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2020 ANNUAL REPORT

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number: 001-37478

NATERA, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**01-0894487**
State or Other Jurisdiction of Incorporation or Organization	**(I.R.S. Employer Identification No.)**
13011 McCallen Pass Building A Suite 100 Austin, TX	**78753**
(Address of Principal Executive Offices)	**(Zip Code)**

(650) 249-9090
Registrant's Telephone Number, Including Area Code

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol**	**Name of each exchange on which registered**
Common Stock, par value $0.0001 per share	**NTRA**	**The Nasdaq Stock Market LLC (NASDAQ Global Select Market)**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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.:

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 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $3.51 billion based on the last reported sale price of $47.55 per share as reported on the Nasdaq Global Select Market on June 30, 2020, the last trading day of the most recently completed second fiscal quarter.

As of February 19, 2021, the number of outstanding shares of the registrant's common stock, par value $0.0001 per share, was 86,574,688.

DOCUMENTS INCORPORATED BY REFERENCE

Information required in response to Part III of this annual report on Form 10-K is hereby incorporated by reference to portions of the Registrant's proxy statement for its Annual Meeting of Stockholders to be held in 2021. The proxy statement will be filed by the registrant with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2020.

Natera, Inc.

FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2020

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements. The forward-looking statements are contained principally in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” but are also contained elsewhere in this report. Forward-looking statements include information concerning our future results of operations and financial position, strategy and plans, and our expectations for future operations. Forward-looking statements include all statements that are not historical facts and, in some cases, can be identified by terms such as "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or the negative version of these words and similar expressions.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including those described in "Risk Factors" and elsewhere in this report. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our beliefs and assumptions only as of the date of this report. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. You should read this report completely and with the understanding that our actual future results may be materially different from what we expect.

These forward-looking statements include, but are not limited to, statements concerning the following:

- the extent and duration of the impact of the COVID-19 pandemic on our business, results of operations, stock price, or overall financial condition;
- our expectation that, for the foreseeable future, a significant portion of our revenues will be derived from sales of Panorama and Horizon;
- our ability to increase demand for Panorama and Horizon, obtain favorable coverage and reimbursement determinations from third-party payers, and expand geographically;
- our expectation that Panorama will be adopted for broader use in average-risk pregnancies and for the screening of microdeletions and that third-party payer reimbursement will be available for these applications, including our expectations regarding the results of our SNP based Microdeletion and Aneuploidy RegisTry, or SMART, Study and our expectations that the results from such study may support broader use and reimbursement for the use of Panorama in average risk pregnancies and for microdeletions;
- our expectations of the reliability, accuracy, and performance of our tests, as well as expectations of the benefits of our tests to patients, providers, and payers;
- our ability to successfully develop additional revenue opportunities and expand our product offerings to include new tests;
- our efforts to successfully develop and commercialize our oncology and organ health products;
- the effect of improvements in our cost of goods sold;
- our estimates of the total addressable markets for our current and potential product offerings;
- our ability and expectations regarding obtaining, maintaining and expanding third-party payer coverage of, and reimbursement for, our tests;
- the effect of changes in the way we account for our revenue;
- our ability to successfully commercialize our products through strategic or commercial partnerships, such as our agreements with BGI Genomics Co., Ltd. and Foundation Medicine, Inc., and our ability to enter into additional partnerships in the future;
- the scope of protection we establish and maintain for, and developments or disputes concerning, our intellectual property or other proprietary rights;

- our ability to successfully compete in the markets we serve;
- our reliance on collaborators such as medical institutions, contract laboratories, laboratory partners, and other third parties;
- our ability to operate our laboratory facility and meet expected demand, and to successfully scale our operations;
- our reliance on a limited number of suppliers, including sole source suppliers, which may impact our ability to maintain a continued supply of laboratory instruments and materials and to run our tests;
- our expectations of the rate of adoption of Panorama, Horizon and of any of our other current or future tests by laboratories, clinics, clinicians, payers, and patients;
- our ability to complete clinical studies and publish compelling clinical data in peer-reviewed medical publications regarding Panorama and any of our future tests, including our SMART study and our ongoing and planned trials in oncology and transplant rejection;
- our reliance on our partners to market and offer our tests in the United States and in international markets;
- our estimates regarding our costs and risks associated with our international operations and international expansion;
- our ability to retain and recruit key personnel;
- our reliance on our direct sales efforts;
- our expectations regarding acquisitions and strategic operations;
- our expectations regarding the conversion of our outstanding 2.25% convertible senior notes due 2027 (the "Convertible Notes") in the aggregate principal amount of $287.5 million and our ability to make debt service payments under the Convertible Notes if such Convertible Notes are not converted;
- our ability to fund our working capital requirements;
- our compliance with federal, state, and foreign regulatory requirements;
- the factors that may impact our financial results; and
- anticipated trends and challenges in our business and the markets in which we operate.

Any forward-looking statement made by us in this report speaks only as of the date on which it is made. Except as required by law, we disclaim any obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

SUMMARY OF RISK FACTORS

The below is a summary of principal risks to our business and risks associated with ownership of our stock. This summary does not address all of the risks that we face. We encourage you to carefully review the full risk factors contained in this Annual Report on Form 10-K in their entirety for additional information regarding the material factors that make an investment in our securities speculative or risky. These risks and uncertainties include, but are not limited to, the following:

- the COVID-19 pandemic could have a material adverse effect on our business, results of operations, financial condition and stock price;
- if we are unable to increase demand for Panorama and Horizon, which together represent a significant majority of our revenues, obtain favorable coverage and reimbursement determinations from third-party payers, and expand geographically, our business will be harmed;

- Panorama may not be adopted for broader use in average-risk pregnancies or for the screening of microdeletions, or third-party payer reimbursement may not be available for these applications;
- if we are not successful in our efforts to develop additional revenue opportunities and expand our product offerings to include new tests, including in oncology and organ health, our business and prospects, as well as our stock price, will be adversely affected;
- we have incurred net losses since our inception, and anticipate that we will continue to incur losses for the foreseeable future;
- we have incurred substantial indebtedness that may decrease our business flexibility, access to capital, and/or increase our borrowing costs, which may adversely affect our operations and financial results;
- our quarterly results may fluctuate from period to period, which could adversely impact the value of our common stock;
- competition in our industry is intense, and if we are unable to complete successfully with respect to our current or future products or services, we may be unable to increase or sustain our revenues or achieve profitability;
- our estimates of the total addressable markets for our current and potential product offerings may turn out to be inaccurate, or the markets for our tests may not grow as we expect;
- we may be unable to obtain, maintain or expand third-party payer coverage of, and reimbursement for, our tests;
- if we are not successful in our research and development or clinical development activities, including clinical trials and publication of compelling data, our ability to commercialize our products, and therefore our competitive position, will be adversely impacted;
- our strategic or commercial partnerships, such as our agreements with BGI Genomics Co., Ltd. and Foundation Medicine, Inc., may not be successful, and we may be unable to enter into additional partnerships in the future;
- we operate in a crowded technology area in which there has been substantial litigation and other proceedings regarding patent and other intellectual property rights, and we may fail to adequately protect or enforce our intellectual property relating to our tests, or fail to defend against infringement claims brought against us by other parties;
- we rely on a limited number of suppliers, including sole source suppliers, which may impact our ability to maintain a continued supply of laboratory instruments and materials and to run our tests;
- we have experienced rapid growth, particularly in recent years, and may be unable to successfully scale our operations, which could harm our business and results of operations; and
- we may engage in acquisitions, dispositions or other strategic transactions that could disrupt our business, cause dilution to our stockholders or reduce our financial resources.

As used in this annual report on Form 10-K, the terms “Natera,” “Registrant,” “Company,” “we,” “us,” and “our” mean Natera, Inc. and its subsidiaries unless the context indicates otherwise.

PART I

Item 1. BUSINESS

Note: A glossary of terms used in this Form 10-K appears at the end of this Item 1.

Overview

We are a diagnostics company with proprietary molecular and bioinformatics technology that we are applying to change the management of disease worldwide. Our cell-free DNA, or cfDNA, technology combines our novel molecular assays, which reliably measure many informative regions across the genome from samples as small as a single cell, with our statistical algorithms which incorporate data available from the broader scientific community to identify genetic variations covering a wide range of serious conditions with best-in-class accuracy and coverage. Our technology has been proven clinically and commercially in the women's health space, in which we develop and commercialize non- or minimally- invasive tests to evaluate risk for, and thereby enable early detection of, a wide range of genetic conditions, such as Down syndrome. We are now translating our success in women's health and applying our core technology to the oncology market, in which we are commercializing a personalized blood-based DNA test to detect molecular residual disease and monitor disease recurrence, as well as to the organ health market, initially with a test to assess kidney transplants for rejection. We seek to enable even wider adoption of our technology through our global cloud-based distribution model. In addition to our direct sales force in the United States, we have a global network of over 100 laboratory and distribution partners, including many of the largest international laboratories.

Since 2009, we have launched a comprehensive suite of 11 products in the women's health space, as well as products in oncology and in organ health. We intend to continue to launch new products in the future.

We launched Panorama, our non-invasive prenatal test, or NIPT, in 2013 and have since gone from being the fourth company to enter the NIPT market to being the market leader by volume in the United States. We launched our Horizon carrier screening test in 2012. Panorama and Horizon together represent the significant majority of our revenues. Our revenues were $391.0 million in 2020 compared to $302.3 million in 2019 and $257.7 million in 2018. Our product revenues, which are primarily generated from testing in women's health, were $367.2 million, $269.9 million and $240.4 million for the years ended December 31, 2020, 2019 and 2018, respectively. Our net losses increased to $229.7 million in 2020 from $124.8 million in 2019 and $128.2 million in 2018.

Our Solution

In women's health, oncology and organ health, the use of blood-based tests offers significant advantages over older methods, but the significant technological challenge is that such testing often requires the measurement of very small amounts of relevant genetic material – fetal DNA in reproductive health, tumor DNA in oncology, and donor DNA in transplant rejection – circulating within a much larger blood sample. Our approach combines proprietary molecular biology and computational techniques to measure genomic variations in tiny amounts of DNA, as small as a single cell.

DNA is a naturally occurring information storage system that conveys genetic inheritance. DNA stores information in a linear sequence of the chemical bases adenine, cytosine, guanine and thymine, represented by the symbols A, C, G, and T. Billions of bases of A, C, G, and T link together inside living cells to form the genome, which can be read like a code or a molecular blueprint for life. While differences in the specific sequence and structure of this code drive biological diversity, certain variations can also cause disease. Examples of genetic diversity include CNVs and SNVs. A CNV is a genetic mutation in which relatively large regions of the genome have been deleted or duplicated, and an SNV is a mutation where a single base has changed. When single base changes are common in the population, that position on the chromosome, or loci, is called a single nucleotide polymorphism, or SNP.

Our molecular biology techniques are based on measuring thousands of SNPs simultaneously using massively multiplexed polymerase chain reaction, or mmPCR, to multiplex, or target, many thousands of regions of the genome simultaneously in a single test reaction. Our method avoids losing molecules, which can happen when samples are split into separate reaction tubes, so that all relevant variants can be detected. To make sense of the resulting deep and rich set of biological data and deliver a test result, we have developed computationally intensive algorithms that combine the data generated by mmPCR with the ever-expanding set of publicly available data on genetic variations. Our technologies allow us to achieve a high signal-to-noise ratio when detecting fragments of DNA at frequencies as low as a single copy, which allows us to deliver tests with a high degree of specificity and sensitivity. Furthermore, our women's health tests assess the risk of a broad range of conditions, which we refer to as "clinical coverage," including common fetal aneuploidies, microdeletions, triploidy, and inherited genetic conditions that could be passed on from parent to child, from a single blood draw.

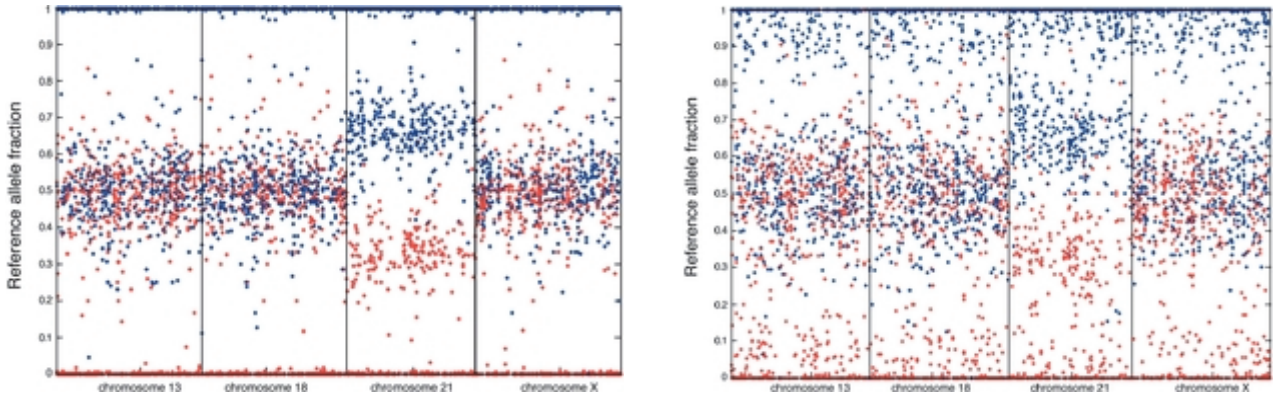
We believe our approach represents a fundamental advance in molecular biology. In women's health, this approach is distinct from the approach employed with other commercially available NIPTs, which use first-generation "quantitative", or counting, methods to compare the relative number of sequence reads from a chromosome of interest to a reference chromosome. Based on data published in the journals *Obstetrics & Gynecology*, *American Journal of Obstetrics & Gynecology*, *Prenatal Diagnosis*, and others, we believe Panorama is the most accurate NIPT commercially available in the United States. In oncology, where we have demonstrated the ability to detect circulating tumor DNA, or ctDNA, with a high degree of sensitivity and specificity, we believe our Signatera assay is the only ctDNA test that is custom designed for, informed by and specific to, the tumor DNA for each patient. In organ health, we have demonstrated the ability of our technology to measure the fraction of cell-free DNA that is donor-derived, or dd-cfDNA, which is DNA that is shed from a transplanted organ into circulation. Published studies of the performance of our Prospera transplant rejection test in both clinical and analytical validation report higher sensitivity and higher area under the curve, or AUC, than both the current standard of care and the competing test. The current standard of care in transplant rejection detection uses functional impairment assessed by serum creatinine or estimated glomerular filtration rate, or eGFR, which are clinically accepted but potentially inaccurate approaches for assessing active transplant rejection.

Our technology is compatible with standard equipment used globally and a range of next generation sequencing, or NGS, platforms, and we have optimized our algorithms to enable laboratories around the world to run tests locally and access our algorithms in the cloud using our Constellation platform. We sell our tests directly and partner with other clinical laboratories to distribute our tests globally. Currently, all of our products other than our Constellation cloud software product are laboratory developed tests, or LDTs. We perform commercial testing in our CLIA-certified laboratories.

Our Technology

An illustration of the resolution that can be achieved with our mmPCR capability is provided below. The figures display data from our approximately 20,000 primer mmPCR assay, where each primer targets one SNP. On the left, the assay is applied to a large genomic DNA sample from a child. On the right, the assay is applied to a single cell from the same child. Each dot represents data from a particular SNP location on a chromosome. The assay measures the amount of each of the two possible sequences of nucleotides, or alleles, at each SNP. The plots below show the relative proportion of the two alleles, plotted along the vertical axis, for each of the approximately 20,000 SNPs, arranged sequentially along the vertical axis. The two alleles are arbitrarily labeled A and B, and each dot is colored according to the allelic contribution of the mother—red (A) or blue (B). Those SNPs where both copies of DNA in the child contain only the A allele are red and are found at the very top of the plot, and those SNPs where both copies of DNA in the child contain only the B allele are blue and are found at the very bottom of the plot. The SNPs where the fetus contains at least one copy of the A allele and one copy of the B allele are found near the center of the plot. The four vertical bars separated by dotted lines display data from chromosomes 13 (Patau syndrome), 18 (Edwards syndrome), 21 (Down syndrome) and X. For chromosomes 13, 18 and X, the middle band is centered on 0.5; which indicates that for those SNPs, the child has one copy of the A allele and one copy of a B allele (and therefore a relative proportion of 0.5), and, therefore, has the right number of chromosomes—two. In this sample, an additional chromosome is present at chromosome 21, which indicates the presence of trisomy 21. For chromosome 21, the bands centered at 0.33 and 0.66 signal the additional nucleotides contributed by the mother. The band centered at 0.33 represents SNPs where the child has two copies of the B allele and one copy of the

A allele, and the band centered at 0.66 represents SNPs where the child has two copies of the A allele and one copy of the B allele. The assay clearly quantifies the difference between single molecules of a particular allele at each SNP. The images demonstrate our ability to derive actionable information from tiny quantities of DNA, as the data from a single cell in the image on the right is nearly as informative as the data from a large genomic sample in the image on the left.



