND REVIEW RIGHTS

In addition to any other rights OIG may have by statute, regulation, or contract, OIG or its duly authorized representative(s) may conduct interviews, examine and/or request copies of Progenity's books, records, and other documents and supporting materials, and conduct on-site reviews of any of Progenity's locations for the purpose of verifying and evaluating: (a) Progenity's compliance with the terms of this CIA; and (b) Progenity's compliance with the requirements of the Federal health care programs. The

documentation described above shall be made available by Progenity to OIG or its duly authorized representative(s) at all reasonable times for inspection, audit, and/or reproduction. Furthermore, for purposes of this provision, OIG or its duly authorized representative(s) may interview any of Progenity's owners, employees, contractors, and directors who consent to be interviewed at the individual's place of business during normal business hours or at such other place and time as may be mutually agreed upon between the individual and OIG. Progenity shall assist OIG or its duly authorized representative(s) in contacting and arranging interviews with such individuals upon OIG's request. Progenity's owners, employees, contractors, and directors may elect to be interviewed with or without a representative of Progenity present.

## VIII. DOCUMENT AND RECORD RETENTION

Progenity shall maintain for inspection all documents and records relating to reimbursement from the Federal health care programs and to compliance with this CIA for six years (or longer if otherwise required by law) from the Effective Date.

## IX. DISCLOSURES

Consistent with HHS's FOIA procedures, set forth in 45 C.F.R. Part 5, OIG shall make a reasonable effort to notify Progenity prior to any release by OIG of information submitted by Progenity pursuant to its obligations under this CIA and identified upon submission by Progenity as trade secrets, or information that is commercial or financial and privileged or confidential, under the FOIA rules. With respect to such releases, Progenity shall have the rights set forth at 45 C.F.R. § 5.42(a).

## X. BREACH AND DEFAULT PROVISIONS

Progenity is expected to fully and timely comply with all of its CIA obligations.

A. Stipulated Penalties for Failure to Comply with Certain Obligations

As a contractual remedy, Progenity and OIG hereby agree that failure to comply with certain obligations as set forth in this CIA may lead to the imposition of the following monetary penalties (hereinafter referred to as "Stipulated Penalties") in accordance with the following provisions.

1. A Stipulated Penalty of $2,500 (which shall begin to accrue on the day after the date the obligation became due) per obligation for each day Progenity fails to establish, implement or comply with any of the following obligations as described in Sections III:

a. a Compliance Officer;

b. a Compliance Committee;

c. the Board compliance obligations as required by Section III.A.3.;

d. the management certification obligations and the development and implementation of a written process for Certifying Employees, as required by Section III.A.4;

e. written Policies and Procedures;

f. the development of a written training plan and the training and education of Covered Persons, Arrangements Covered Persons, and Board members;

g. the Focus Arrangements Procedures and/or Focus Arrangements Requirements;

h. a risk assessment and internal review process;

i. a Disclosure Program;

j. Ineligible Persons screening and removal requirements;

k. notification of Government investigations or legal proceedings;

l. policies and procedures regarding the repayment of Overpayments; and

m. reporting of Reportable Events.

2. A Stipulated Penalty of $2,500 (which shall begin to accrue on the day after the date the obligation became due) for each day Progenity fails to engage and use an IRO, as required by Section III.E, Appendix A, Appendix B, or Appendix C.

3. A Stipulated Penalty of $2,500 (which shall begin to accrue on the day after the date the obligation became due) for each day Progenity fails to timely submit (a) a complete Implementation Report or Annual Report, (b) a certification to OIG in accordance with the requirements of Section V, or (c) a complete response to any request for information from OIG.

4. A Stipulated Penalty of $2,500 (which shall begin to accrue on the day after the date the obligation became due) for each day Progenity fails to submit any Arrangements Review Report in accordance with the requirements of Section III.E and Appendix B.

5. A Stipulated Penalty of $2,500 (which shall begin to accrue on the day after the date the obligation became due) for each day Progenity fails to submit any Claims Review Report in accordance with the requirements of Section III.E and Appendix C or fails to repay any Overpayment identified by the IRO as required by Appendix C.

6. A Stipulated Penalty of $1,500 for each day Progenity fails to grant access as required in Section VII. (This Stipulated Penalty shall begin to accrue on the date Progenity fails to grant access.)

7. A Stipulated Penalty of $50,000 for each false certification submitted by or on behalf of Progenity as part of its Implementation Report, any Annual Report, additional documentation to a report (as requested by the OIG), or otherwise required by this CIA.

8. A Stipulated Penalty of $2,500 for each day Progenity fails to grant the IRO access to all records and personnel necessary to complete the reviews listed in Section III.E., and for each day Progenity fails to furnish accurate and complete records to the IRO, as required by Section III.E and Appendix A.

9. A Stipulated Penalty of $1,000 for each day Progenity fails to comply fully and adequately with any obligation of this CIA. OIG shall provide notice to Progenity stating the specific grounds for its determination that Progenity has failed to comply fully and adequately with the CIA obligation(s) at issue and steps Progenity shall take to comply with the CIA. (This Stipulated Penalty shall begin to accrue 10 business days after the date Progenity receives this notice from OIG of the failure to comply.) A Stipulated Penalty as described in this Subsection shall not be demanded for any violation for which OIG has sought a Stipulated Penalty under Subsections 1-8 of this Section.

B. Timely Written Requests for Extensions

Progenity may, in advance of the due date, submit a timely written request for an extension of time to perform any act or file any notification or report required by this CIA. Notwithstanding any other provision in this Section, if OIG grants the timely written request with respect to an act, notification, or report, Stipulated Penalties for failure to perform the act or file the notification or report shall not begin to accrue until one day after Progenity fails to meet the revised deadline set by OIG. Notwithstanding any other provision in this Section, if OIG denies such a timely written request, Stipulated Penalties for failure to perform the act or file the notification or report shall not begin to accrue until three business days after Progenity receives OIG's written denial of such request or the original due date, whichever is later. A "timely written request" is defined as a request in writing received by OIG at least five days prior to the date by which any act is due to be performed or any notification or report is due to be filed.

C. Payment of Stipulated Penalties

1. *Demand Letter*. Upon a finding that Progenity has failed to comply with any of the obligations described in Section X.A and after determining that Stipulated Penalties are appropriate, OIG shall notify Progenity of: (a) Progenity's failure to comply; and (b) OIG's exercise of its contractual right to demand payment of the Stipulated Penalties. (This notification shall be referred to as the "Demand Letter.")

2. *Response to Demand Letter.* Within 10 business days after the receipt of the Demand Letter, Progenity shall either: (a) cure the breach to OIG's satisfaction and pay the applicable Stipulated Penalties or (b) request a hearing before an HHS administrative law judge (ALJ) to dispute OIG's determination of noncompliance, pursuant to the agreed upon provisions set forth below in Section X.E. In the event

Progenity elects to request an ALJ hearing, the Stipulated Penalties shall continue to accrue until Progenity cures, to OIG's satisfaction, the alleged breach in dispute. Failure to respond to the Demand Letter in one of these two manners within the allowed time period shall be considered a material breach of this CIA and shall be grounds for exclusion under Section X.D.

3. *Form of Payment*. Payment of the Stipulated Penalties shall be made by electronic funds transfer to an account specified by OIG in the Demand Letter.

4. *Independence from Material Breach Determination*. Except as set forth in Section X.D.1.c, these provisions for payment of Stipulated Penalties shall not affect or otherwise set a standard for OIG's decision that Progenity has materially breached this CIA, which decision shall be made at OIG's discretion and shall be governed by the provisions in Section X.D, below.

D. Exclusion for Material Breach of this CIA

1. *Definition of Material Breach*. A material breach of this CIA means:

a. a failure by Progenity to report a Reportable Event, take corrective action, or make the appropriate refunds, as required in Section III.K;

b. repeated violations or a flagrant violation of any of the obligations under this CIA, including, but not limited to, the obligations addressed in Section X.A;

c. a failure to respond to a Demand Letter concerning the payment of Stipulated Penalties in accordance with Section X.C; or

d. a failure to engage and use an IRO in accordance with Section III.E, Appendix A, Appendix B, or Appendix C.

2. *Notice of Material Breach and Intent to Exclude*. The parties agree that a material breach of this CIA by Progenity constitutes an independent basis for

Progenity's exclusion from participation in the Federal health care programs. The length of the exclusion shall be in the OIG's discretion, but not more than five years per material breach. Upon a determination by OIG that Progenity has materially breached this CIA and that exclusion is the appropriate remedy, OIG shall notify Progenity of: (a) Progenity's material breach; and (b) OIG's intent to exercise its contractual right to impose exclusion. (This notification shall be referred to as the "Notice of Material Breach and Intent to Exclude.")

3. *Opportunity to Cure*. Progenity shall have 30 days from the date of receipt of the Notice of Material Breach and Intent to Exclude to demonstrate that:

a. the alleged material breach has been cured; or

b. the alleged material breach cannot be cured within the 30 day period, but that: (i) Progenity has begun to take action to cure the material breach; (ii) Progenity is pursuing such action with due diligence; and (iii) Progenity has provided to OIG a reasonable timetable for curing the material breach.

4. *Exclusion Letter*. If, at the conclusion of the 30-day period, Progenity fails to satisfy the requirements of Section X.D.3, OIG may exclude Progenity from participation in the Federal health care programs. OIG shall notify Progenity in writing of its determination to exclude Progenity. (This letter shall be referred to as the "Exclusion Letter.") Subject to the Dispute Resolution provisions in Section X.E, below, the exclusion shall go into effect 30 days after the date of Progenity's receipt of the Exclusion Letter. The exclusion shall have national effect. Reinstatement to program participation is not automatic. At the end of the period of exclusion, Progenity may apply for reinstatement by submitting a written request for reinstatement in accordance with the provisions at 42 C.F.R. §§ 1001.3001-.3004.