Our bioinformatics technology utilizes proprietary complex statistical techniques to combine the measurements of our molecular assays with our internal databases and the vast and growing sources of publicly available genomic information to build highly detailed models of the genome of interest. As our patient volumes grow, our internal database of samples with genetic mutations and corresponding clinical outcomes further enhances our ability to interpret the clinical significance of complex genetic mutations. As the genomic data from the scientific community, such as from the Cosmic Database and the Cancer Genome Atlas, becomes richer, we can seamlessly integrate new clinical knowledge into our bioinformatics algorithm, driving further improvement in our tests.

Women's Health

In women's health, we provide testing to support a spectrum of women's health needs, from family planning and prenatal testing to hereditary cancer screening.

Panorama

Panorama helps physicians assess the risk of fetal genetic abnormalities by non-invasively screening for fetal chromosomal abnormalities, including Down syndrome, Edwards syndrome, Patau syndrome, Turner syndrome and triploidy, which often result in intellectual disability, severe organ abnormalities and miscarriage. Panorama can also identify fetal sex for single birth pregnancies as well as of each fetus in twin pregnancies. Panorama is also the only commercially available NIPT that can determine whether a set of twins is identical, or monozygotic, or fraternal, or dizygotic. Identifying a monozygotic twin pregnancy can prompt earlier, targeted ultrasound assessments for chorionicity and associated complications, while knowing that a twin pregnancy is dizygotic reduces concerns about certain complications, such as twin-twin transfusion syndrome. Panorama demonstrates the capabilities of our technology by employing our fundamentally unique approach of simultaneously measuring thousands of SNPs in a single test reaction to identify genetic variations in fetal DNA with a high degree of specificity and sensitivity, which we believe can give patients and their physicians a greater degree of comfort in choosing to forego unnecessary invasive procedures, limiting the resulting risk of spontaneous miscarriage associated with invasive procedures and lowering the total cost to the healthcare system of these procedures. Panorama screens for common genetic conditions that affect both high-risk pregnancies, where maternal age is over 35 and which we estimate represent 19% of the approximately 4.4 million pregnancies in the United States, or approximately 800,000 pregnancies, and average-risk pregnancies, which we estimate represent approximately 3.6 million pregnancies in the United States.

Panorama is performed on a maternal blood sample and can be performed as early as nine weeks into a pregnancy, which is significantly earlier than traditional methods, such as serum protein measurement whereby doctors measure the presence and amount of certain hormones in the blood. Panorama starts with a simple blood draw from the mother, either in a doctor's office, in a laboratory or through a phlebotomist that may travel to the patient, and the sample is sent to one of our CLIA-certified and CAP-accredited laboratories for processing. After Panorama generates its result, we provide the doctor or the laboratory with a simple report showing the risk that abnormalities are present in the fetus.

The analytic and clinical validity of our technology demonstrated in NIPT has been described in more peer-reviewed publications covering more patients than our competitors. Based on data published in *Prenatal Diagnosis*, *Fetal Diagnosis and Therapy* and *Obstetrics & Gynecology*, Panorama demonstrated greater than 99% overall sensitivity for aneuploidies on chromosomes 13, 18 and 21 and triploidy and specificity of greater than 99.9% (less than 0.1% false positive rate) for each disorder, which we believe makes it overall the most accurate NIPT commercially available in the United States. A paper published in *Obstetrics & Gynecology* reported that Panorama had a statistically significant lower false positive rate than other NIPT methods practiced by our U.S. competitors. Based on data published in *Obstetrics & Gynecology*, *Prenatal Diagnosis*, and *American Journal of Obstetrics & Gynecology*, we have also demonstrated the ability to identify fetal sex more accurately than competing NIPTs. This is partially a result of Panorama's unique ability to detect a vanishing twin, which is a known driver of fetal sex errors with quantitative methods used by our competitors. The *American Journal of Obstetrics & Gynecology* noted that the ability of Panorama to identify additional fetal haplotypes is expected to result in fewer false positive calls and prevent incorrect fetal sex calls. A study reporting on the use of Panorama in over 30,000 women, published in the *American Journal of Obstetrics & Gynecology*, supported the use of NIPT as a first-line screening test for aneuploidy.

Our Panorama microdeletions panel screens for five of the most common genetic diseases caused by microdeletions – 22q11.2 deletion syndrome (DiGeorge syndrome), 1p36 deletion, Angelman syndrome, Cri-du-chat syndrome and Prader-Willi syndrome. Microdeletions are missing sub-chromosomal pieces of DNA, and can have serious health implications depending on the location of the deletion. Unlike Down syndrome, where the risk increases with maternal age, the risk of these five microdeletions is independent of maternal age. Based on data published in *Prenatal Diagnosis* and *American Journal of Obstetrics & Gynecology*, the combined prevalence of these targeted microdeletions is approximately one in 1,000 pregnancies, which collectively makes them more common than Down syndrome for women younger than approximately 28 years of age. Furthermore, we estimate that triploidy and the aneuploidy and microdeletion conditions that we screen for combined are more than three times as prevalent in the general population as the three most common autosomal aneuploidies, trisomies 13, 18, and 21, alone. Diseases caused by microdeletions are often not detected via common screening techniques such as ultrasound or hormone-based screening, yet the presence of a microdeletion can critically impact postnatal treatment. For example, when learning prior to birth that a newborn has 22q11.2 deletion syndrome, doctors will know to monitor the infant and administer calcium if needed to avoid seizures and permanent cognitive impairment, and will know to avoid administering routine vaccinations due to the immunodeficiency frequently associated with this condition.

Panorama has demonstrated best-in-class performance in screening for microdeletions. Panorama achieved sensitivity of 90% for deletions of approximately 2.9Mb for 22q11.2 deletion syndrome, based on a validation study that contained 10 positives. It has also been validated to perform at low fetal fractions, which refers to the percentage of fetal DNA in a maternal plasma sample. Based on data published in the February 2018 issue of *Clinical Genetics*, Panorama demonstrated a PPV of 44.2% and false positive rate of 0.07% for 22q11.2 deletion syndrome. Furthermore, in 2021 we expect to publish the results of our SNP-based Microdeletions and Aneuploidy RegisTry (SMART) observational study to evaluate the performance of SNP-based NIPT for 22q11.2 deletion syndrome by tracking birth outcomes in the general population among over 18,000 women who presented clinically and elected Panorama microdeletion and aneuploidy screening as part of their routine care. In conducting this study, we reviewed perinatal medical records and collected postnatal DNA in order to perform genetic diagnostic testing for 22q11.2 deletion syndrome, comparing results from the follow-up specimens to those obtained by the Panorama screening test to determine test performance, particularly PPV.

Panorama is also the only commercially available NIPT for twin pregnancies that can distinguish between each twin's DNA, and therefore can determine zygosity, or whether the twins are identical or fraternal, and the fetal sex of each twin. Determining zygosity early in a pregnancy can help guide the management of a pregnancy, as certain monozygotic,

or identical twin, pregnancies are at higher risk for various complications such as twin-twin transfusion syndrome, where there is an unequal sharing of blood, and therefore unequal growth, between the twins. Panorama screens twin pregnancies for Down, Edwards and Patau syndromes and, for identical twins, Turner syndrome and 22q11.2 deletion syndrome, among others. In validation studies, Panorama identified identical twins with >99% sensitivity and specificity and achieved a combined sensitivity of >99% and specificity of >99% for Down, Edwards and Patau syndromes in twin pregnancies.

Panorama's commercial performance has been consistent with our initial validation data. Data published in the *Journal of Clinical Medicine* on over one million commercial cases of Panorama that were screened for Down, Edwards, Patau and Turner syndromes demonstrated an overall PPV of 90% for all indications combined. We believe Panorama's performance in commercial practice represents a significant improvement over first-generation NIPTs that rely on quantitative methods. Because Panorama does not require a reference chromosome, it is uniquely able to detect triploidy as well as full molar pregnancies. Panorama's ability to differentiate between maternal and fetal DNA also allows Panorama to identify the presence of a vanishing twin, as well as maternal abnormalities, which have been shown in multiple studies to lead to false positives when using quantitative methods, particularly in the sex chromosomes where maternal abnormalities are common.

Panorama has demonstrated substantial commercial success to date. We believe our test performance – including our continuous research, development and innovation to improve performance and efficiency – has allowed us to command a price premium compared to low-cost NIPTs while continuing to maintain growth in volume and revenue from Panorama.

Horizon

Horizon helps couples determine if they are carriers of genetic mutations that cause specific diseases. Depending on the disease, if one or both parents are carriers for a specific disease, it could result in a child affected with the disease. Many people do not know they are a carrier for an inherited genetic disease until they have an affected child. These diseases are rare and usually there is no family history, and although certain disorders are more common in certain ethnic groups, ethnicity may not be a reliable predictor of carrier status, as patients are increasingly of mixed or uncertain ethnicities. The industry's approach to carrier screening has accordingly evolved over time, from ethnic-based screening targeting specific ethnicities with a higher incidence of screened conditions, to pan-ethnic screening for certain recommended conditions available to all patients, and most recently to expanded screening for many conditions simultaneously.

Horizon was created based on recommended screening guidelines from ACOG, ACMG, and the Victor Center for the Prevention of Jewish Genetic Diseases. Horizon screens for up to 274 inherited diseases, including Cystic Fibrosis, Duchenne Muscular Dystrophy, or DMD, Spinal Muscular Atrophy, Fragile X Syndrome and other conditions. The blood or saliva sample required for Horizon can be obtained simultaneously with the blood sample required for Panorama, which makes it easier for us to offer, and for patients to take, both tests. Horizon employs various methodologies, including next generation sequencing and copy number analysis, often in combination in order to increase test sensitivity, to analyze the DNA from the individual's blood or saliva sample to determine if the individual is a carrier for the genetic diseases being screened.

Other reproductive health products

While Panorama and Horizon represent the significant majority of our women's health revenues, we offer a portfolio of tests in reproductive and women's health. Our Vistara NIPT screens for 25 single-gene disorders that cause severe skeletal, cardiac and neurological conditions which affect quality of life, are often associated with cognitive disabilities and may benefit from medical and/or surgical intervention. The conditions screened by Vistara have a combined incidence of approximately 1 in 600, which is higher than that of Down syndrome as well as Cystic Fibrosis, but may otherwise go undetected until after birth or into childhood as traditional NIPTs do not screen for these conditions, prenatal ultrasound findings are not a reliable indicator, and family history is not a good indicator of risk for these conditions, which are commonly caused by new, and not inherited, mutations. Screening for these conditions early in a pregnancy can facilitate early diagnosis, enable patients to be referred to MFMs and other specialists for targeted evaluations, to guide labor and delivery management, and to allow families to mobilize resources, ask questions and

anticipate future needs. We have received a CE Mark for Vistara from the European Commission. In validation studies, Vistara demonstrated a combined analytical sensitivity and analytical specificity of greater than 99%.

Spectrum comprises our preimplantation genetic tests for couples undergoing IVF. Spectrum can improve the chance of a successful pregnancy while reducing the chance of miscarriage or of having a child with a chromosome condition, by helping to identify the healthiest embryos during an IVF cycle. Spectrum PGT-A evaluates the number of chromosomes in embryos to detect extra or missing pieces of chromosomes prior to transfer of embryos created through IVF procedures, which have a high rate of non-viable chromosomal abnormalities, known as aneuploidy. Couples that are at risk of having a child with an inherited genetic disorder can also be tested for single gene conditions (PGT-M), which predicts which embryos are affected with specific genetic disorders; and PGT-SR can be used to test for inherited translocations or inversions, or extra or missing chromosome pieces. This allows IVF physicians to select and transfer chromosomally normal embryos. In particular, aneuploidy is common in human embryos—particularly as women age—and is the primary cause of failed IVF. PGT-A has been shown to improve IVF outcomes for all women, regardless of maternal age. In a study published in April 2018, a retrospective analysis of pregnancy outcomes demonstrated that use of Spectrum during IVF led to increased rates of implantation, including in older women, clinical pregnancy, and live births. The study findings also demonstrated that use of PGT-A can increase the use of single embryo transfer, which can reduce the risks of multiple pregnancies. Spectrum incorporates our proprietary technology to further screen for uniparental disomy, in which two copies of a chromosome come from the same parent, confirm parentage, and determine the parental origin of the chromosomal abnormality.

Anora is our products of conception, or POC, test, which analyzes miscarriage tissue from women who have experienced one or more pregnancy losses to determine whether there was an underlying chromosomal reason for the loss. Anora can detect trisomy, triploidy, extra or missing chromosome pieces, and uniparental disomy. The Anora test is helpful to obstetricians, gynecologists and IVF physicians in supporting their patients' reproductive goals. Anora can help couples understand the likelihood of another miscarriage, their future reproductive options, and whether there are any steps that may help them avoid a miscarriage in future pregnancies.

Our non-invasive prenatal paternity product allows a couple to safely establish paternity without waiting for the child to be born. Testing can be done as early as nine weeks in gestation using a blood draw from the pregnant mother and alleged father. Our internal data indicates that the accuracy of this test is greater than 99.99%. We have licensed this technology to a third party to perform the test in its clinical laboratory.

Oncology

Signatera

In oncology, we have been initially focused on detecting molecular residual disease, which we refer to as MRD, and recurrence monitoring in solid tumors, where we have generated data in over a dozen different cancer types and have published data in lung, bladder, colorectal and breast cancer. Molecular residual disease is the presence of small traces of cancer in the blood, such as ctDNA or microscopic pieces of tumor DNA that are often undetectable with standard imaging techniques. If left untreated, residual cancer cells can multiply and cause recurrence. MRD testing and molecular monitoring offers the potential for physicians to change or escalate treatment in patients who are MRD-positive, and to de-escalate or avoid unnecessary treatment in patients who are MRD-negative. It also holds potential as a surrogate endpoint in clinical trials. Based on our internal estimates, we believe that the total addressable market in the United States for recurrence and treatment monitoring for solid tumor cancers is over $15 billion.

Signatera is our personalized ctDNA blood test for MRD assessment and surveillance of disease recurrence in patients previously diagnosed with cancer. Each patient receives a custom assay that tracks the presence of 16 tumor-specific clonal mutations that are selected based on the unique mutational signature found in that patient's tumor tissue, which is intended to maximize accuracy for detecting the presence or absence of residual disease in a blood sample, even at variant allele frequency (VAF) of mutations as low as 0.01% in the blood. We believe this approach is optimal in the MRD setting, in which it is common for tumor DNA to be present only at low frequencies immediately after treatment. Unlike static liquid biopsy panels, which screen for a generic set of mutations independent of an individual's tumor,

Signatera is not intended to match patients with any particular therapy. Rather, it is intended to detect and quantify how much cancer is left in the body, detect recurrence earlier, and help optimize treatment decisions. Signatera can detect residual disease earlier than clinical or radiological recurrence in patients with solid tumors who have received treatment.

We launched Signatera in 2017 for research use only to cancer researchers and biopharmaceutical companies. Signatera was commercially launched in 2019 for clinical use as an LDT in our own CLIA-certified and CAP-accredited laboratory. We have received a final Medicare local coverage determination for the use of Signatera in patients with certain forms of colorectal cancer. CMS has also issued a draft local coverage determination proposing expanded coverage to include immunotherapy response monitoring as well as creating a pathway for coverage of the use of Signatera in additional solid tumor types and indications, where it is clinically validated with peer-reviewed evidence and where the clinical utility is established. Signatera has been designated as a Breakthrough Device by the FDA for use in the post-surgical detection and quantification of ctDNA in patients previously diagnosed with certain types of cancer and in combination with certain drugs.

Signatera has been shown in various clinical studies to identify MRD significantly earlier than standard diagnostic tools, and that Signatera test status is a significant indicator of long-term patient outcomes after surgery and treatment, relative to other clinical and pathological factors. In a clinical validation study conducted in collaboration with Aarhus University in Denmark, published in *JAMA Oncology*, Signatera detected relapse in patients with Stage II-III colorectal cancer an average of 8.7 months earlier than standard diagnostic tools. Patients who remained MRD-negative throughout the study had significantly reduced risk of relapse, as low as 3%. This study, along with another research collaboration with Aarhus University in locally advanced muscle invasive bladder cancer, published in *Journal of Clinical Oncology,* demonstrated the ability of Signatera to stratify patients by whether they are MRD positive or negative based on post-treatment presence or absence of ctDNA in the blood. In both the colorectal and bladder cancer studies, a positive Signatera test result after treatment was the strongest prognostic marker of disease recurrence and long-term patient outcomes, relative to all other risk factors.

We have also published results in lung cancer. Our technology was selected for use in Cancer Research UK/University College London's Tracking Cancer Evolution through Therapy (TRACERx) clinical trial for the multi-year monitoring of patient-specific SNVs in plasma, to understand the evolution of cancer mutations over time, and to monitor patients for disease recurrence. Results from the first 100 early-stage lung cancer patients analyzed as part of the study were featured on the cover of the May 2017 issue of *Nature* and showed that an early prototype version of Signatera identified 43% more ctDNA-positive early-stage lung cancer cases than a generic lung cancer panel and demonstrated its potential to detect residual disease, measure treatment response, and identify recurrence an average of four months earlier than the standard of care, with a sensitivity of 93% at time of relapse.

We have also completed two studies in breast cancer. In our study with Cancer Research UK-funded researchers at Imperial College London and the University of Leicester, U.K. published in *Clinical Cancer Research*, which included patients with all three of the key breast cancer subtypes (ER+, HER2+, and Triple Negative), Signatera detected molecular residual disease with a lead time of up to two years prior to clinical or radiological detection, and overall detected clinical relapse with a sensitivity of 89% at time of relapse. Our second study in breast cancer, the Investigation of Serial Studies to Predict Your Therapeutic Response with Imaging and Molecular Analysis 2 (I-SPY 2) trial with the University of California, San Francisco and QuantumLeap Healthcare Collaborative, launched in 2010, was a multi-center study evaluating the safety and efficacy of investigational therapies combined with early treatment in women with newly diagnosed, locally advanced breast cancer. The results of this trial demonstrated that the change of measurable ctDNA from positive to negative during neoadjuvant treatment predicted therapeutic response, while failure to clear ctDNA after neoadjuvant treatment correlated with poor clinical outcomes. ctDNA levels were also associated with disease burden as determined by imaging.

We are currently conducting research across multiple cancer types in collaboration with various cancer centers and pharmaceutical companies. For example, Signatera has been selected as the MRD test to be used in the Japan arm of the CIRCULATE-IDEA trial to evaluate ctDNA-guided treatment strategies for patients with Stage II-III colon cancer. If successful, this trial could result in the adoption of MRD testing into current medical practice as well as reimbursement of MRD testing in Japan. In addition, we have launched BESPOKE CRC, a nationwide, multi-center, 1,000-patient registry

study for patients diagnosed with Stage II-III colorectal cancer. The objective of the BESPOKE CRC study is to measure the impact of Signatera test results on changes in treatment decisions and clinical outcomes.

Altera

We are now expanding our efforts in oncology into therapy selection, which based our internal estimates represents a $6 billion market opportunity. We have launched Altera, a tissue based comprehensive genomic profiling test that provides insight into genomic alterations and biomarkers found in a patient's tumor, supporting treatment decisions and therapy selection by prioritizing potentially beneficial therapies based on the patient's tumor biomarkers and cancer type. Altera can be ordered as a stand-alone test, as well as in conjunction with our Signatera MRD test to combine therapy selection with ongoing monitoring.

Organ Health

We began commercializing our first offering in organ health in 2020, with the launch of our Prospera test to assess active rejection in patients who have undergone kidney transplantation by measuring the fraction of dd-cfDNA in the recipient's blood, which can spike relative to background cfDNA when the transplanted organ is injured due to immune rejection. The current tools for assessing organ transplant rejection are either invasive (biopsies) or inaccurate (serum creatinine), resulting in an unmet need for better diagnostic tools to monitor for allograft rejection and improve patient management and outcomes. Many patients are still subjected to unnecessary biopsies, while other patients remain undiagnosed in the case of subclinical rejection, which can increase the risk of graft failure. Our Prospera test is designed for use by physicians to help rule in or rule out active rejection when evaluating the need for diagnostic testing or the results of an invasive biopsy, and thereby potentially lowering the overall costs associated with transplant care and improving graft survival. We received a final Medicare local coverage determination for Prospera in December 2019, covering all kidney transplant recipients, including those with multiple kidney transplants. Based on our internal estimates, we believe the total addressable market in the United States for tests such as ours that assess kidney transplant rejection is over $2 billion.

Our clinical validation study, conducted in collaboration with the University of California, San Francisco, a recognized leader in transplantation care, and published in the *Journal of Clinical Medicine,* demonstrated strong performance of our mmPCR technology for detecting active rejection in patients with kidney transplants. In the blinded, retrospective study, we leveraged our SNP technology to measure dd-cfDNA levels in plasma samples from kidney transplant patients, including patients experiencing active rejection. Our assay demonstrated 89% sensitivity in detecting active rejection, with specificity of 73%, based on a cutoff of 1% dd-cfDNA. The assay performed particularly well in detecting T-cell mediated rejection (TCMR) and subclinical rejection, both of which we believe are areas of unmet need.

In an analytical validation study published in the February 2019 issue of *Transplantation*, our assay demonstrated superior precision, up to 5 times better than the competing dd-cfDNA assay. Precision is a measure of the test's ability to produce the same result when a single sample is tested repeatedly. This study also included donor-recipient pairs that were related, such as parents or siblings, as well as those that were not related. This is significant because an estimated 52% of live kidney donations are from a biological relative of the patient, but it is technically challenging to differentiate between DNA patterns of close relatives. We were able to achieve a high degree of accuracy in these challenging cases by leveraging our experience with SNP-based methods in the reproductive health setting.

We are currently enrolling participants in our ProActive registry study, one of the industry's largest known prospective studies to date incorporating dd-cfDNA testing into medical management of organ transplant recipients. The study is expected to enroll 3,000 kidney transplant patients from the time of surgery, and will measure changes in biopsy usage and clinical outcomes based on physician-directed use of the Prospera test to rule in or rule out active rejection. The study protocol calls for most patients to be followed for three years, while a subset of high-risk patients will be studied up to five years after transplantation. We have also been selected to participate in a global, prospective multicenter study on collaboration with Molecular Microscope Diagnostic System, in which 300 patients will be evaluated on the basis of clinical information, cfDNA measures, biopsies, molecular microscope, evaluations, and donor-specific antibodies to assess the potential benefits of integrated data analysis in managing kidney transplantation.

We believe we are also uniquely positioned to benefit potential organ transplant patients with cancer or a history of cancer, for whom it can be difficult to receive a transplant due to the uncertain risk of cancer recurrence as well as the increased risk of new or recurring cancers resulting from the immune-suppressing medications required to avoid rejection of the transplanted organ. We are planning several studies to understand how our Signatera and Prospera tests can be used to improve decision-making and care for these patients.

Constellation

Our Constellation software forms the core of our cloud-based distribution model. Through this model, we have been able to expand access to our molecular and bioinformatics capabilities worldwide, enabling laboratories, under a license from us, to run the molecular workflows themselves and then access our computation-intensive bioinformatics algorithms through Constellation, which runs in the cloud, to analyze the results. We currently have licensing contracts with various laboratories in the United States and internationally who are using our Constellation platform commercially in NIPT and in prenatal paternity testing, and we plan to expand this distribution model to other products in the future. We also leverage Constellation to perform our internal commercial laboratory activities and research and development of our products.

We have received CE Marks from the European Commission for our Constellation software and for the key reagents that our laboratory licensees need to run their portion of the Panorama test prior to accessing our algorithms through Constellation. These CE Marks enable us to offer Constellation in the European Union and other countries that accept a CE Mark. We are pursuing other regulatory approvals, as needed, to allow the international roll out of Constellation in regions that do not accept a CE Mark.

Commercial Capabilities

We have established a broad distribution channel, comprising our direct sales efforts and, for our women's health products, a worldwide network of over 100 laboratory and distribution partners. Our own direct sales force and managed care teams anchor our commercial engagement with physicians, laboratory partners, and payers, and sell directly to MFMs, OB/GYNs, physicians or physician practices, IVF centers, transplant centers, or integrated health systems.

Where possible, we aim to maximize sales opportunities by educating the physician practices on the benefits of combining complementary tests from our portfolio of products. For example, in women's health, Panorama NIPT, our Panorama microdeletions panel, and Horizon together can provide valuable information for pregnant women who have not had a CS test at the time they are ready to have an NIPT performed; these tests can all be run using one blood draw from the mother and can be ordered on one requisition form and with one shipment of the patient's samples by the physician. Also, because of the importance and demand for screening for 22q11.2 deletion syndrome, we have included that feature as part of our basic Panorama panel, unless the patient or physician ordering the test opts out of the 22q11.2 deletion syndrome screen. In the year ended December 31, 2020, approximately three-quarters of customers who ordered the basic Panorama panel directly from us also ordered screening for 22q11.2 deletion syndrome or the full microdeletions panel, and approximately one-third of customers who ordered Panorama directly from us also ordered Horizon carrier screening.

In addition to our sales force, we market to physicians through clinical journals, educational webinars, conferences, tradeshows and e-mail marketing campaigns. While we currently do not sell directly to patients, we do engage in brand awareness campaigns directed at patients to highlight our products. Our marketing and medical science liaison teams work extensively with key opinion leaders in the reproductive health, oncology and organ health fields.

Our partners' capabilities augment our direct sales capabilities, and where we have identified laboratory or distribution partners who share our focus on premium quality and service, we also contract with them to distribute our tests. In NIPT, we have partnered with leading academic and commercial laboratories and hospital systems in the United States to capitalize on their relationships with MFMs and OB/GYNs, large distribution capabilities, and commercial infrastructure. These distribution partners also frequently have in-network contracts with key third-party payers. As of December 31, 2020, we had in-network contracts with insurance providers that accounted for approximately 214 million

covered lives in the United States. We continue our efforts to increase the number of our in-network contracts with payers. Our target market for NIPT is a much smaller subset of these covered lives, because it excludes men, children and post-menopausal women who would not be users of the majority of our products. Outside of the United States, where our products are sold in over 80 countries, we currently sell predominantly through partner laboratories.

Enhanced User Experience

NateraCore is our suite of resources designed to enhance the patient and provider experience. Through this platform, we provide patient and provider educational materials, information about insurance coverage and test costs, test and phlebotomy ordering capabilities, test reporting, and next steps, in each case as applicable to a particular patient or test. These resources make available a completely remote testing option for patients, fulfilled through our online tools combined with a nationwide mobile phlebotomy network. This capability has proven to be especially important during the COVID-19 pandemic, enabling continuity of care for all patients and particularly for those who may be immunocompromised or immune-suppressed.

For example, women's health patients logging on to our patient portal can access and manage testing information, results and services throughout their experience, from pre-test to post-test. We have also created provider portals for clinicians in each of women's health, oncology and organ health, which enable physicians to easily complete various tasks online such as ordering and tracking tests, managing patient consents and results, accessing billing and other documentation, connecting with genetic counselors and other support, and ordering supplies and educational materials. We also provide a service to integrate with our customers' Electronic Medical Records, or EMR, systems to provide physicians a seamless experience of ordering tests and reviewing patient test results directly through their EMR systems.

We have a team of board-certified genetic counselors to support patients with pre- and post-test genetic information sessions, and physicians should they have any questions or require any guidance in interpreting the results.

We have a network of over 2,000 phlebotomy centers across the United States. We also offer mobile phlebotomy services whereby a patient can request and schedule a phlebotomist visit at the patient's home or office.

Key Relationships

Illumina

We are party to a supply agreement with Illumina, Inc., or Illumina, for the supply of Illumina genetic sequencing instruments and reagents for NIPT, oncology and transplant diagnostic testing. For oncology, we also received rights to develop and sell in vitro diagnostic kits and services worldwide, in exchange for which we agreed to make certain milestone and royalty payments to Illumina. During the term of the supply agreement, which expires in May 2030, Illumina has agreed to supply us with sequencers, reagents and other consumables for use with the Illumina sequencers, and we must provide a forecast, on a monthly basis, detailing our needs for certain of the Illumina products. The first four calendar months of each forecast are binding and the fourth month can vary by only up to 25% more or less than what was forecasted for that month in the prior month's forecast. In addition, during each calendar quarter, we must spend a minimum amount on reagents under this agreement. We and Illumina have agreed on prices for the sequencers and reagents, for which we are entitled to certain discounts based on total spend and other factors. Illumina has the right to adjust these prices under certain conditions. In addition, we must pay a fee to Illumina for each clinical NIPT test that we perform using Illumina reagents. Illumina is currently the sole supplier of our sequencers and related reagents for many of our tests, along with certain hardware and software. We are not bound to use exclusively Illumina's sequencing instruments and reagents for conducting our sequencing, but if we use other sequencing instruments and reagents for more than specified percentages of our total NIPT clinical volume, we may no longer be entitled to discounts from Illumina.

Illumina may terminate the agreement upon the following circumstances: if we materially breach the agreement and fail to cure such breach within 30 days after receiving written notice of such breach, and only after complying with additional notice provisions; if we become the subject of certain bankruptcy or insolvency proceedings; or in connection

with certain changes of control of Natera. Illumina also has the right to terminate: (a) certain rights under the agreement upon two years' prior notice; and (b) our rights with respect to IVDs if we have not obtained a premarket approval for at least one IVD from the United States Food and Drug Administration by June 8, 2026, unless we are diligently pursuing approval of an active PMA application at such time. We may terminate the agreement: if Illumina materially breaches the agreement and fails to cure such breach within 30 days after receiving written notice of such breach, and only after complying with additional notice provisions; if Illumina becomes the subject of certain bankruptcy or insolvency proceedings; in connection with certain supply failures by Illumina; or for convenience with four months written notice. The agreement also contains use limitations, representations and warranties, indemnification, limitations of liability and other provisions.

Competition

The markets in which we operate are characterized by innovation and rapid change, and we primarily face competition from various companies that develop and commercialize molecular diagnostic tests in reproductive health, oncology, and organ transplant rejection. Our competitors in the NIPT space include Sequenom, Inc., or Sequenom, which was acquired by Laboratory Corporation of America Holdings, or LabCorp; Illumina, through its subsidiary Verinata; Ariosa, Inc., a subsidiary of F. Hoffman La-Roche Ltd, or Roche; Myriad Genetics, Inc., which acquired Counsyl, Inc.; Invitae Corp.; Quest Diagnostics Incorporated, or Quest; Premaitha Health PLC; BGI; Progenity, Inc., or Progenity; Bio-Reference, a business unit of OPKO Health, Inc. and which was previously a laboratory distribution partner of ours; NxGen; BillionToOne Inc.; PerkinElmer Inc.; and Mount Sinai Genomics, Inc. d/b/a Sema4. We also compete against companies providing carrier screening tests such as LabCorp; Myriad Genetics, Inc.; Sema4; Invitae Corp.; Progenity; Recombine Inc.; Quest; GeneDx, Inc., a subsidiary of Bio-Reference; and GenPath Diagnostics, a business unit of Bio-Reference. Each of these companies offers comprehensive CS panels.

In the field of ctDNA-based MRD assessment and recurrence surveillance, we compete with various companies that offer or seek to offer competing solutions, such as Roche Diagnostics, Guardant Health, Inc., Adaptive Biotechnologies, Personal Genome Diagnostics, Inc., Exact Sciences Corp., Inivata, Inc., and ArcherDX, Inc., which has been acquired by Invitae Corp., one of our primary competitors in both NIPT and carrier screening.

In organ health, our competitors include CareDx, Inc. and Eurofins Viracor, Inc.

We expect additional competition as other established and emerging companies enter these markets, including through business combinations, and as new tests and technologies are introduced. These competitors could have greater technological, financial, reputational and market access resources than us.

We believe the principal competitive factors in our molecular diagnostic testing markets include the following:

- test performance, as demonstrated in clinical and analytical studies and clinical trials as well as in commercial experience;
- comprehensiveness of coverage and ease of use;
- value of product offerings, including pricing and impact on other healthcare spending;
- scope and extent of reimbursement and payer coverage;
- effectiveness of sales and marketing efforts;
- breadth of distribution of products and partnership base;
- reputation among patients and providers for development and introduction of new, innovative products;

- operational execution, including test turn-around time and test failures;
- key opinion leader support;
- brand awareness; and
- ease of integration for laboratories, including for cloud-based distribution models.

Specific market share data regarding our products is not publicly available, and consumers may choose to use competing products for a variety of reasons, including lower cost. We believe, however, that we compete favorably in the reproductive health market on the basis of several factors, particularly test performance, comprehensiveness of coverage of diseases, ability to conveniently test for multiple conditions, value of product offerings and effectiveness of sales and marketing efforts. In oncology, we believe that the sensitivity and specificity of our personalized, tumor-informed assay for MRD compares favorably to static-panel based MRD tests in detecting residual disease or recurrence after treatment, and in impacting treatment decisions.