E. Dispute Resolution

1. *Review Rights*. Upon OIG's delivery to Progenity of its Demand Letter or of its Exclusion Letter, and as an agreed-upon contractual remedy for the resolution of disputes arising under this CIA, Progenity shall be afforded certain review rights comparable to the ones that are provided in 42 U.S.C. § 1320a-7(f) and 42 C.F.R. Part 1005 as if they applied to the Stipulated Penalties or exclusion sought pursuant to

this CIA. Specifically, OIG's determination to demand payment of Stipulated Penalties or to seek exclusion shall be subject to review by an HHS ALJ and, in the event of an appeal, the HHS Departmental Appeals Board (DAB), in a manner consistent with the provisions in 42 C.F.R. § 1005.2-1005.21. Notwithstanding the language in 42 C.F.R. § 1005.2(c), the request for a hearing involving Stipulated Penalties shall be made within 10 days after receipt of the Demand Letter and the request for a hearing involving exclusion shall be made within 25 days after receipt of the Exclusion Letter. The procedures relating to the filing of a request for a hearing can be found at http://www.hhs.gov/dab/divisions/civil/procedures/divisionprocedures.html.

2. *Stipulated Penalties Review*. Notwithstanding any provision of Title 42 of the United States Code or Title 42 of the Code of Federal Regulations, the only issues in a proceeding for Stipulated Penalties under this CIA shall be: (a) whether Progenity was in full and timely compliance with the obligations of this CIA for which OIG demands payment; and (b) the period of noncompliance. Progenity shall have the burden of proving its full and timely compliance and the steps taken to cure the noncompliance, if any. OIG shall not have the right to appeal to the DAB an adverse ALJ decision related to Stipulated Penalties. If the ALJ agrees with OIG with regard to a finding of a breach of this CIA and orders Progenity to pay Stipulated Penalties, such Stipulated Penalties shall become due and payable 20 days after the ALJ issues such a decision unless Progenity requests review of the ALJ decision by the DAB. If the ALJ decision is properly appealed to the DAB and the DAB upholds the determination of OIG, the Stipulated Penalties shall become due and payable 20 days after the DAB issues its decision.

3. *Exclusion Review*. Notwithstanding any provision of Title 42 of the United States Code or Title 42 of the Code of Federal Regulations, the only issues in a proceeding for exclusion based on a material breach of this CIA shall be whether Progenity was in material breach of this CIA and, if so, whether:

a. Progenity cured such breach within 30 days of its receipt of the Notice of Material Breach; or

b. the alleged material breach could not have been cured within the 30 day period, but that, during the 30 day period following Progenity's receipt of the Notice of Material Breach: (i) Progenity had begun to take action to cure the

material breach; (ii) Progenity pursued such action with due diligence; and (iii) Progenity provided to OIG a reasonable timetable for curing the material breach.

For purposes of the exclusion herein, exclusion shall take effect only after an ALJ decision favorable to OIG, or, if the ALJ rules for Progenity, only after a DAB decision in favor of OIG. Progenity's election of its contractual right to appeal to the DAB shall not abrogate OIG's authority to exclude Progenity upon the issuance of an ALJ's decision in favor of OIG. If the ALJ sustains the determination of OIG and determines that exclusion is authorized, such exclusion shall take effect 20 days after the ALJ issues such a decision, notwithstanding that Progenity may request review of the ALJ decision by the DAB. If the DAB finds in favor of OIG after an ALJ decision adverse to OIG, the exclusion shall take effect 20 days after the DAB decision. Progenity shall waive its right to any notice of such an exclusion if a decision upholding the exclusion is rendered by the ALJ or DAB. If the DAB finds in favor of Progenity, Progenity shall be reinstated effective on the date of the original exclusion.

4. *Finality of Decision.* The review by an ALJ or DAB provided for above shall not be considered to be an appeal right arising under any statutes or regulations. Consequently, the parties to this CIA agree that the DAB's decision (or the ALJ's decision if not appealed) shall be considered final for all purposes under this CIA.

## XI. EFFECTIVE AND BINDING AGREEMENT

Progenity and OIG agree as follows:

A. This CIA shall become final and binding on the date the final signature is obtained on the CIA.

B. This CIA constitutes the complete agreement between the parties and may not be amended except by written consent of the parties to this CIA.

C. OIG may agree to a suspension of Progenity's obligations under this CIA based on a certification by Progenity that it is no longer providing health care items or services that will be billed to any Federal health care program and it does not have any ownership or control interest, as defined in 42 U.S.C. §1320a-3, in any entity that bills any Federal health care program. If Progenity is relieved of its CIA obligations,

Progenity shall be required to notify OIG in writing at least 30 days in advance if Progenity plans to resume providing health care items or services that are billed to any Federal health care program or to obtain an ownership or control interest in any entity that bills any Federal health care program. At such time, OIG shall evaluate whether the CIA will be reactivated or modified.

D. All requirements and remedies set forth in this CIA are in addition to and do not affect (1) Progenity's responsibility to follow all applicable Federal health care program requirements or (2) the government's right to impose appropriate remedies for failure to follow applicable Federal health care program requirements.

E. The undersigned Progenity signatories represent and warrant that they are authorized to execute this CIA. The undersigned OIG signatories represent that they are signing this CIA in their official capacities and that they are authorized to execute this CIA.

F. This CIA may be executed in counterparts, each of which constitutes an original and all of which constitute one and the same CIA. Electronically-transmitted copies or facsimiles of signatures shall constitute acceptable, binding signatures for purposes of this CIA.

**ON BEHALF OF PROGENITY**

/s/ Clarke Neumann — July 21, 2020
Clarke Neumann — DATE
General Counsel, Progenity

/s/ Jonathan M. Phillips — July 21, 2020
Jonathan M. Phillips — DATE
M. Kendall Day
Gibson, Dunn & Crutcher LLP
Counsel for Progenity

**ON BEHALF OF THE OFFICE OF INSPECTOR GENERAL**
**OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES**

/s/ Lisa M. Re — July 20, 2020

LISA M. RE — DATE
Assistant Inspector General for Legal Affairs
Office of Inspector General
U.S. Department of Health and Human Services

/s/ Tamar Terzian — July 21, 2020

TAMAR TERZIAN — DATE
Senior Counsel
Office of Inspector General
U.S. Department of Health and Human Services

**APPENDIX A**

**INDEPENDENT REVIEW ORGANIZATION**

This Appendix contains the requirements relating to the Independent Review Organization (IRO) required by Section III.E of the CIA.

A. IRO Engagement

1. Progenity shall engage an IRO to perform the Claims Review that possesses the qualifications set forth in Paragraph B, below, to perform the responsibilities in Paragraph C, below. The IRO shall conduct the Claims Review in a professionally independent and objective fashion, as set forth in Paragraph E.

2. Progenity shall engage an IRO to perform the Arrangements Review that possesses the qualifications set forth in Paragraph B, below, to perform the responsibilities in Paragraph C, below. The IRO shall not have a prohibited relationship to Progenity as set forth in Paragraph F.

3. Within 30 days after OIG receives the information identified in Section V.A.8 of the CIA or any additional information submitted by Progenity in response to a request by OIG, whichever is later, OIG will notify Progenity if the IRO is unacceptable. Absent notification from OIG that the IRO is unacceptable, Progenity may continue to engage the IRO.

4. If Progenity engages a new IRO during the term of the CIA, that IRO must also meet the requirements of this Appendix. If a new IRO is engaged, Progenity shall submit the information identified in Section V.A.8 of the CIA to OIG within 30 days of engagement of the IRO. Within 30 days after OIG receives this information or any additional information submitted by Progenity at the request of OIG, whichever is later, OIG will notify Progenity if the IRO is unacceptable. Absent notification from OIG that the IRO is unacceptable, Progenity may continue to engage the IRO.

B. IRO Qualifications

The IRO shall:

1. assign individuals to conduct the Arrangements Review who are knowledgeable in the requirements of the Anti-Kickback Statute and the Stark Law and

the regulations and other guidance documents related to these statutes;

2. possess expertise in fair market valuation issues or have the ability to associate a valuation firm to assist in conducting the transactions review component of the Arrangements Review;

3. assign individuals to conduct the Claims Review who have expertise in the Medicare and state Medicaid program requirements applicable to the claims being reviewed;

4. assign individuals to design and select the Claims Review sample who are knowledgeable about the appropriate statistical sampling techniques;

5. assign individuals to conduct the coding review portions of the Claims Review who have a nationally recognized coding certification and who have maintained this certification (e.g., completed applicable continuing education requirements);

6. assign licensed nurses or physicians with relevant education, training and specialized expertise (or other licensed health care professionals acting within their scope of practice and specialized expertise) to make the medical necessity determinations required by the Claims Review; and

7. have sufficient staff and resources to conduct the reviews required by the CIA on a timely basis.

C. IRO Responsibilities

The IRO shall:

1. perform each Arrangements Review and Claims Review in accordance with the specific requirements of the CIA;

2. follow all applicable Medicare and state Medicaid program rules and reimbursement guidelines in making assessments in the Claims Review;

3. request clarification from the appropriate authority (e.g., Medicare contractor), if in doubt of the application of a particular Medicare or state Medicaid program policy or regulation;

4. respond to all OIG inquires in a prompt, objective, and factual manner; and

5. prepare timely, clear, well-written reports that include all the information required by Appendix B and Appendix C (as applicable) to the CIA.

D. Progenity Responsibilities

Progenity shall ensure that the IRO has access to all records and personnel necessary to complete the reviews listed in Section III.E of this CIA and that all records furnished to the IRO are accurate and complete.

E. IRO Independence and Objectivity

The IRO engaged to perform the Claims Review must perform the Claims Review in a professionally independent and objective fashion, as defined in the most recent Government Auditing Standards issued by the U.S. Government Accountability Office.

F. IRO Relationship to Progenity

The IRO engaged to perform the Arrangements Review shall not (1) currently represent or currently be employed or engaged by Progenity or (2) have a current or prior relationship to Progenity or its owners, officers, or directors that would cause a reasonable person to question the IRO's objectivity in performing the Arrangements Review.