Intellectual Property

Our success and ability to compete depend in part on securing and preserving enforceable patent, trade secret, trademark and other intellectual property rights; operating without having competitors infringe, misappropriate or otherwise circumvent these rights; operating without infringing the proprietary rights of others; and obtaining and maintaining licenses for technology development and/or product commercialization. As of December 31, 2020, we held 100 issued U.S. and foreign patents, which expire between November 2026 and December 2036, and over 100 pending U.S. and foreign patent applications. Our patents and patent applications relate generally to molecular diagnostics, and more specifically to biochemical and analytical techniques for obtaining and analyzing genetic information to detect genetic abnormalities in relatively small complex samples, such as cell free fetal DNA or circulating tumor DNA. We intend to seek patent protection as we develop new technologies and products in this area.

We are or have recently been engaged in patent infringement lawsuits and other intellectual property disputes against various competitors in each of the industries in which we operate, some of which are infringement claims against us and some of which are claims we have asserted against third parties, as discussed in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements. We may become subject to and/or initiate future intellectual property litigation as our product portfolio, and the level of competition in our industry segments, grow. The field of molecular diagnostics is complex and rapidly evolving, and we expect that we and others in our industry will continue to be subject to third-party infringement claims.

Reimbursement

We receive reimbursement for our tests from commercial third-party payers and from government health benefits programs such as Medicare and Medicaid. Laboratory tests, as with most other healthcare services, are classified for reimbursement purposes under a coding system known as Current Procedure Terminology, or CPT, which we and our customers must use to bill and receive reimbursement for our diagnostic tests. These CPT codes are associated with the particular test that we have provided to the patient. Once the American Medical Association establishes a CPT code, the Centers for Medicare & Medicaid Services, or CMS, establishes payment levels and coverage rules under Medicare while private payers establish rates and coverage rules independently. For most of the tests performed for Medicare or Medicaid beneficiaries, laboratories are required to bill Medicare or Medicaid directly, and to accept Medicare or Medicaid reimbursement as payment in full. Prior to 2015, CMS had implemented a set of CPT codes without a fee schedule for most codes specific to NIPTs; a CPT code specific to NIPT for aneuploidies has been effective since January 2015, and a CPT code for microdeletions has been effective since January 2017. CMS has established a pricing benchmark of $802 for aneuploidy and microdeletions testing. In addition, a CPT code for expanded carrier screening tests went into effect in January 2019, for which CMS has established a pricing benchmark of approximately $2,450.

We currently submit for reimbursement using CPT codes based on the guidance of coding experts and outside legal counsel. There is a risk that these codes may be rejected or withdrawn or that payers will seek refunds of amounts that they claim were inappropriately billed to a specific CPT code. We do not currently have a specific CPT code assigned for all of our tests, and there is a risk that we may not be able to obtain specific codes for such tests, or if obtained, we may not be able to negotiate favorable rates for one or more of these codes. In particular, while we have obtained a CPT code for microdeletions and CMS has set a price for microdeletions testing, we have experienced low average reimbursement rates for microdeletions testing under this code, and we expect that this code will continue to cause our microdeletions reimbursement to remain low, at least in the near term, because third-party payers are declining to reimburse under the new code or reimbursing at a much lower rate than we had previously received before the CPT code was established. The reimbursement rates for our broader Horizon screening panel have also declined as a result of the new CPT code becoming effective in 2019, as carrier screening tests that had previously been reimbursed on a per-condition basis may be reimbursed as a combined single panel instead of as multiple individual tests.

We believe that growing recognition from professional societies of the importance of microdeletions testing, combined with the performance of our microdeletions test and additional validation data from our SMART study that we expect to publish on the sensitivity and specificity of our tests, will help drive broader reimbursement in the future.

In making coverage determinations, third-party payers often rely on practice guidelines issued by professional societies. NIPT has received positive coverage determinations for high-risk pregnancies and in such instances are reimbursed by most commercial payers, including United Healthcare, AETNA, Anthem, Humana, CIGNA and others. The use of NIPT for average-risk pregnancies has not historically been well reimbursed by payers; however, professional societies now generally acknowledge that NIPT is the most sensitive screening option for, and/or are generally supportive of, NIPT in average-risk pregnancies, in addition to high-risk pregnancies. There has been a significant increase in the number of commercial third-party payers, representing approximately 95% of commercial covered lives in the United States, that cover the use of Panorama in the average-risk population, as well as an increasing number of state Medicaid payers with a positive coverage determination for NIPT for average-risk pregnancies.

As of December 31, 2020 we and our laboratory partners had in-network contracts with insurance providers that accounted for approximately 214 million covered lives in the United States. Our target market for NIPT is a much smaller subset of these covered lives, because it excludes men, children and post-menopausal women who would not be users of our products.

Government Regulations

Our business is subject to and impacted by extensive and frequently changing laws and regulations in the United States (at both the federal and state levels) and internationally. These laws and regulations include regulations particular to our business and laws and regulations relating to conducting business generally (e.g., export controls laws, U.S. Foreign Corrupt Practices Act and similar laws of other jurisdictions). We also are subject to inspections and audits by governmental agencies. Set forth below are highlights of certain key regulatory schemes applicable to our business.

FDA

In the United States, medical devices are subject to extensive regulation by the Food and Drug Administration, or FDA, under the Federal Food, Drug, and Cosmetic Act, or FDC Act, and its implementing regulations, and other federal and state statutes and regulations. The laws and regulations govern, among other things, medical device development, testing, labeling, storage, premarket clearance or approval, advertising and promotion and product sales and distribution. To be commercially distributed in the United States, medical devices must receive from the FDA prior to marketing, unless subject to an exemption, clearance of a premarket notification, or 510(k), premarket approval, or a PMA, or a de novo authorization.

IVDs are a type of medical device that can be used in the diagnosis or detection of diseases or conditions, including assessment of state of health, through collection, preparation and examination of specimens from the human body. IVDs can be used to detect the presence of certain chemicals, genetic information or other biomarkers related to

health or disease. IVDs include tests for disease prediction, prognosis, diagnosis, and screening (e.g., carrier screening). A subset of IVDs is what are known as analyte specific reagents, or ASRs. An ASR is a single reagent that, through specific binding or chemical reaction with substances in a specimen, is intended for use in a diagnostic application for the identification and quantification of an individual chemical substance in biological specimens. Most ASRs are exempt from the premarket review processes but must comply with some quality system regulation, or QSR, provisions and other device requirements.

The FDC Act classifies medical devices into one of three categories based on the risks associated with the device and the level of control necessary to provide reasonable assurance of safety and effectiveness. Class I devices are deemed to be low risk and are subject to the fewest regulatory controls. Many Class I devices are exempt from FDA premarket review requirements. Class II devices, including some software products to the extent that they qualify as a device, are deemed to be moderate risk, and generally require clearance through the premarket notification, or 510(k) clearance, process. Class III devices are generally the highest risk devices and are subject to the highest level of regulatory control to provide reasonable assurance of the device's safety and effectiveness. Class III devices typically require a PMA by the FDA before they are marketed. A clinical trial is almost always required to support a PMA application and is sometimes required for 510(k) clearance. All clinical studies of investigational devices must be conducted in compliance with any applicable FDA and Institutional Review Board requirements. Devices that are exempt from FDA premarket review requirements must nonetheless comply with post-market general controls as described below, unless the FDA has chosen otherwise.

510(k) clearance pathway. To obtain 510(k) clearance, a manufacturer must submit a premarket notification demonstrating to the FDA's satisfaction that the proposed device is substantially equivalent to a previously 510(k)-cleared device or to a device that was in commercial distribution before May 28, 1976 for which the FDA has not called for submission of a PMA application. The previously cleared device is known as a predicate. The FDA's 510(k) clearance pathway usually takes from three to 12 months from submission, but it can take longer, particularly for a novel type of product. In addition, the COVID-19 pandemic has resulted in significant workload increases within the Center for Devices and Radiological Health that could affect 510(k) review timelines.

PMA pathway. The PMA pathway requires proof of the safety and effectiveness of the device to the FDA's satisfaction. The PMA pathway is costly, lengthy, and uncertain. A PMA application must provide extensive preclinical and clinical trial data as well as information about the device and its components regarding, among other things, device design, manufacturing, and labeling. As part of its PMA review process, the FDA will typically inspect the manufacturer's facilities for compliance with QSR requirements, which impose elaborate testing, control, documentation, and other quality assurance procedures. The PMA review process typically takes one to three years from submission but can take longer, including, as noted above, due to delays resulting from the COVID-19 pandemic.

De novo pathway. If no predicate device can be identified, a device is automatically classified as Class III, requiring a PMA application. However, the FDA can reclassify, or use "de novo classification," for a device for which there was no predicate device if the device is low- or moderate-risk. If the device is deemed Class II, the FDA will identify "special controls" that the manufacturer must implement, which often include labeling and other restrictions. Subsequent applicants can rely upon the de novo product as a predicate for a 510(k) clearance, unless FDA exempts subsequent devices from the need for a 510(k). The de novo route is less burdensome than the PMA process, but FDA issued a proposed regulation in 2018 that, if adopted as written, could increase the regulatory burden in obtaining a de novo authorization. A device company can ask the FDA at the outset if the de novo route is available and submit the application as one requesting de novo classification. The de novo route has been used for many IVD products. The FDA has indicated to us that our software that enables our cloud-based distribution model may be appropriate for review under the de novo classification process. However, the FDA has not committed to this position and may take a different position in the future.

Post-market general controls. After a device, including a device exempt from FDA premarket review, is placed on the market, numerous regulatory requirements apply. These include: the QSR, labeling regulations, registration and listing, the Medical Device Reporting regulation (which requires 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 it were to recur), and the Reports of Corrections and Removals regulation (which requires

manufacturers to report to the FDA corrective actions made to products in the field, or removal of products once in the field if such actions were initiated to reduce a risk to health posed by the device or to remedy a violation of the FDC Act). Depending on the severity of the legal violation that led to correction or removal, the FDA may classify the manufacturer's action as a recall.

The FDA enforces compliance with its requirements through inspection and market surveillance. If the FDA finds a violation, it can institute a wide variety of actions, ranging from an untitled or public warning letter to enforcement actions such as fines, injunctions, and civil penalties; recall or seizure of products; operating restrictions, partial suspension or total shutdown of production; refusing requests for 510(k) clearance or PMA approval of new products; withdrawing 510(k) clearance or PMAs already granted; and criminal prosecution. For additional information, see "Risk Factors—Reimbursement and Regulatory Risks Related to Our Business."

Research use only. Research use only, or RUO, products are exempt from FDA medical device requirements provided their manufacturers comply with specified labeling and restrictions on distribution. The products must bear the statement: "For Research Use Only. Not for Use in Diagnostic Procedures." Manufacturers of RUO products cannot make any claims related to safety, effectiveness or diagnostic utility, and RUO products cannot be intended by the manufacturer for clinical diagnostic use. A product promoted for diagnostic use may be viewed by the FDA as adulterated and misbranded under the FDC Act and is subject to FDA enforcement activities, including requiring the manufacturer to seek marketing authorization for the products. Our LDTs use instruments and reagents labeled as RUO.

Laboratory-developed tests. The FDA considers LDTs to be tests that are designed, developed, validated and used within a single laboratory. The FDA historically has taken the position that it has the authority to regulate such tests as medical devices under the FDC Act but has for the most part exercised enforcement discretion and has not required clearance or approval of LDTs prior to marketing.

In 2014, the FDA issued two draft guidance documents regarding oversight of LDTs. These draft guidance documents proposed more active review of LDTs. The draft guidances were the subject of considerable controversy, and in 2016, the FDA announced that it would not be finalizing the 2014 draft guidance documents. Subsequently, in 2017, the FDA issued a discussion paper which laid out elements of a possible revised future LDT regulatory framework, but did not establish any regulatory requirements.

The FDA's efforts to regulate LDTs have prompted the drafting of legislation governing diagnostic products and services that has sought to substantially revamp the regulation of both LDTs and IVDs. Congress may still act to provide further direction to the FDA on the regulation of LDTs and substantially modify the regulation of IVDs.

In August 2020, the Department of Health and Human Services, or HHS, announced that FDA will not require premarket review of LDTs absent notice-and-comment rulemaking, and rescinded FDA guidance documents and other informal statements concerning premarket review of LDTs. The HHS announcement did not define the term LDT. In an accompanying FAQ document, HHS stated that, while LDTs are not subject to premarket review, FDA may still regulate LDTs under the Public Health Service Act. We believe that other than the RUO version of Signatera, all of the tests we currently offer, including Panorama, meet the definition of LDTs, as they have been designed, developed, and validated for use in a single CLIA-certified laboratory. If our tests are LDTs, then, consistent with the HHS policy announcement, FDA may not require premarket review. Furthermore, if our tests are LDTs, then, based on FDA's historical approach, we believe they will be subject to FDA enforcement discretion.

Clinical Laboratory Improvement Amendments of 1988 and State Regulation

As a clinical laboratory, we are required to hold certain federal and state licenses, certifications and permits to conduct our business. As to federal certifications, in 1988, Congress passed the Clinical Laboratory Improvement Amendments of 1988, or CLIA, establishing more rigorous quality standards for all commercial laboratories that perform testing on human specimens for the purpose of providing information for the diagnosis, prevention, or treatment of disease or the assessment of the health or impairment of human beings. CLIA requires such laboratories to be certified by the federal government and mandates compliance with various operational, personnel, facilities administration, quality and

proficiency testing requirements intended to ensure the accuracy, reliability and timeliness of patient test results. CLIA certification is also a prerequisite to be eligible to bill state and federal healthcare programs, as well as many commercial third-party payers, for laboratory testing services.

Our laboratories located in Austin, Texas and in San Carlos, California are CLIA certified, and must comply with all applicable CLIA requirements. If a clinical laboratory is found to be out of compliance with CLIA standards, CMS may impose sanctions, limit or revoke the laboratory's CLIA certificate (and prohibit the owner, operator or laboratory director from owning, operating, or directing a laboratory for two years following license revocation), subject the laboratory to a directed plan of correction, on-site monitoring, civil monetary penalties, civil actions for injunctive relief, criminal penalties, or suspension or exclusion from the Medicare and Medicaid programs.

CLIA provides that a state may adopt laboratory licensure requirements and regulations that are more stringent than those under federal law, and requires compliance with such laws and regulations. A number of states have implemented their own more stringent laboratory regulatory requirements. State laws may require the laboratory to obtain state licensure and/or laboratory personnel to meet certain qualifications, specify certain quality control procedures or facility requirements, or prescribe record maintenance requirements. Moreover, several states impose the same or similar state requirements on out-of-state laboratory testing specimens collected or received from, or test results reported back to, residents within that state. Therefore, we are required to meet certain laboratory licensing requirements for those states in which we offer services or from which we accept specimens and that have adopted regulations beyond CLIA. For more information on state licensing requirements, see "—California Laboratory Licensing", "—New York Laboratory Licensing," and "—Other State Laboratory Licensing Laws."

Our laboratories have each also been accredited by the College of American Pathologists, or CAP, which means that our laboratories have been certified as following CAP standards and guidelines in operating the laboratory facility and in performing tests that ensure the quality of our test results.

California Laboratory Licensing

In addition to federal certification requirements for laboratories under CLIA, we are required under California law to maintain a California state license for our San Carlos clinical laboratory and comply with California state laboratory laws and regulations. Similar to the federal CLIA regulations, the California state laboratory laws and regulations establish standards for the operation of a clinical laboratory and performance of test services, including the education and experience requirements of the laboratory director and personnel (including requirements for documentation of competency), equipment validations, and quality management practices. All testing personnel must maintain a California state license or be supervised by licensed personnel.

Clinical laboratories are subject to both routine and complaint-initiated on-site inspections by the state. If a clinical laboratory is found to be out of compliance with California laboratory standards, the California Department of Public Health, or CAPH, may suspend, restrict or revoke the California state laboratory license to operate the clinical laboratory (and exclude persons or entities from owning, operating, or directing a laboratory for two years following license revocation), assess civil money penalties, and/or impose specific corrective action plans, among other sanctions. Clinical laboratories must also provide notice to CAPH of any changes in the ownership, directorship, name or location of the laboratory. Failure to provide such notification may result in revocation of the state license and sanctions under the CLIA certificate. Any revocation of a CLIA certificate or exclusion from participation in Medicare or Medicaid programs may result in suspension of the California state laboratory license.

New York Laboratory Licensing

Because we test specimens in our San Carlos, California laboratory originating from, and return test results to, New York State, our San Carlos clinical laboratory is required to obtain a New York state laboratory permit and comply with New York state laboratory laws and regulations. We maintain a valid permit in the State of New York for the molecular genetic testing services furnished by our San Carlos clinical laboratory. The New York state laboratory laws, regulations and rules are equal to or more stringent than the CLIA regulations and establish standards for the operation of

a clinical laboratory and performance of test services, including education and experience requirements of a laboratory director and personnel, physical requirements of a laboratory facility, equipment validations, and quality management practices. The laboratory director(s) must maintain a Certificate of Qualification issued by the New York State Department of Health, or DOH, in the permitted test categories.