G. Assertions of Privilege

Progenity shall not assert claims of attorney-client privilege in order to avoid disclosing to OIG information related to or resulting from the IRO's engagement to perform the Arrangements Review. Progenity's engagement letter with the IRO shall include a provision stating that the IRO agrees not to assert claims of work product privilege in order to avoid disclosing to OIG information related to or resulting from its engagement.

H. IRO Removal/Termination

1. *Progenity and IRO*. If Progenity terminates its IRO or if the IRO withdraws from the engagement during the term of the CIA, Progenity must submit a notice explaining (a) its reasons for termination of the IRO or (b) the IRO's reasons for

its withdrawal to OIG, no later than 30 days after termination or withdrawal. Progenity must engage a new IRO in accordance with Paragraph A of this Appendix and within 60 days of termination or withdrawal of the IRO.

2. *OIG Removal of IRO*. In the event OIG has reason to believe that the IRO does not possess the qualifications described in Paragraph B, is not independent and objective as set forth in Paragraph E or has a prohibited relationship as set forth in paragraph F (as applicable), or has failed to carry out its responsibilities as described in Paragraph C, OIG shall notify Progenity in writing regarding OIG's basis for determining that the IRO has not met the requirements of this Appendix. Progenity shall have 30 days from the date of OIG's written notice to provide information regarding the IRO's qualifications, independence, relationship to Progenity or performance of its responsibilities in order to resolve the concerns identified by OIG. If, following OIG's review of any information provided by Progenity regarding the IRO, OIG determines that the IRO has not met the requirements of this Appendix, OIG shall notify Progenity in writing that Progenity shall be required to engage a new IRO in accordance with Paragraph A of this Appendix. Progenity must engage a new IRO within 60 days of its receipt of OIG's written notice. The final determination as to whether or not to require Progenity to engage a new IRO shall be made at the sole discretion of OIG.

**APPENDIX B**

**ARRANGEMENTS REVIEW**

The Arrangements Review shall consist of two components: a systems review and a transactions review. The IRO shall perform all components of each Arrangements Review. If there are no material changes to Progenity's systems, processes, policies, and procedures relating to Arrangements, the Arrangements Systems Review shall be performed for the first and fourth Reporting Periods. If Progenity materially changes the Arrangements systems, processes, policies and procedures, the IRO shall perform an Arrangements Systems Review for the Reporting Period in which such changes were made in addition to conducting the systems review for the first and fourth Reporting Periods. The Arrangements Transactions Review shall be performed annually and shall cover each of the five Reporting Periods.

A. Arrangements Systems Review. The Arrangements Systems Review shall be a review of Progenity's systems, processes, policies, and procedures relating to the initiation, review, approval, and tracking of Arrangements. Specifically, the IRO shall review the following:

1. Progenity's systems, policies, processes, and procedures with respect to creating and maintaining a centralized tracking system for all existing and new and renewed Focus Arrangements (Focus Arrangements Tracking System), including a detailed description of the information captured in the Focus Arrangements Tracking System;

2. Progenity's systems, policies, processes, and procedures for documenting the names and positions of the Arrangements Covered Person(s) involved in the negotiation, review, and approval of all Focus Arrangements;

3. Progenity's systems, policies, processes, and procedures for tracking all remuneration to and from all parties to Focus Arrangements to ensure that the parties are complying with the financial terms of the Focus Arrangements and that the Focus Arrangements are commercially reasonable;

4. Progenity's systems, policies, processes and procedures for documenting all fair market value determination(s) for any Focus Arrangement, including the fair market value amount or range and corresponding time period(s), the date(s) of completion of the fair market valuation(s), the individuals or entities that determined the fair market value

amount or range, and the names and positions of the Arrangements Covered Person(s) involved with the fair market value determination(s);

5. Progenity's systems, policies, processes, and procedures for tracking service and activity logs to ensure that parties to the Focus Arrangement are performing the services required under the applicable Focus Arrangement(s) (if applicable);

6. Progenity's systems, policies, processes, and procedures for monitoring the use of leased space, medical supplies, medical devices, equipment, or other patient care items to ensure that such use is consistent with the terms of the applicable Focus Arrangement(s) (if applicable);

7. Progenity's systems, policies, processes, and procedures for initiating Arrangements, including those policies that identify the individuals with authority to initiate an Arrangement and that specify the business need or business rationale required to initiate an Arrangement;

8. Progenity's systems, policies, processes, and procedures for the internal review and approval of existing, new and renewed Focus Arrangements, including those policies that identify the individuals required to approve each type or category of Focus Arrangement entered into by Progenity, the internal controls designed to ensure that all required approvals are obtained, the processes for determining and documenting the business need or business rationale for all Focus Arrangements, the processes for determining and documenting the fair market value of the remuneration specified in the Focus Arrangement, and the processes for ensuring that all Focus Arrangements are subject to a legal review by counsel with expertise in the Anti-Kickback Statute and Stark Law;

9. the Compliance Officer's annual review of and reporting to the Compliance Committee on the Focus Arrangements Tracking System, Progenity's internal review and approval process, and other Focus Arrangements systems, process, policies, and procedures;

10. Progenity's systems, policies, processes, and procedures for implementing effective responses when suspected violations of the Anti-Kickback Statute and Stark Law are discovered, including disclosing Reportable Events and quantifying and repaying Overpayments when appropriate; and

11. Progenity's systems, policies, processes, and procedures for ensuring that all new and renewed Focus Arrangements comply with the Focus Arrangements Requirements set forth in Section III.D.2 of the CIA.

B. Arrangements Systems Review Report. The IRO shall prepare a report based upon each Arrangements Systems Review performed. The Arrangements Systems Review Report shall include the following information:

1. a description of the documentation (including policies) reviewed and personnel interviewed;

2. a detailed description of Progenity's systems, policies, processes, and procedures relating to the items identified in Section A.1-11 above;

3. findings and supporting rationale regarding weaknesses in Progenity's systems, processes, policies, and procedures relating to Arrangements described in Section A.1-11 above, if any; and

4. recommendations to improve Progenity's systems, policies, processes, or procedures relating to Arrangements described in Section A.1-11 above.

C. Arrangements Transactions Review. The Arrangements Transactions Review shall consist of a review by the IRO of 25 randomly selected Focus Arrangements that were entered into or renewed by Progenity during the Reporting Period. The IRO shall assess whether Progenity has complied with the Focus Arrangements Procedures and the Focus Arrangements Requirements described in Sections III.D.1 and III.D.2 of the CIA, with respect to the selected Focus Arrangements.

1. The IRO's assessment with respect to each Focus Arrangement that is subject to review shall include:

a. verifying that the Focus Arrangement is maintained in Progenity's centralized tracking system in a manner that permits the IRO to identify: (i) the parties to the Focus Arrangement, (ii) the name(s) and position(s) of the Arrangements Covered Person(s) involved in the negotiation, review, and approval of the Focus Arrangement; (iii) the relevant terms of the Focus Arrangement (i.e., the items, services, equipment, or space to be provided, the amount of compensation, the effective date, the expiration date, etc.); and (iv) the parties' performance under the Focus Arrangement (i.e., items or

services actually provided, equipment or space actually provided or leased, amount of payments, dates of payment, etc.);

b. verifying that the Focus Arrangement was subject to the internal review and approval process (including both a legal and business review) and obtained the necessary approvals and that such review and approval is appropriately documented;

c. verifying that the remuneration related to the Focus Arrangement has been determined in accordance with Progenity's policies and procedures for determining and documenting the fair market value of the remuneration, that the remuneration is properly tracked, and that the parties to the Focus Arrangement are complying with the financial terms of the Focus Arrangement;

d. verifying that the business need or business rationale for the Focus Arrangement is specified and is consistent with Progenity's policies and procedures;

e. verifying that the service and activity logs are properly completed and reviewed (if applicable);

f. verifying that leased space, medical supplies, medical devices, and equipment, and other patient care items are properly monitored (if applicable); and

g. verifying that the Focus Arrangement satisfies the Focus Arrangements Requirements of Section III.D.2 of the CIA.

2. For any Focus Arrangement for which the IRO cannot verify compliance with each of the applicable requirements specified in Section C.1 above, the IRO shall identify and review the system(s) and process(es) that resulted in the identified non-compliance and recommend improvements to such system(s) and process(es). The IRO may need to review additional documentation and/or interview personnel to identify the system(s) and process(es) that resulted in the identified non-compliance.

3. If the IRO cannot verify compliance with each of the applicable requirements specified in Section C.1 above with respect to at least 90% of the Focus Arrangements subject to the Arrangements Transactions Review, then, at its discretion, within 60 days of receipt of the Arrangements Transactions Review Report, the OIG may require the IRO to select an additional sample of Focus Arrangements, not to exceed the number of Focus Arrangements initially reviewed by the IRO, that will be subject to the Arrangements Transactions Review (Additional Transactions Review) and complete and

submit to Progenity and OIG an Additional Transactions Review Report that includes the information specified in Section D below, within 60 days of the date the OIG notifies Progenity and its IRO that an Additional Transactions Review will be required.

D. Arrangements Transactions Review Report. The IRO shall prepare a report based on each Arrangements Transactions Review performed. The Arrangements Transactions Review Report shall include the following information:

1. *Review Methodology*.

   a. Review Protocol. A description of the process used by the IRO to identify the Focus Arrangements subject to review in the Arrangements Transactions Review.

   b. Sources of Data. A full description of the documentation and other information relied upon by the IRO in performing the Arrangements Transactions Review.

   c. Supplemental Materials. The IRO shall request all documentation and materials required for its review of the Focus Arrangements selected as part of the Arrangements Transactions Review and Progenity shall furnish such documentation and materials to the IRO prior to the IRO initiating its review of the Focus Arrangements. If the IRO accepts any supplemental documentation or materials from Progenity after the IRO has completed its initial review of the Focus Arrangements (Supplemental Materials), the IRO shall identify in the Arrangements Transactions Review Report the Supplemental Materials, the date the Supplemental Materials were accepted, and the relative weight the IRO gave to the Supplemental Materials in its review. In addition, the IRO shall include a narrative in the Arrangements Transactions Review Report describing the process by which the Supplemental Materials were accepted and the IRO's reasons for accepting the Supplemental Materials.