Our San Carlos clinical laboratory is subject to proficiency testing and on-site survey inspections conducted by the Clinical Laboratory Evaluation Program, or CLEP, under the DOH. If a laboratory is found to be out of compliance with New York's CLEP standards, the DOH, may suspend, limit, revoke or annul the New York laboratory permit, censure the holder of the license or assess civil money penalties. Statutory or regulatory noncompliance may result in a laboratory's operator, owners and/or laboratory director being found guilty of a misdemeanor under New York law. Clinical laboratories must also provide notice to CLEP of any changes in ownership, directorship, name or location of the laboratory. Failure to provide such notification may result in revocation of the state license and sanctions under the CLIA certificate. Any revocation of a CLIA certificate or exclusion from participation in the Medicare or Medicaid programs may result in suspension of the New York laboratory permit.

The DOH also must approve each LDT before the test is offered to patients located in New York. Our San Carlos clinical laboratory has received approval from New York's CLEP to offer our Panorama, Horizon, Spectrum, Anora non-invasive prenatal paternity, and Prospera tests.

Other State Laboratory Licensing Laws

In addition to New York and California, certain other states require licensing of out-of-state laboratories under certain circumstances. We have obtained licenses in the states that we believe require us to do so, and believe we are in compliance with applicable state laboratory licensing laws. The State of Texas does not impose state licensure or registration requirements upon an independent laboratory facility outside of maintaining CLIA certification.

Potential sanctions for violation of state statutes and regulations can include significant monetary fines, the rejection of license applications, the suspension or loss of various licenses, certificates and authorizations, and in some cases criminal penalties, which could harm our business. CLIA does not preempt state laws that have established laboratory quality standards that are more stringent than 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 appropriate documentation of patient consent by the physician ordering the test. As discussed in more detail in "Risk Factors—Reimbursement and Regulatory Risks Related to our Business--*If the validity of an informed consent from a patient intake for Panorama or our other tests is challenged, we could be precluded from billing for such testing, forced to stop performing such tests, or required to repay amounts previously received, which would adversely affect our business and financial results*," while we rely on physicians and our partners to obtain the required patient consent to perform testing, such consents, or our and our partners' compliance with applicable laws and regulations, could be challenged. Requirements of these laws and penalties for violations vary widely.

HIPAA and Other Privacy Laws

The privacy and security regulations under 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, establish uniform standards governing the conduct of certain electronic healthcare transactions and require certain entities, called covered entities, to comply with standards that include the privacy and security of protected health information, or PHI. HIPAA further requires business associates of covered entities—independent contractors or agents of covered entities that have access to protected health information in connection with providing a service to or on behalf of a covered entity—to enter into business associate agreements with the covered entity and to safeguard the covered entity's PHI against

improper use and disclosure. In addition, certain of HIPAA's privacy and security standards are directly applicable to business associates.

As a covered entity and as a business associate of other covered entities (with whom we have therefore entered into business associate agreements), 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 fail to meet such obligations or if our business associates fail to meet such obligations. Among other things, HITECH imposes civil and criminal penalties against covered entities and business associates for noncompliance with privacy and security requirements and authorizes states' attorneys general to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions.

As noted above, we are required to comply with HIPAA standards promulgated by the U.S. Department of Health and Human Services, or HHS. First, we must comply with HIPAA's 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 comply with the standards for the privacy of individually identifiable health information, which limit the use and disclosure of most paper and oral communications, as well as those in electronic form, regarding an individual's past, present or future physical or mental health or condition, or relating to the provision of healthcare to the individual or payment for that healthcare, if the individual can or may be identified by such information. Additionally, we must comply with HIPAA's security standards, which require us to ensure the confidentiality, integrity and availability of all electronic protected health information that 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.

Various states in the United States have implemented similar restrictive requirements regulating the use and disclosure of health information and other personally identifiable information that are not necessarily preempted by HIPAA, particularly if a state affords greater protection to individuals than HIPAA. For example, in 2020 California enacted the California Consumer Privacy Act, which creates new consumer rights relating to the access to, deletion of, and sharing of personal information collected by certain businesses that operate in the state. In addition, Massachusetts law requires that any company that obtains personal information of any resident of the Commonwealth of Massachusetts implement and maintain a security program that adequately protects such information from unauthorized use or disclosure.

There are also foreign privacy and security laws and regulations that impose restrictions on the access, use and disclosure of health information. In particular, the EU's General Data Protection Regulation, or GDPR, became effective in 2018. The GDPR applies not only to organizations within the EU, but also applies to organizations outside of the EU, such as Natera, that offer goods or services to EU data subjects or that process or hold personal data of EU data subjects. The regulation specifies higher potential liabilities for certain data protection violations, and we anticipate that it will result in a greater compliance burden for us as we conduct our business, particularly through our Constellation cloud-based distribution model, in the European Union. Fines for non-compliance can range from the greater of 2% of annual global revenues or €10 million, up to the greater of 4% of annual global revenues or €20 million.

As a business that operates both internationally and throughout the United States, any unauthorized use or disclosure of personally identifiable information, even if it does not constitute PHI, by us or our third-party contractors, including disclosure due to data theft or unauthorized access to our or our third-party contractors' computer networks, could subject us to costs, fines or penalties that could adversely affect our business and results of operations, including the cost of providing notice, credit monitoring and identity theft prevention services to affected consumers.

Healthcare Fraud and Abuse Laws

The federal Anti-Kickback Statute makes it a felony for a provider or supplier, including a laboratory, to knowingly and willfully offer, pay, solicit or receive remuneration, directly or indirectly, in order to induce business that is reimbursable under any federal healthcare program. A violation of the federal Anti-Kickback Statute may result in imprisonment for up to ten years and/or criminal fines of up to $100,000, civil fines up to $100,000 as well as the potential for additional civil monetary penalties, civil assessments resulting from the conduct, and exclusion from participation in

Medicare, Medicaid and other federal healthcare programs. Although the federal Anti-Kickback Statute applies only to federal healthcare programs, a number of states have passed laws substantially similar to the federal Anti-Kickback Statute pursuant to which similar types of prohibitions are made applicable to all other health plans and third-party payers. Actions which violate the federal Anti-Kickback Statute or similar laws may also involve liability under the Federal False Claims Act, which prohibits knowingly presenting or causing to be presented a false, fictitious or fraudulent claim for payment to the U.S. Government and can result in additional penalties and fines.

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. Law enforcement authorities, courts and Congress have 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 Anti-Kickback Statute, holding that the statute may be violated if merely one purpose of a payment arrangement is to induce future referrals.

The HHS Office of Inspector General, or OIG, has issued Special Fraud Alerts on arrangements for the provision of clinical laboratory services and relationships between, among others, laboratories and referral sources. The Fraud Alerts set forth a number of practices allegedly engaged in by some clinical laboratories and healthcare providers that raise issues under the federal fraud and abuse laws, including the federal Anti-Kickback Statute. The OIG emphasized in the Special Fraud Alerts that when one purpose of such arrangements is to induce referrals of government program-reimbursed laboratory testing, both the clinical laboratory and the healthcare provider (e.g., physician) may be liable under the federal Anti-Kickback Statute, and may be subject to civil and/or criminal prosecution and exclusion from participation in the Medicare and Medicaid programs.

Recognizing that the federal Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements within the healthcare industry, HHS has issued a series of regulatory "safe harbors" for certain payment arrangements which provide confidence to healthcare providers and other parties that they will not be prosecuted under the federal Anti-Kickback Statute if they can demonstrate compliance with each element of the safe harbor. Although full compliance with these provisions ensures against prosecution under the federal Anti-Kickback Statute, the failure of a transaction or arrangement to fit within a specific safe harbor does not necessarily mean that the transaction or arrangement is illegal or that prosecution under the federal Anti-Kickback Statute will be pursued.

While we believe that we are in compliance with the federal Anti-Kickback Statute and similar fraud and abuse laws, there can be no assurance that our relationships with physicians, hospitals and other customers or vendors will not be subject to scrutiny or will survive regulatory challenge under such laws. If imposed for any reason, sanctions under the federal Anti-Kickback Statute or any similar state statute could have a negative effect on our business.

Because we operate a laboratory facility located in California and licensed by California's DHS, California law is applicable to our business arrangements. California's state anti-kickback statutes, Business and Professions Code Section 650 (which applies to all categories of payors) and Insurance Code Section 754, and its Medi-Cal anti-kickback statute, Welfare and Institutions Code Section 14107.2, are analogous to, and have been interpreted by the California Attorney General and California courts in substantially the same way as the federal government and the courts have interpreted, the federal Anti-Kickback Statute. A violation of Section 650 is punishable by up to one year of imprisonment, a fine up to $50,000, or both imprisonment and a fine. A violation of Section 14107.2 is punishable by imprisonment and fines of up to $10,000. The California Insurance Code includes similar prohibitions against any consideration for the referral or procurement of patients if a claim is submitted to a commercial insurer, CA Ins. Code § 750, which is punishable by criminal penalties mirroring those that apply to violations of Business and Professions Code Section 650.

Because our San Carlos laboratory holds a New York CLEP permit, we must comply with New York state laboratory statutes and regulations, which include anti-kickback provisions, Public Health Law Section 587, and Medicaid anti-kickback provisions, 18 NYCRR Section 515.2, related to laboratory services. The New York DOH may suspend, limit, revoke or annul the New York laboratory permit or otherwise discipline the permit holder for a violation.

Because we operate a laboratory facility located in Texas, our business arrangements are subject to certain Texas laws. Texas's primary anti-kickback statute, Texas Patient Solicitation Act (Tex. Occ. Code § 102.001) (which applies to all categories of payors), provides for an exception to any business arrangement that complies with the federal Anti-Kickback Statute or any regulation adopted under that law. Even if a business arrangement is compliant with the Texas Patient Solicitation Act, disclosure to the patient is required. A violation of Section 102.001 or 102.006 is punishable by civil penalties (up to $10,000 per violation). The Texas Medicaid anti-kickback laws, 1 TAC 371.1669, cross-references the Texas Patient Solicitation Act and include other prohibited self-referrals that are grounds for enforcement and sanctions. The Texas Insurance Code includes criminal penalties for similar prohibitions related to improper referral or procurement of patients if a claim is submitted to a commercial insurer.

In addition to the requirements that are discussed above, there are other healthcare fraud and abuse laws that could have an impact on our business. The federal False Claims Act 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. Actions which violate another law in this section may also result in liability under the Federal False Claims Act as a result of the submission of claims pursuant to a prohibited arrangement. In addition to actions initiated by the government itself, the statute authorizes actions to be brought on behalf of the federal government by a private party having knowledge of the alleged fraud sometimes referred to as a "whistleblower".

Because the complaints are 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 redress in the matter or if the private party plaintiff succeeds in obtaining redress without the government's involvement, then the private party plaintiff will receive a percentage of the recovery. Violation of the federal False Claims Act may result in fines of up to three times the actual damages sustained by the government, plus mandatory civil penalties of up to approximately $22,363 for each separate false claim, imprisonment or both, and possible exclusion from Medicare or Medicaid. The penalties will continue to be adjusted, increasing each year to reflect changes in the inflation rate, pursuant to the 2015 Bipartisan Budget Act.

In 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 (referred to as the SUPPORT Act). Similar to the federal Anti-Kickback statute, EKRA creates criminal penalties for knowing or willful payment or offer, or solicitation or receipt, of any remuneration, whether directly or indirectly, overtly or covertly, in cash or in kind, in exchange for the referral or inducement of laboratory testing unless a specific exception applies. Unlike the federal Anti-Kickback Statute, EKRA is not limited to government health care benefit programs, so the prohibitions extend to services covered by commercial health plans. Additionally, most of the safe harbors available under the federal Anti-Kickback Statute are not reiterated under EKRA, and certain EKRA safe harbors conflict with the safe harbors available under the federal Anti-Kickback Statute. Therefore, compliance with a federal Anti-Kickback safe harbor does not guarantee protection under EKRA. As currently drafted, EKRA potentially expands the universe of arrangements that could be subject to government enforcement under federal fraud and abuse laws. Violation of EKRA carries potential penalties of up to $200,000 in fines and imprisonment of up to 10 years for each occurrence. Because EKRA is a new law, there is very little additional guidance to indicate how and to what extent it will be interpreted, applied and enforced by the government. Currently, there is no proposed regulation interpreting or implementing EKRA, nor any public guidance released by a federal agency concerning EKRA. We cannot assure you that our relationships with physicians, sales representatives, hospitals or customers will not be subject to scrutiny or will survive regulatory challenge under EKRA. If imposed for any reason, sanctions under EKRA could have a negative effect on our business.

We are also subject to a federal law directed at "self-referrals," commonly known as the Stark Law, which prohibits, with certain exceptions, payments made by a laboratory to a physician in exchange for the referral of clinical laboratory services, or 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 engages in a scheme to circumvent the Stark Law's referral prohibition may be fined up to $100,000 for each such arrangement or scheme. 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 civil monetary penalties of up to $15,000 per claim submission, an assessment of up to three times the amount claimed, and possible exclusion from participation in federal governmental payer programs. Claims submitted in violation of the Stark

Law may not be paid by Medicare or Medicaid, and any person collecting any amounts with respect to any such prohibited claim is obligated to refund such amounts. Actions which violate the Stark Law may be bootstrapped to involve liability under the Federal False Claims Act.

Many states, including California, also have state "physician self-referral" prohibitions and other laws that are not limited to Medicare and Medicaid referrals, with which we must comply. We are subject to California's Physician Ownership and Referral Act, or PORA, which generally prohibits us from billing a patient or any governmental or private payer for any laboratory services when the physician ordering the service, or any member of such physician's immediate family, has a "financial interest" with us, unless the arrangement meets an exception (CA Business and Professions Code Section 650.02). The term "financial interest" is defined broadly and includes any type of ownership interest, debt, loan, lease, compensation, remuneration, discount, rebate, refund, etc. between the ordering physician and the entity receiving the referral. The exceptions to PORA track certain of the Stark Law exceptions, including an exception for personal service arrangements and for ownership of publicly traded entities. A violation of PORA is punishable by civil and criminal penalties (civil penalties and criminal fines vary depending on the nature of the violation, but may reach up to $15,000 per violation).

Other states may have self-referral restrictions with which we have to comply that differ from those imposed by federal and California law.

We are also subject to applicable state client billing laws, which specify whether a person that did not perform the service is permitted to submit the claim for payment and if so, whether the non-performing person is permitted to mark up the cost of the services in excess of the price the purchasing provider paid for such services. California has an anti-markup statute with which we must comply, which prohibits providers from charging for any laboratory test that it did not perform unless the provider (a) notifies the patient, client or customer of the name, address, and charges of the laboratory performing the test, and (b) charges no more than what the provider was charged by the clinical laboratory which performed the test except for any other service actually rendered to the patient by the provider (for example, specimen collection, processing and handling) (Business and Professions Code Section 655.5). This provision applies, with certain limited exceptions, to licensed persons such as physicians and clinical laboratories regulated under the Business and Professions Code. A violation of this provision can lead to imprisonment and/or a fine of up to $10,000. Other states have similar anti-markup prohibitions with which we must comply. In addition, many states also have "direct-bill" laws, which means that the services actually performed by an individual or entity must be billed by such individual or entity, thus preventing ordering physicians from purchasing services from a laboratory and rebilling for the services they order. For example, California has a direct bill rule specific to anatomic pathology services that prohibits any provider from billing for anatomic pathology services if those services were not actually rendered by that person or under his or her direct supervision with some exemptions (CA Business and Professions Code Section 655.7).

While we have attempted to comply with the federal, Texas, California and New York fraud and abuse laws and similar laws of other states and non-U.S. jurisdictions, it is possible that some of our arrangements could be subject to regulatory scrutiny at some point in the future, and we cannot provide assurance that we will be found to be in compliance with these laws following any such regulatory review.

Further, in addition to the privacy and security regulations stated above, HIPAA created two federal crimes: healthcare fraud and false statements relating to healthcare matters. The healthcare fraud statute prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private payers. A violation of this statute is a felony and may result in fines, imprisonment or exclusion from government sponsored programs. The false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any 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 is a felony and 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), if any apply, and transfers of items or services for free or for other than fair

market value. Entities found in violation may be liable for civil monetary penalties of up to $100,000 for each wrongful act. Although we believe that our business activities and practices, including our sales and marketing practices, are in material compliance with all applicable federal and state laws and regulations, relevant regulatory authorities may disagree, and violation of these laws or our exclusion from such programs as Medicare, Medicaid and other federal health care programs as a result of a violation of such laws could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Human Capital Management

Consistent with, and to support, the rapid growth in our business, we have significantly grown our employee headcount in recent years. As of December 31, 2020, we had 1,815 full-time employees, representing growth of 43% during 2020. We also engage consultants and temporary employees. We have not been subject to labor action or union activities, and our management considers its relationships with employees to be good.