2. *Review Findings*. The IRO's findings with respect to whether Progenity has complied with the Focus Arrangements Procedures and Focus Arrangements Requirements with respect to each of the randomly selected Focus Arrangements reviewed by the IRO, including findings for each item listed in Sections C.1.a-g above.

In addition, as applicable, the Arrangements Transactions Review Report shall include the IRO's recommendations as required by Section C.2 above.

3. *Names and Credentials*. The names and credentials of the individuals who conducted the Arrangements Systems Review and the Arrangements Transactions Review.

**APPENDIX C**

**CLAIMS REVIEW**

A. Claims Review. The IRO shall perform the Claims Review annually to cover each of the five Reporting Periods. The IRO shall perform all components of each Claims Review.

1. *Definitions*. For the purposes of the Claims Review, the following definitions shall be used:

a. Overpayment: The amount of money Progenity has received in excess of the amount due and payable under Medicare, any state Medicaid program requirements, or TriCare, as determined by the IRO in connection with the Claims Review performed under this Appendix C.

b. Paid Claim: A claim submitted by Progenity and for which Progenity has received reimbursement from the Medicare program, a state Medicaid program, or TriCare.

c. Population: The Population shall be defined as all Paid Claims during the 12-month period covered by the Claims Review.

2. *Claims Review Sample.* The IRO shall randomly select and review a sample of 100 Paid Claims (Claims Review Sample). The Paid Claims shall be reviewed based on the supporting documentation available at Progenity's office or under Progenity's control and applicable Medicare and state Medicaid program requirements to determine whether the medical necessity of the items and services furnished was appropriately documented, and whether the claim was correctly coded, submitted, and reimbursed. For each Paid Claim in the Claims Review Sample that results in an Overpayment, the IRO shall review the system(s) and process(es) that generated the Paid Claim and identify any problems or weaknesses that may have resulted in the identified Overpayments. The IRO shall provide its observations and recommendations on suggested improvements to the system(s) and the process(es) that generated the Paid Claim.

3. *Other Requirements.*

a. Supplemental Materials. The IRO shall request all documentation and materials required for its review of the Paid Claims in the Claims Review Sample and Progenity shall furnish such documentation and materials to the IRO prior to the IRO initiating its review of the Claims Review Sample. If the IRO accepts any

supplemental documentation or materials from Progenity after the IRO has completed its initial review of the Claims Review Sample (Supplemental Materials), the IRO shall identify in the Claims Review Report the Supplemental Materials, the date the Supplemental Materials were accepted, and the relative weight the IRO gave to the Supplemental Materials in its review. In addition, the IRO shall include a narrative in the Claims Review Report describing the process by which the Supplemental Materials were accepted and the IRO's reasons for accepting the Supplemental Materials.

b. Paid Claims without Supporting Documentation. Any Paid Claim for which Progenity cannot produce documentation shall be considered an error and the total reimbursement received by Progenity for such Paid Claim shall be deemed an Overpayment. Replacement sampling for Paid Claims with missing documentation is not permitted.

c. Use of First Samples Drawn. For the purposes of the Claims Review Sample discussed in this Appendix, the first set of Paid Claims selected shall be used (i.e., it is not permissible to generate more than one list of random samples and then select one for use with the Claims Review Sample).

4. *Repayment of Identified Overpayments.* Progenity shall repay within 60 days the Overpayment(s) identified by the IRO in the Claims Review Sample, in accordance with the requirements of 42 U.S.C. § 1320a-7k(d) and any applicable regulations or Centers for Medicare and Medicaid Services (CMS) guidance (the "CMS overpayment rule"). If Progenity determines that the CMS overpayment rule requires that an extrapolated Overpayment be repaid, Progenity shall repay that amount at the mean point estimate as calculated by the IRO. Progenity shall make available to OIG all documentation that reflects the refund of the Overpayment(s) to the payor. OIG, in its sole discretion, may refer the findings of the Claims Review Sample (and any related work papers) received from Progenity to the appropriate Medicare or state Medicaid program contractor for appropriate follow up by the payor.

B. Claims Review Report. The IRO shall prepare a Claims Review Report as described in this Appendix for each Claims Review performed. The following information shall be included in the Claims Review Report.

1. *Claims Review Methodology.*

a. Claims Review Population. A description of the Population subject to the Claims Review.

b. Claims Review Objective. A clear statement of the objective intended to be achieved by the Claims Review.

c. Source of Data. A description of (1) the process used to identify Paid Claims in the Population and (2) the specific documentation relied upon by the IRO when performing the Claims Review (e.g., medical records, physician orders, certificates of medical necessity, requisition forms, local medical review policies (including title and policy number), CMS program memoranda (including title and issuance number), Medicare carrier or intermediary manual or bulletins (including issue and date), other policies, regulations, or directives).

d. Review Protocol. A narrative description of how the Claims Review was conducted and what was evaluated.

e. Supplemental Materials. A description of any Supplemental Materials as required by A.3.a., above.

2. *Statistical Sampling Documentation.*

a. A copy of the printout of the random numbers generated by the "Random Numbers" function of the statistical sampling software used by the IRO.

b. A description or identification of the statistical sampling software package used by the IRO.

3. *Claims Review Findings.*

a. Narrative Results.

i. A description of Progenity's billing and coding system(s), including the identification, by position description, of the personnel involved in coding and billing.

ii. A description of controls in place at Progenity to ensure that all items and services billed to Medicare or a state Medicaid program are medically necessary and appropriately documented.

iii. A narrative explanation of the IRO's findings and supporting rationale (including reasons for errors, patterns noted, etc.)

regarding the Claims Review, including the results of the Claims Review Sample.

b. Quantitative Results.

i. Total number and percentage of instances in which the IRO determined that the coding of the Paid Claims submitted by Progenity differed from what should have been the correct coding and in which such difference resulted in an Overpayment to Progenity.

ii. Total number and percentage of instances in which the IRO determined that a Paid Claim was not appropriately documented and in which such documentation errors resulted in an Overpayment to Progenity.

iii. Total number and percentage of instances in which the IRO determined that a Paid Claim was for items or services that did not have appropriate documentation of medical necessity and resulted in an Overpayment to Progenity.

iv. Total dollar amount of all Overpayments in the Claims Review Sample.

v. Total dollar amount of Paid Claims included in the Claims Review Sample.

vi. Error Rate in the Claims Review Sample. The Error Rate shall be calculated by dividing the Overpayment in the Claims Review Sample by the total dollar amount associated with the Paid Claims in the Claims Review Sample.

vii. An estimate of the actual Overpayment in the Population at the mean point estimate.

viii. A spreadsheet of the Claims Review results that includes the following information for each Paid Claim: Federal health care program billed, beneficiary health insurance claim number, date of service, code submitted (e.g., DRG, CPT code, etc.), code reimbursed, allowed amount reimbursed by payor, correct code (as determined by the IRO), correct allowed amount (as determined by the IRO), dollar difference between allowed amount reimbursed by payor and the correct allowed amount.

c. Recommendations. The IRO's report shall include any recommendations for improvements to Progenity's billing and coding system or to Progenity's controls for ensuring that all items and services billed to Medicare or a state Medicaid program are medically necessary and appropriately documented, based on the findings of the Claims Review.

4. *Credentials*. The names and credentials of the individuals who: (1) designed the statistical sampling procedures and the review methodology utilized for the Claims Review and (2) performed the Claims Review.

**From:** Clarke Neumann
**Sent:** Thursday, November 19, 2020 10:33 AM
**To:** Miller, Grant E
Cc:

**Subject:** RE: EXTERNAL - RE: Progenity/UHC Settlement Payments - PROGENITY CONFIDENTIAL INFORMATION

Grant, thank you very much. Very much. We appreciate it, thank you.

We are in agreement as you have written below.

Best Regards, Clarke

**Clarke Neumann**

Senior Vice President General Counsel & Secretary
Office | Mobile

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**From:** Miller, Grant E
**Sent:** Thursday, November 19, 2020 10:30 AM
**To:** Clarke Neumann
Cc:

**Subject:** RE: EXTERNAL - RE: Progenity/UHC Settlement Payments - PROGENITY CONFIDENTIAL INFORMATION

Clarke,

Please allow this e-mail to serve as agreement by United to accept the December 1st payment on or before December 18, 2020. This is the absolute latest this payment can be made, and if not received by United by that date, United will consider Progenity in breach of the settlement agreement.

This is a one-time extension that does not alter the remainder of the payment schedule as included in the settlement agreement. It also does not alter or change any rights or obligations under the settlement agreement.

Please contact me with any questions.

**Grant Ellis Miller** | Associate General Counsel

(office) (email)
(web) www.unitedhealthgroup.com

**Exhibit 21.1**

**Subsidiaries of Progenity, Inc.**

1. SPX3, Inc., a Delaware corporation
2. Molecular Diagnostic Health Sciences, LLC, a Delaware limited liability company
3. Progenity Holding Company, Inc., a Delaware corporation
4. Avero Laboratory Holdings LLC, a Delaware limited liability company
5. Progenity UK Limited, a private limited company incorporated in the United Kingdom
6. Progenity Pty Ltd, an Australian company

**Exhibit 23.1**

**Consent of Independent Registered Public Accounting Firm**

The Board of Directors
Progenity, Inc.:

We consent to the use of our report included herein and to the reference to our firm under the heading “Experts” in the prospectus. Our report dated March 18, 2020, except for the stock split described in Note 15, which is as of June 10, 2020, refers to the Company’s adoption of Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* (*Topic 606*), as amended. Our report also contains an explanatory paragraph that states that the Company has suffered recurring losses from operations and has an accumulated deficit that raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty.

/s/ KPMG LLP

San Diego, California
November 30, 2020