Our compensation programs are designed to attract and reward talented individuals who possess the skills necessary to support our business objectives, assist in the achievement of our strategic goals and ultimately create long-term value for our stockholders. In addition to base pay, our compensation and benefits programs, which can vary by region, can include annual bonuses, stock-based compensation awards, a 401(k) plan with employee matching opportunities, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, parental leave, and employee assistance programs. We work to ensure pay equity by annually assessing our compensation practices and working with external compensation consultants to design and benchmark our programs.

We operate in an industry in which competition for highly qualified personnel is intense. In addition to our compensation programs, we are highly focused on talent acquisition, retention and development. We conduct an annual employee engagement survey, the results of which inform internal company and management goals to help ensure impactful and meaningful actions in response to feedback received. Our annual employee evaluation process helps us to support developing employees as well as identify and cultivate high performers, and we have various initiatives underway to further develop leaders and managers.

Diversity is one of our company core values, and we believe in creating an inclusive and equitable environment that represents a broad spectrum of backgrounds and cultures. We have two employee resource groups, or ERGs, committed to furthering our efforts in this area. Women of Natera and our Diversity & Inclusion Group both serve as resources to the organization in fostering a culture of inclusion and diversity by providing a platform of networking, ongoing learning and exchange to support professional development and promote workplace equality and diversity.

In response to the COVID-19 pandemic, we implemented significant changes that we determined were in the best interest of our employees and which comply with government orders in all the states and countries where we operate. In an effort to keep our employees safe and to maintain operations during the COVID-19 pandemic, we implemented a number of health-related measures, including implementing a general work from home policy and restricting on-site access to essential employees such as laboratory personnel, increasing hygiene, cleaning and sanitizing procedures at our office and laboratory facilities, requiring face masks while on company premises, and implementing temperature checks and COVID-19 testing requirements in order to enter company facilities.

Glossary of Terms

ACOG – the American Congress of Obstetricians and Gynecologists.

ACMG – the American College of Medical Genetics and Genomics.

Allograft – the transplant of an organ or tissue from one individual to another individual of the same species who is not genetically identical.

AMA – American Medical Association.

AUC – area under the receiver operating curve; a measure of the diagnostic performance of a test, based on sensitivity and specificity.

cfDNA – cell-free DNA.

CLIA – Clinical Laboratory Improvement Amendments.

CMS – Centers for Medicare and Medicaid Services.

CNV – copy number variation; a genetic mutation in which relatively large regions of the genome have been deleted or duplicated.

CPT – Current Procedure Terminology.

ctDNA – circulating tumor DNA; tumor DNA circulating in a blood sample.

CS test – carrier screening test.

dd-cfDNA – donor-derived cell-free DNA; DNA that is shed from a transplanted organ undergoing rejection.

DNA – deoxyribonucleic acid.

Fetal aneuploidy – an inherited genetic condition in which a fetus has a different number of chromosomes than are typical.

IVD – in vitro diagnostic; tests that can be used in any laboratory that has the appropriate qualifications and authorizations.

IVF – in vitro fertilization.

LDT – laboratory developed test; tests that are designed, developed, validated and used within a single laboratory.

MFM – maternal fetal medicine.

Microdeletion – a deletion of a region of DNA from one copy of one chromosome.

mmPCR – massively multiplexed polymerase chain reaction.

NGS – next-generation sequencing; a DNA sequencing technology.

NIPT – non-invasive prenatal test.

No-call – the inability to update the prior risk, or the standard risk assigned based on maternal and gestational age, in order to provide a high-risk or low-risk test result due to insufficient information in the sample.

PPV – positive predictive value; the likelihood that a positive result on a test indicates a true positive result in the patient.

Sensitivity – the likelihood that an individual with a condition will be correctly found to have that condition. Sensitivity is calculated as the ratio between the number of individuals that test positive for the condition over the total number of individuals in the tested cohort who actually have the condition.

SNP – single nucleotide polymorphism; a position on the chromosome at which single DNA base changes are common in the population.

SNV – single nucleotide variant; a genetic mutation in which a single chemical base in DNA has changed.

Specificity – the likelihood that an individual without a condition will be correctly found not to have that condition. Specificity is calculated as the ratio between the number of individuals that test negative for a condition over the total number of individuals in the tested cohort who do not have the condition.

Triploidy – a type of fetal aneuploidy in which an individual has three copies of every chromosome instead of two.

Corporate Information

Our principal executive office is located 13011 McCallen Pass, Building A Suite 100, Austin, Texas. Our website address is www.natera.com. We do not incorporate the information on, or accessible through, our website into this annual report on Form 10-K or any other report we file with or finish to the SEC, and you should not consider any information on, or accessible through, our website as part of this annual report on Form 10-K or any other report we file with or finish to the SEC.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, may be obtained free of charge at the Investor Relations section of our website, http://investor.natera.com, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission, or SEC. Additionally, the SEC maintains an internet site that contains reports, proxy and information statements and other information. The address of the SEC's website is www.sec.gov.

ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this report, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes, before investing in our common stock. The risks and uncertainties described below are not the only ones we face. If any of the following risks actually occurs, our business, financial condition, results of operations 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.

Risks Related to Our Business and Industry

We face risks related to health epidemics, including the current COVID-19 pandemic, which could have a material adverse effect on our business and results of operations.

Our business operations have been and continue to be adversely affected by the ongoing pandemic of respiratory illness caused by a novel strain of coronavirus, SARS-CoV-2, causing the Coronavirus Disease 2019, also known as COVID-19. Global health concerns relating to the COVID-19 pandemic have been weighing on the macroeconomic environment, and the pandemic has significantly increased economic volatility and uncertainty.

The pandemic has resulted in government authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter-in-place or stay-at-home orders, and business shutdowns. For

example, our personnel located at our offices and laboratories in Texas, California and elsewhere in the United States and in other countries have been subject to various shelter-in-place or stay-at-home orders from state and local governments for the past several months. These measures have adversely impacted and may further impact our employees and operations, and the operations of our customers, suppliers and business partners, and may negatively impact spending patterns, payment cycles and insurance coverage levels. These measures have adversely affected and are expected to continue to adversely affect demand for our tests. Many of our customers, including hospitals and clinics, have suspended non-emergency appointments and services, which resulted in a significant decrease in our test volume. In addition, because we rely heavily on our direct sales force to sell our tests, we expect our sales cycle, particularly for new customers, will continue to be significantly impacted. Travel bans, restrictions and border closures have also impacted our ability to ship test kits to and receive samples from our customers. In addition, certain aspects of our business, such as laboratory processes, cannot be conducted remotely. These measures by government authorities may continue to remain in place or be implemented to varying degrees from time to time for the foreseeable future, and they are likely to continue to adversely affect our test volume, sales activities and overall operations for an indefinite period of time.

In addition, it may be more difficult for us to develop new products for commercial release, as we expect it will be more difficult to complete our research and development efforts and commence and complete clinical trials while the pandemic is ongoing. It is also possible that demand for products that we may pursue could be materially and adversely affected as a result of COVID-19, disruptions to our or our customers' operations, and any related economic impact.

The spread of COVID-19 has caused us to modify our business practices (including employee travel, mandating that all non-essential personnel work from home, temporary closures of our offices, and cancellation of physical participation in sales activities, meetings, events and conferences) and incur additional operating costs, and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers and business partners. Such actions could also impact our ability to fully integrate businesses we may acquire in the future. There is no certainty that such actions will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities. If significant portions of our workforce, and particularly our laboratory staff, are unable to work effectively, including due to illness, quarantines, social distancing, government actions or other restrictions in connection with the COVID-19 pandemic, our operations will be impacted.

The extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on future developments, which remain highly uncertain and cannot be predicted, including, but not limited to, the continued duration and spread of the pandemic, its severity, the actions to contain the virus or address its impact, and when and to what extent normal economic and operating activities can resume. The COVID-19 pandemic could limit the ability of our customers, suppliers and business partners to perform under their contracts with us, including third-party payers' ability to make timely payments to us during and following the pandemic. We may also experience a shortage of laboratory supplies and reagents or a suspension of services from other laboratories or third parties. We have also become increasingly dependent on growing and maintaining a network of mobile phlebotomy specialists who can provide testing capabilities, as many consumers are unable to visit clinics, hospitals or other testing facilities as a result of the pandemic. Even after the pandemic has subsided, we may continue to experience an adverse impact to our business as a result of its global economic impact, including any recession that has occurred or may occur in the future.

Specifically, difficult macroeconomic conditions, such as decreases in per capita income and level of disposable income and related health insurance coverage, increased and prolonged unemployment or a decline in consumer confidence as a result of the pandemic, as well as limited or significantly reduced points of access of our products, could have a material adverse effect on the demand for some of our products, such as our products targeted for the IVF market. Decreased demand for our tests, particularly in the United States, could negatively affect our overall financial performance. A significant portion of our revenue is concentrated in the United States, where the impact of COVID-19 continues to be significant, and the potential decrease in demand for our tests could have a disproportionately negative impact on our business and financial results.

In addition, the stock market has been unusually volatile during the COVID-19 pandemic and such volatility may continue, and financial markets generally have experienced periods of significant volatility. Our stock price has also experienced volatility during this time, including occasional significant declines, and such declines may repeat or continue for the foreseeable future.

We do not yet know the full extent and duration of the impact of the COVID-19 pandemic on the United States or global economies as a whole, nor the resulting ultimate impact on our operations, and there are no comparable recent events which may provide guidance in this respect. However, the effects have impacted our business and operations, we expect that they will continue to have a material adverse impact on our business and results of operations.

We have derived the significant majority of our revenues from Panorama and Horizon, and if our efforts to further increase the use and adoption of Panorama and Horizon or to develop new products and services in the future do not succeed, our business will be harmed.

Historically, including for the year ended December 31, 2020, the significant majority of our revenues were derived from sales of our Panorama NIPT and our Horizon carrier screening, or HCS, test, and we expect this to continue to be the case. With respect to Panorama in particular, continued and additional market demand for Panorama, and reimbursement for the average-risk population and for microdeletions, are key elements to our future success. The market demand for NIPTs and carrier screening tests continue to evolve. We cannot guarantee that physicians will recommend and order Panorama or Horizon, and our laboratory distribution partners and licensees may not actively or effectively market Panorama or Horizon.

Our ability to increase sales and establish significant levels of adoption and reimbursement for Panorama and Horizon is uncertain, and it may be challenging for us to achieve profitability for many reasons, including, among others:

- the market for our tests may not grow as we expect; in particular, NIPTs may not gain acceptance for use in the average-risk pregnancy population or as a screen for microdeletions, which would limit the market for Panorama, and we may fail to compete successfully in this market, whatever size;

- if we are unable to demonstrate that our tests are superior to competing tests, laboratories, clinics, clinicians, physicians, payers and patients may not adopt the use of Panorama, Horizon or our other tests on a broad basis, and may not be willing to pay the price premium over competing tests that we have, to date, been able to achieve;

- third-party payers, such as commercial insurance companies and government insurance programs, may decide not to reimburse for Panorama or Horizon, may not reimburse for uses of Panorama for the average-risk pregnancy population or for the screening of microdeletions, or may set the amounts of any reimbursements at prices that do not allow us to cover our expenses; in fact, many third-party payers currently have negative coverage determinations or otherwise do not reimburse for microdeletions screening and we expect low reimbursement rates for microdeletions screening to continue, at least in the near term; also, most state Medicaid programs currently either reimburse at low rates or do not reimburse for our tests;

- third-party payers have increasingly required that prior authorization be obtained prior to conducting genetic testing as a condition to reimbursing for it, which has reduced and/or delayed the reimbursement amounts we receive for Panorama, Horizon and our other tests, which has impacted our results of operations since the fourth quarter of 2017, when these requirements began to take effect;

- the results of our SMART Study evaluating the performance of Panorama may fail to convince laboratories, clinics, clinicians, physicians or patients of the benefits of utilizing Panorama in average-risk pregnancies or for microdeletions and may not increase reimbursement for Panorama;

- the results of our clinical trials and any additional clinical and economic utility data that we may develop, present and publish in the future or that comes from the commercial use of our tests may be inconsistent with our existing data, including the data from our SMART Study, and may raise questions about the performance of our tests, or may fail to convince laboratories, clinics, clinicians, physicians, payers or patients of the value of our tests; we may experience supply constraints, including those due to the failure of our key suppliers to provide required sequencers and reagents in sufficient amounts or of adequate quality or disputes with our key suppliers, including those with respect to the required sequencers and reagents from our supplier, Illumina, Inc., or Illumina, who is also one of our main NIPT competitors through its subsidiary, Verinata

Health Inc., or Verinata, and with whom we have historically been involved in patent proceedings as further described in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements;

- we may experience increased cost of product revenues, and cost of licensing and other revenues, as a percentage of total revenues, as has been the case in previous fiscal periods;

- the U.S. Food and Drug Administration, or 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 and sell Panorama, Horizon or our other tests, including requiring FDA clearance or approval for the sale of Panorama or Horizon or of the sequencers, reagents, kits and other consumable products that we purchase from third parties in order to perform our testing;

- our laboratory partners may choose to develop their own tests that are competitive with ours or offer tests provided by our competitors due to pricing or other reasons as has happened in the past, or otherwise fail to effectively market our tests; and competitors may develop and commercialize more effective and/or less expensive tests that deliver comparable results as our tests;

- we may fail to adequately protect or enforce our intellectual property relating to our tests, leading to increased competition; or other parties may claim that the practice of our technology by us or our licensees and collaborators infringes such other party's intellectual property rights, as certain of our competitors have claimed in lawsuits filed against us, as discussed further in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements; if we are required to pay license fees in order to license third-party intellectual property rights due to actual or alleged infringement based on our running our tests, we may experience increased costs in running our tests, and we may be unable to pass such costs on to our customers;

- we may be unable to dedicate adequate resources to the maintenance and further technological advancement of Panorama and Horizon that are necessary for such tests to be competitive in the marketplace because of the demands placed on our research and development and product teams with respect to our continuously expanding portfolio of products and programs, in particular our efforts and focus on developing our oncology and organ health businesses;

- in the event that it is in our commercial or financial interest or we are forced to transition sequencing platforms for Panorama, we may be unable to do so in a commercially sustainable way and that could survive claims of infringement of intellectual property rights of Illumina and other competitors, in a timely manner or at all; and

- we may not be successful in commercializing our cloud-based distribution model.

If the market for Panorama or Horizon, or our market share for either test, fail to grow or grow more slowly than expected, our business, operating results and financial condition will be harmed.

We have incurred net losses since our inception and we anticipate that we will continue to incur losses for the foreseeable future, which could harm our future business prospects.

We have incurred net losses each year since our inception in 2003. To date, we have financed our operations primarily through private placements of preferred stock, convertible debt and other debt instruments, our initial public offering and our registered public equity offerings. Our net loss for the years ended December 31, 2020, 2019 and 2018 was $229.7 million, $124.8 million and $128.2 million, respectively. As of December 31, 2020, we had an accumulated deficit of $929.3 million. Such losses may continue to increase in the future as we continue to devote a substantial portion of our resources to efforts to increase the adoption of, and reimbursement for, Panorama, Horizon and our other products, improve these products, and research and develop and commercialize new products, which increasingly are in industries that are relatively new to us, such as oncology and organ health.

In addition, the rate of growth in our revenues has fluctuated in the past, and may continue to do so in future periods. In particular, such rate of growth may be negative, low or flat, including if the rate of growth of our test volumes slows. A significant element of our business strategy is to maintain increased in-network coverage with third-party payers; however, the negotiated fees under our contracts with third-party payers are typically lower than the list price of our tests, and in some cases the third-party payers that we contract with have negative coverage determinations for some of our offerings, in particular Panorama for microdeletions screening. Therefore, being in-network with third-party payers 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 for reimbursement for, our products. Furthermore, a CPT code for microdeletions went into effect beginning in January 2017. We have experienced low average reimbursement rates for microdeletions testing under this code, and we expect that this code will continue to cause our microdeletions reimbursement to remain low, at least in the near term, either due to reduced reimbursement, or third-party payers declining to reimburse, under the microdeletions code, which has had and will likely continue to have an adverse effect on our revenues. In addition, a CPT code for expanded carrier screening went into effect beginning in January 2019, and has had, and may continue to have, an adverse effect on our reimbursement rates for our broader Horizon carrier screening panel, for which we previously primarily received reimbursement on a per condition basis, as those tests may be reimbursed as a combined single panel instead of as multiple individual tests.

As further discussed in the risk factor entitled "*—We may not be successful in commercializing our cloud-based distribution model*," our results of operations may be adversely affected if we do not sell a sufficient volume of tests under our cloud-based distribution model to offset the lower revenues per test performed under that model. Our ability to forecast our future operating results, including revenues, cash flows and profitability, is limited and subject to a number of uncertainties. We have also encountered and will continue to encounter risks and uncertainties frequently experienced by growing companies in the life sciences and technology industry, such as those described in this report. If our assumptions regarding these risks and uncertainties are incorrect or these risks and uncertainties change, or if we do not address these risks successfully, our operating and financial results may differ materially from our expectations, and our business may suffer.

Uncertainty in the development and commercialization of our enhanced or new tests or services could materially adversely affect our business, financial condition and results of operations.

Our success will depend in part on our ability to effectively introduce enhanced or new offerings. The focus of our research and development efforts has expanded beyond reproductive health products, as we are now also applying our expertise in processing and analyzing cell-free DNA in the fields of oncology and organ health. In recent years we have developed and/or launched several new products or enhanced versions of existing products, including our first offerings in oncology and in organ health, and we expect to continue our efforts in all of these areas. The development and launch of enhanced or new tests requires the completion of certain clinical development and commercialization activities that are complex, costly, time-intensive and uncertain, and requires us to accurately anticipate patients', clinicians', payers' and other counterparties' attitudes and needs as well as emerging technology and industry trends. This process is conducted in various stages, and each stage presents the risk that we will not achieve our goals.

We may not be successful in our current or future efforts to develop and commercialize cell-free DNA tests outside of the reproductive health space. Moreover, we have limited experience forecasting our future financial performance from our new products in these industries that are newer to us, and our actual results may fall below our financial guidance or other projections, or the expectations of analysts or investors, which could cause the price of our common stock to decline. We may experience research and development, regulatory, marketing and other difficulties that could delay or prevent our introduction of enhanced or new tests and result in increased costs and the diversion of management's attention and resources from other business matters, such as from our Panorama and Horizon product offerings, which currently represent the significant majority of our revenues. For example, any tests that we may enhance or develop may not prove to be clinically effective in clinical trials or commercially, or may not ultimately meet our desired target product profile, be offered at acceptable cost and with the sensitivity, specificity and other test performance metrics necessary to address the relevant clinical need or commercial opportunity; our test performance in commercial experience may be inconsistent with our validation or other clinical data; we may not be successful in achieving market awareness and demand, whether through our own sales and marketing operations or through collaborative arrangements; healthcare providers may not order or use, or third-party payers may not reimburse for, any tests that we may enhance or develop; or

we may otherwise have to abandon a test or service in which we have invested substantial resources. In particular, we are subject to the risk that the biological characteristics of the genetic mutations we seek to target, and upon which our technologies rely, are uncertain and difficult to predict. For example, in our efforts to detect and analyze circulating tumor DNA in plasma for MRD assessment and recurrence surveillance, our success depends on tumors shedding mutant DNA into the bloodstream in sufficient quantities such that our technology can detect such mutations. As further discussed in the risk factor entitled "*If our products do not perform as expected, our operating results, reputation and business will suffer*," we may also experience unforeseen difficulties when implementing updates to our processes, as we have occasionally experienced with Panorama and with Horizon.

We cannot assure you that we can successfully complete the clinical development of any new or enhanced product, or that we can establish or maintain the collaborative relationships that may be essential to our clinical development and commercialization efforts. Clinical development requires large numbers of patient specimens and, for certain products, may require large, prospective, and controlled clinical trials. We may not be able to enroll patients or collect a sufficient number of appropriate specimens in a timely manner; or we may experience delays during clinical development due to slower than anticipated enrollment, which we experienced in the past with our SNP-based Microdeletions and Aneuploidy RegisTry, or SMART, Study, or due to changes in study design or other unforeseen circumstances, such as our decisions in the past to expand our SMART Study; or we may be unable to afford or manage the large-sized clinical trials that some of our planned future products may require.

The publication of clinical data in peer-reviewed journals is a crucial step in commercializing and obtaining reimbursement for tests such as ours, and our inability to control when, if ever, results are published may delay or limit our ability to derive sufficient revenues from any test that is the subject of a study. Peer-reviewed publications regarding our tests 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 tests or the technology underlying our current or future tests do not receive sufficient favorable exposure in peer-reviewed publications, the rate of clinician adoption of our tests and positive reimbursement coverage determinations for our tests could be negatively affected. Further, the data collected from any studies we complete in the future may not be favorable or consistent with our existing data or may not be statistically significant or compelling to the medical community or to third-party payers seeking such data for purposes of determining coverage for our tests. For example, we recently presented certain results of our SMART Study, and expect to publish our results in 2021. The objective of the SMART Study was to evaluate the performance of SNP-based NIPT for 22q11.2 deletion syndrome by tracking birth outcomes in the general population among over 18,000 women who presented clinically and elected Panorama microdeletion and aneuploidy screening as part of their routine care. We cannot assure you that the results of our SMART Study will convince laboratories, clinics, clinicians, physicians or patients of the benefits of utilizing Panorama in average-risk pregnancies or for microdeletions. We also cannot be certain whether, or to what extent, the SMART Study may impact insurance coverage and reimbursement for Panorama in the average-risk population or for microdeletions.

In addition, as further described in the risk factor entitled "*—If the FDA were to begin actively regulating our tests, we could incur substantial costs and delays associated with trying to obtain premarket clearance or approval and incur costs associated with complying with post-market controls,*" development of the data necessary to obtain regulatory clearance and approval of a test is time-consuming and carries with it the risk of not yielding the desired results. The performance achieved in published studies may not be repeated in later studies that may be required to obtain FDA premarket clearance or approval or regulatory approvals in foreign jurisdictions. Limited results from earlier-stage verification studies may not predict results from studies in larger numbers of subjects drawn from more diverse populations over longer periods of time. Unfavorable results from ongoing preclinical and clinical studies may delay, limit or prevent regulatory approvals or clearances or commercialization of our product candidates, or could result in delays, modifications or abandonment of ongoing analytical or future clinical studies, or abandonment of a product development program, any of which could have a material adverse effect on our business, operating results or financial condition.

These and other factors beyond our control could result in delays or other difficulties in the research and development, approval, production, launch, ongoing commercialization or distribution of enhanced or new tests and could adversely affect our competitive position and results of operations.

Our quarterly results may fluctuate from period to period, which could adversely impact the value of our common stock.

Our quarterly results of operations, including our revenues, gross margin, net loss and cash flows, may vary from period to period as a result of a variety of factors, many of which are outside of our control, including those listed elsewhere in this "Risk Factors" section, and as a result, period-to-period comparisons of our operating results may not be meaningful. Our quarterly results should not be relied upon as an indication of future performance. In addition, to the extent that we continue to spend considerably on 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. Fluctuations in quarterly results and key metrics may cause our results to fall below our financial guidance or other projections or goals, or the expectations of analysts or investors, which could adversely affect the price of our common stock. We also face competitive pricing and reimbursement pressures, and we may not be able to maintain our premium pricing in the future, which would adversely affect our operating results.

Competition in our industry is intense; if we are unable to compete successfully with respect to our current or future products or services, we may be unable to increase or sustain our revenues or achieve profitability.

We compete primarily in the molecular testing field, which is characterized by rapid technological changes, frequent new product introductions, reimbursement challenges, emerging competition, intellectual property disputes and litigation, price competition, aggressive marketing practices, evolving industry standards and changing customer preferences. Our principal competition in women's health comes from existing testing methods, technologies and products that are used by OB/GYNs, MFM specialists or IVF centers. These include other NIPTs and carrier screening tests offered by our competitors, as well as established, traditional first-line prenatal screening methods, such as serum protein measurement, where doctors measure certain hormones in the blood, and invasive prenatal diagnostic tests like amniocentesis, which have been used for many years and are therefore difficult to displace or supplement. In addition, new testing methods may be developed which may displace or be preferred over NIPTs, such as whole genome sequencing or single cell analysis. We are relatively new to the fields of oncology and organ health, and face competition in these business areas from other companies, many of which are larger, more established and have more experience and more resources than we do. Some companies in the ctDNA-based liquid biopsy field are expanding their research and development efforts to include tracking more tumor-specific variants and/or other biomarkers in addition to ctDNA, on the basis that these analyses may collectively result in improved sensitivity and earlier detection than currently available tests, such as Signatera. We cannot assure you that research, discoveries or other advancements by other companies will not render our existing or potential products and services uneconomical or result in products and services that are superior or otherwise preferable to our current or future products and services.

We compete with numerous companies in the genetic diagnostics space. Our primary competitors in NIPT include Sequenom, which was acquired by LabCorp; Illumina, through its subsidiary Verinata; Ariosa, a subsidiary of Roche; Myriad Genetics, Inc., which has acquired Counsyl, Inc; Invitae Corp.; Bio-Reference, a business unit of OPKO Health, Inc.; Quest; Premaitha Health PLC; BGI; Progenity, Inc., or Progenity; NxGen; BillionToOne Inc.; PerkinElmer Inc.; and Mount Sinai Genomics, Inc. d/b/a Sema4. All of our main NIPT competitors in the United States are owned or controlled by companies much larger than ours and with much greater resources for sales, marketing and research and development efforts. Our primary competitors in carrier screening include LabCorp; Myriad Genetics, Inc.; Sema4; Invitae Corp.; Progenity; Quest; Recombine Inc.; GeneDx, Inc., a subsidiary of Bio-Reference; and GenPath Diagnostics, a business unit of Bio-Reference. In the field of ctDNA-based MRD assessment and recurrence surveillance, we face competition from various companies that offer or seek to offer competing solutions, such as Roche Diagnostics, a division of Roche; Guardant Health, Inc., Adaptive Biotechnologies, Personal Genome Diagnostics, Inc.; Exact Sciences Corp.; Inivata, Inc.; C2i Genomics, Inc.; and ArcherDX, Inc., or ArcherDX, which has been acquired by Invitae Corp., one of our primary competitors in both NIPT and carrier screening. In the field of organ health, our primary competitors include CareDx and Eurofins Viracor, Inc. We expect that competition in these spaces will continue to increase.

Some of our competitors' products and services are sold at a lower price than ours, which could cause sales of our tests and services to decline or force us to reduce our prices. Our current and future competitors could have greater technological, financial, reputational and market access advantages 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. We are increasingly subject to litigation with our competitors; for example, as disclosed elsewhere in these risk factors, we are or have recently been in active litigation with competitors in each of the women's health,

oncology and organ health fields, which involve considerable costs to us as well as management time and attention. If we are unable to compete successfully, we may be unable to increase or sustain our revenues or achieve profitability.

We may not be successful in commercializing our cloud-based distribution model.

We utilize a cloud-based distribution model to deploy our bioinformatics technology for use by other laboratories. Under this model, clinical laboratories around the world, including in the U.S., license our technology to develop and run their own NIPT or other molecular testing assays in their own facilities as LDTs, and then access our proprietary algorithms through our cloud-based Constellation software to analyze the assay results. In the diagnostics industry, the market for cloud-based solutions and services is not as mature as the market for on-premise enterprise software, and it remains uncertain whether and to what extent our cloud-based distribution model will achieve and sustain high levels of customer demand and market acceptance. As of January 31, 2021, fewer than 20 licensees are using Constellation commercially to market NIPT products and one licensee is using Constellation commercially to market its non-invasive prenatal paternity test in the United States and internationally. The rate of adoption of our cloud-based distribution model continues to be slower than we anticipated, and depends on a number of factors, including the cost, performance and perceived value associated with our solution, as well as our ability to address security, privacy and regulatory requirements or concerns. In particular, all of our licensees under our cloud-based distribution model are required to use Illumina sequencers and reagents to run their tests that they develop based on our technology. As further described in the risk factor entitled "*—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 are aware that Illumina has required our licensees to pay an additional license fee in certain jurisdictions in order to secure a supply agreement for the sequencers and reagents necessary to run NIPT under our cloud-based distribution model. Furthermore, Illumina competes with us through its subsidiary Verinata, and may not charge a similar license fee for Verinata's licensed-based offering to other laboratories. As a result, our potential or current licensees may be unable to commercially launch their tests under our cloud-based distribution model in a financially viable manner, which has dissuaded and could continue to dissuade potential or current licensees from licensing from us or launching a test based on our technology. In addition, if a test developed by any of our licensees under our cloud-based distribution model in the United States is found not to be an LDT, the licensee may not be able to market its test, and we would not receive the anticipated revenues from that licensee.

We also do not know whether, over the long term, this model will result in benefits or cost savings at the levels that we anticipate or at all. For example, to the extent that any of our laboratory customers for whom we currently perform our tests entirely in our laboratory transition to our cloud-based distribution model, our revenues from such customers will decrease because we are not able to charge as high an amount per test as when we perform the entire test ourselves. If the lower revenues per test performed is not offset by a sufficient increase in volume of tests sold, our overall revenues will be lower, and our results of operations may be adversely affected.

Among the risks to our business and results of operations from our Constellation model are the following:

- our and our licensees' ability to obtain required regulatory authorizations from the FDA and international regulatory agencies as further described in the risk factor entitled "*Reimbursement and Regulatory Risks Related to Our Business—Failure to obtain necessary regulatory approvals may adversely affect our ability to expand our operations internationally, including our ability to continue commercializing our cloud-based distribution model*;"

- supply constraints, including with respect to the blood collection tubes that are used for many of our tests, such as Panorama, Signatera and Prospera, and that are supplied by Streck, Inc., or Streck, as further described in the risk factor entitled "*—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*;"

- allegations or potential third-party claims that the tests, based on our technology, developed by our licensees violate such third parties' intellectual property rights;

- licensing portions of our proprietary technology to third parties that may not take the same security precautions as we do to protect this information; and

- an inability to achieve anticipated benefits and costs savings.

If we or other cloud-based solution providers experience security incidents, loss of customer data or disruptions in delivery or other problems, the market for cloud-based solutions in the diagnostics industry, including our solutions, may be adversely affected. Such events could also result in potential lawsuits and liability claims, which could have a material adverse effect on our business. If there is a reduction in demand for cloud-based solutions caused by technological challenges, weakening economic conditions, security or privacy concerns, competing technologies and products or other challenges, we may not be successful in executing our Constellation business model, and our results of operations may be adversely affected.

We rely on internal and third-party data centers and platforms to host our laboratory and cloud-based software, and any interruptions of service or failures may impair our laboratory operations or the delivery of our cloud-based services and harm our business.

We currently maintain a data center at our laboratory facilities in San Carlos, California. In addition, our proprietary bioinformatics algorithms are a crucial component of our test processing, and combine information derived from our mmPCR assay workflows with publicly available data from the broader scientific community to analyze and return test results. We host the significant majority of these algorithms on a cloud-based software platform pursuant to an agreement with DNAnexus, Inc., or DNAnexus, and both we and our Constellation licensees access our algorithms through the DNAnexus platform. The DNAnexus platform is hosted on third-party data center hosting facilities operated by Amazon Web Services, or AWS, located primarily in the United States and in the European Union. These algorithms cannot currently be run other than through the DNAnexus platform; they are currently used to run our Panorama NIPT and NIPT analysis for our Constellation licensees, as well as Horizon, Signatera, Prospera and certain of our research and development activities, and we plan to utilize the platform for additional applications in the future. In the event of any technical problems that may arise in connection with our on-site data center, the DNAnexus platform or the AWS servers on which the DNAnexus platform is hosted, or difficulties in or termination of our relationship with DNAnexus, we could experience interruptions in our laboratory operations or our cloud-based services, and we and our Constellation licensees may be unable to access our proprietary algorithms and therefore be unable to process tests or conduct any other activities that require access to such algorithms. These types of problems may be caused by a variety of factors, including infrastructure changes, human or software errors, viruses, security attacks, fraud, spikes in customer usage and denial of service issues. We do not have any backup platform, server or other means to host our algorithms, and may be unable to find and implement an alternative platform that is satisfactory for our needs on commercially reasonable terms, in a timely manner, or at all. Interruptions in our operations or service may reduce our revenue, cause us to issue refunds, result in the loss of customers, cause laboratory licensees to terminate their contracts with us, adversely affect our ability to attract new laboratory licensees, or harm our reputation. We could also be exposed to potential lawsuits and liability claims.

If our products do not perform as expected, our operating results, reputation and business will suffer.

Our success depends on the market's confidence that we can provide reliable, high-quality testing results. There is no guarantee that the accuracy and reproducibility we have demonstrated to date will continue as our test volumes continue to increase and our product portfolio continues to expand. We believe that our customers are particularly sensitive to test limitations and errors, including inaccurate test results and the need on occasion to perform second blood draws, or redraws, on patients, for which Panorama experiences a higher rate than advertised for other NIPTs. As a result, if our tests do not perform as expected or favorably in comparison to competitive tests, our operating results, reputation, and business will suffer. We may also become 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, technological or other failure in one of these complex processes, or fluctuations in external variables, may result in sensitivity or specificity rates that are lower than we anticipate or that vary between test runs, a higher than anticipated number of tests that require redraws or fail to produce results, or longer than expected turnaround times, which we have experienced and will likely continue to experience on occasion as a result of issues with laboratory equipment, components or materials or otherwise. In addition, we regularly evaluate and refine our testing processes, and any refinements we make may not improve our tests as we expect and may result in unanticipated issues that may adversely affect our test performance as described above, which we have experienced in the past. Such

operational, technical and other difficulties adversely affect test performance, may impact the commercial attractiveness of our products, and may increase our costs or divert our resources, including management's time and attention, from other projects and priorities. Furthermore, any changes to our testing process may require us to use new or different suppliers or materials with whom or which we are unfamiliar, and which may not perform as we anticipate, and could cause delays, downtime or other operational issues.

In addition, as further discussed in the risk factor entitled "*If we are unable to successfully grow revenues for our current or future products or services in addition to Panorama, our business and results of operations may be adversely affected*," our Vistara NIPT is a relatively new test offering, as are Signatera and Prospera. Any failure to meet consumer expectations could harm our reputation.

We rely on third-party laboratories to perform portions of our service offerings.

Certain of our tests, or components of our tests, are performed by third-party laboratories. These third-party laboratories are subject to contractual obligations to perform these services for us, 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, and we have no control over such laboratories' compliance with applicable legal and regulatory requirements. We also have no control over the timeliness of such laboratories' performance of their obligations to us, and third-party laboratories that we have contracted with have in the past had, and occasionally continue to have, issues with delivering results to us or resolving issues with us within the time frames we expected or established in our contracts with them, which sometimes results in longer than expected turnaround times for, or negatively impacts the performance of, these tests and services. Any natural or other disaster, acts of war or terrorism, shipping embargoes, labor unrest or political instability or similar events at one or more of our third-party laboratories' facilities that causes a loss of capacity would heighten the risks that we face. We may not have sufficient alternative backup if one or more of the third-party laboratories that we contract with are unable to satisfy their obligations to us with sufficient performance, quality and timeliness, including as a result of the COVID-19 pandemic. Changes to or termination of our agreements or inability to renew our agreements with these third-party laboratories or enter into new agreements with other laboratories that are able to perform such portions of our service offerings could impair, delay or suspend our efforts to market and sell these tests and services. In the event of any adverse developments with these third-party laboratories or their ability to perform their obligations to us in a timely manner and in accordance with the standards that we and our customers expect, our ability to service our customers may be delayed, interrupted or otherwise adversely affected, which could result in a loss of customers and harm to our reputation. Furthermore, when these issues arise, we have had to expend time, management attention and other resources to address and remedy such issues. In addition, certain third-party payers, including some state Medicaid payers, that we are under contract with may take the position that sending out testing to third-party laboratories and billing for such tests is contrary to the terms of our provider agreement and may refuse to pay us for the testing. If any of these events occur, our business, financial condition and results of operations could suffer. Further, some state laws impose anti-markup restrictions that prevent an entity from realizing a profit margin on outsourced testing. If we or our subsidiaries are unable to markup outsourced testing, our revenues and operating margins may suffer.

If we are unable to successfully grow revenues for our products or services in addition to Panorama and Horizon, our business and results of operations may be adversely affected.

Our ability to successfully grow revenues for products or services in addition to Panorama and Horizon, is uncertain and is subject to many of the risks we face with respect to Panorama and Horizon. For example, the adoption and demand for such products or services may not grow as we expect; we may not be able to demonstrate that such products or services are equivalent or superior to competing products or services; third-party payers may not reimburse for our tests, or may set the amounts of such reimbursements at prices that do not allow us to cover our expenses; we may fail to compete successfully in the relevant product markets, or our laboratory distribution partners may choose to more actively or exclusively market tests by competitors; we may experience supply constraints; and we may fail to adequately protect our intellectual property relating to our products or others may claim we infringe their intellectual property rights, which has occurred, as disclosed elsewhere in these Risk Factors, with respect to litigation with Illumina relating to Panorama, with each of ArcherDX and Genosity relating to Signatera, with CareDx relating to Prospera and with Ravgen, Inc., relating to Panorama, Vistara, Signatera and Prospera. In addition, because our revenues from Horizon now represent a significant

proportion of our overall revenues, any adverse impact we experience with respect to Horizon could result in an impact to our overall revenues, or a component of such overall revenues; for example, a decline in our reimbursement rates for, and therefore our average selling price of, Horizon, could result in a decline in our overall blended average selling price. If we are not able to increase adoption of and grow revenues for our products or services, our business and results of operations may be adversely affected.

We began offering our Vistara single-gene mutations screening test, our Signatera MRD test for research use only, and our twin pregnancies screening capability for Panorama, in 2017; our Signatera CLIA test and Prospera transplant rejection test, both on a limited basis, in 2019, with full-scale commercial launches of both Signatera and Prospera, among other products, in 2020. Our success with these offerings is subject to many of the risks affecting our business generally, as well as the inherent difficulties with launching a new offering and in new markets, including risks inherent in launching multiple new offerings simultaneously. Some of our offerings, such as Signatera and Prospera, while based upon our core molecular diagnostic technology, are in fields that are new to us; and others, such as Vistara, are subject to the risks inherent in commercializing a product with a laboratory partner. We have had to review and, in some cases, revise our processes, procedures and agreements with our business partners to address unforeseen operational issues and other contingencies, and will likely continue to do so as these areas of our business grow. We cannot assure you that our recent offerings will be successful.

If either of our CLIA-certified laboratory facilities becomes inoperable, we will be unable to perform our tests and our business will be harmed.

We currently operate laboratory facilities in Austin, Texas and in San Carlos, California, both of which process Panorama and Horizon tests, which together represent the significant majority of our revenues. Our efforts in oncology and organ health represent significant and increasing areas of focus for us, both operationally and financially; our Signatera and Prospera tests are currently only performed at our San Carlos facility, and we currently otherwise have no backup or redundant facility to perform these tests. Our San Carlos facility is situated near active earthquake fault lines. Either of our facilities may be harmed or rendered inoperable, or samples could be damaged or destroyed, by natural or manmade disasters, including earthquakes, severe weather, flooding, power outages and contamination, including as a result of the COVID-19 pandemic, 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 either our San Carlos or Austin facility is inoperable for even a short period of time may result in the loss of customers or harm our reputation.

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 sourced and will continue to source components of our technology, including sequencers, reagents, tubes and other laboratory materials, from third parties. In particular, our sequencers, many of our reagents, including for Panorama, Horizon and Signatera as described below, and our blood collection tubes, are sole sourced.

For example, our molecular diagnostics tests are currently only validated to perform on Illumina's sequencing platform; in addition, Illumina is currently the sole supplier of our sequencers and related reagents for Panorama, Horizon, Signatera and Prospera, along with certain hardware and software, pursuant to a supply agreement that expires in May 2030. Without sequencers and the related reagents, we would be unable to run our tests and commercialize our products. In addition, all of the licensees under our cloud-based distribution model do not have alternatives other than to use Illumina sequencers and reagents to run the tests that they develop based on our technology. In addition, Illumina and Sequenom, which was acquired by LabCorp, have entered into a patent pooling agreement pursuant to which both parties have pooled their intellectual property directed to NIPT. We understand from public filings that under the patent pooling agreement, Illumina has the exclusive worldwide rights to, among other things, license third-party laboratories to develop and sell NIPTs utilizing the pooled intellectual property and to enforce the pooled intellectual property against suspected infringers. Illumina has granted us certain rights to Illumina's intellectual property related to NIPT, including the pooled intellectual property, for running our own tests; however, we do not have an express license to grant rights under the pooled intellectual property to the licensees under our cloud-based distribution model. We are aware that Illumina has required our licensees, in order to secure a supply agreement for the sequencers and reagents necessary to run NIPT under our cloud-based distribution model, to pay an additional fee for a license under the pooled intellectual property in jurisdictions in which Illumina believes certain of the pooled intellectual property is enforceable. This additional fee has dissuaded and could continue to dissuade potential or current licensees from licensing from us or launching a test based on our technology. In

addition, we have recently been involved in patent infringement litigation against Illumina, as further described in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements, which we and Illumina have settled. In addition, Illumina directly competes with us in the NIPT market through its subsidiary, Verinata. We understand Illumina supplies the same or similar sequencers and consumables to Verinata. Because of Illumina's ownership of Verinata, we face increased risk and uncertainty regarding continuity of a successful working relationship with Illumina under our supply agreement, as well as in our ability to compete with Verinata in the marketplace in view of economic advantages enjoyed by Verinata with respect to the cost of sequencers and related consumables. Furthermore, Illumina has entered into an agreement to acquire GRAIL, a company focused on early detection of cancer, and we may be subject to risks similar to, and which may compound, those described above if such acquisition is completed. Our failure to maintain a continued supply of the sequencers and reagents, along with the right to use certain hardware and software, would adversely impact our business, financial condition, and results of operations. In particular, while we are seeking to validate our tests on additional sequencing platforms, such as under our license agreement with BGI Genomics Co., Ltd., or BGI Genomics, we have not, to date, validated any alternative sequencing platform on which our testing could be run in a commercially viable manner. These efforts will require significant resources, expenditures and time and attention of management, and there is no guarantee that we will be successful in implementing any such sequencing platforms in a commercially sustainable way. We also cannot guarantee that we will appropriately prioritize or select alternative sequencing platforms on which to focus our efforts, in particular given our limited product and research and development resources and various business initiatives, which could result in increased costs and delayed timelines or otherwise impact our business and results of operations.

In addition, our Panorama test is currently only validated to be performed using Streck's blood collection tubes, and Streck is the sole supplier of the blood collection tubes included in our Panorama test under a supply arrangement with Streck under which we are required to exclusively use Streck tubes. Similarly, all of the licensees under our cloud-based distribution model also have no current alternative but to use these blood collection tubes to run the tests that they develop based on our technology. We also only use Streck tubes for the primary analysis of Signatera results, and for our Prospera test. Furthermore, the blood collection tubes supplied by Streck are intended for research use only and are labeled as RUO. Our sequencers, sourced from Illumina, as well as certain other reagents we use for Panorama and our other tests, are also labeled as RUO. As discussed further in the risk factor entitled *"Reimbursement and Regulatory Risks Related to Our Business—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,*" the FDA may determine that a product labeled RUO is, nonetheless, intended to be used diagnostically, and could take enforcement action against the manufacturer of the product. If this were to occur with respect to Streck, Illumina or any of our other suppliers of RUO products, we could be required to obtain one or more alternative sources of these products, and we may not be able to do so on commercially reasonable terms or at all. In addition, Streck's blood collection tubes have not been registered as a medical device in all countries in which we market our Panorama test. As discussed in the risk factor entitled "*Reimbursement and Regulatory Risks Related to Our Business—Failure to obtain necessary regulatory approvals may adversely affect our ability to expand our operations internationally, including our ability to continue commercializing our cloud-based distribution model,"* the regulatory authorities in some of these countries may determine that such registration is required, which could impact our ability to offer Panorama in such countries. Furthermore, because our licensees under our cloud-based distribution model also exclusively use such sole-sourced components to run the tests they develop based on our technology, and our laboratory distribution partners must use certain of such sole-sourced components in order to utilize our tests, any enforcement action against the supplier by the FDA or any other regulatory authority in the jurisdictions in which our licensees and laboratory distribution partners are located could have an adverse impact on our business.

Because we rely on third-party manufacturers, we do not control the manufacture of these components, including whether such components will meet our quality control requirements, nor the ability of our suppliers to comply with applicable legal and regulatory requirements. In many cases, our suppliers are not contractually required to supply these components to the quality or performance standards that we require. If the supply of components we receive does not meet our quality control or performance standards, we may not be able to use the components, or if we use them not knowing that they are of inadequate quality, which occasionally occurs with respect to certain reagents, our tests may not work properly or at all, or may provide erroneous results, and we may be subject to significant delays caused by interruption in production or manufacturing or to lost revenue from such interruption or from spoiled tests. In addition, any natural or

other disaster, 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 would heighten the risks that we face.

In the event of any adverse developments with our sole suppliers, or if any of our sole suppliers modifies any of the components they supply to us, our ability to supply our products may be interrupted, and obtaining substitute components could be difficult or require us to re-design or re-validate our products. In addition, if we obtain FDA clearance, approval or authorization for any of our tests as an in vitro diagnostic, or IVD, such issues with suppliers or the components that we source from suppliers could affect our commercialization efforts for such an IVD, as further described in the risk factor entitled "*Reimbursement and Regulatory Risks Related to Our Business—If the FDA were to begin actively regulating our tests, we could incur substantial costs and delays associated with trying to obtain premarket clearance or approval and incur costs associated with complying with post-market controls*." Our failure to maintain a continued supply of components, or a supply that meets our quality control requirements, or changes to or termination of our agreements or inability to renew our agreements with these parties or enter into new agreements with other suppliers, particularly in the case of sole suppliers such as Streck and Illumina, could result in the loss of access to important components of our tests and impact our test performance or affect our ability to perform our tests in a timely manner or at all, which could impair, delay or suspend our commercialization activities. In the event that we transition to a new supplier from any of our sole suppliers, doing so could be time-consuming and expensive, may result in interruptions in our ability to supply our products to the market, could affect the performance of our tests or could require that we re-validate our affected tests using replacement equipment and supplies, which could delay the performance of our tests and result in increased costs. Any of these occurrences could have a material adverse effect on our business, financial condition and results of operations.

We rely on commercial courier delivery services to transport samples to our facilities in a timely and cost-efficient manner and if these delivery services are disrupted, our business will be harmed.

Our core business depends on our ability to quickly and reliably deliver test results to our customers. We typically receive blood samples for analysis at our laboratory facilities within days of collection from the patient. Disruptions in delivery service – whether due to error by the courier service, labor disruptions, bad weather, natural disaster, terrorist acts or threats or for other reasons – some of which we have experienced in the past, could adversely affect specimen integrity, our ability to process or store 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.

Security breaches, loss of data and other disruptions, including with respect to cybersecurity, 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 legally-protected personal information, such as test results and other patient health information, credit card and other financial information, insurance information, and personally identifiable information. We also store sensitive intellectual property and other proprietary business information, including that of our customers, payers and collaboration partners. We are highly dependent on information technology networks and systems, including a combination of on-site systems, managed data center systems and cloud-based data center systems, and the Internet, to securely process, transmit, and store a wide variety of business-critical information, including research and development information, commercial information and business and financial information. We also communicate sensitive data, including patient data, telephonically, through our website, through facsimile, through integrations with third party electronic medical records systems, and through relationships with third party vendors and their subcontractors, both in the United States and internationally. The laws of some foreign countries do not protect data privacy to the same extent as the laws of the United States.

The secure processing, storage, maintenance and transmission of this critical information are vital to our operations and business strategy. Although we take measures to protect sensitive information from unauthorized access, use or disclosure, our information technology and infrastructure, and that of our technology and other third-party service providers and their subcontractors, are nevertheless inherently vulnerable, to some extent, to cyber-attacks by hackers or viruses or breaches due to employee error, technical error, malfeasance or other disruptions. Any such breach or interruption, whether of our systems or that of our third-party service providers or their subcontractors, could compromise

our data security, and the information we store could be inaccessible by us or could be accessed by unauthorized parties, publicly disclosed, lost or stolen. Any such interruption in access, improper access, disclosure, modification, or other loss of information could result in legal claims or proceedings, liability or penalties under laws and regulations that protect the privacy of personal information, such as the Health Insurance Portability and Accountability Act of 1996, or HIPAA, European data privacy regulations, such as the General Data Protection Regulation, or GDPR, or state privacy regulations, such as the California Consumer Privacy Act. We may be required to comply with state breach notification laws, become subject to mandatory corrective action, or be required to verify the correctness of database contents. Unauthorized access, loss or dissemination could also disrupt our operations, including our ability to perform tests, provide test results, bill payers 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, and manage the administrative aspects of our business, any of which could damage our reputation and adversely affect our business. In addition, these breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may compound these adverse consequences. Any such breach could also result in the compromise of our trade secrets and other proprietary information, which could adversely affect our competitive position. We are also subject to these risks as a result of our relationships with third party vendors and their subcontractors, whose systems may be breached and may cause our sensitive data, including patient data, to be compromised. We have on occasion experienced such disruptions.

For example, in May 2019, we were notified of a data security incident that compromised the computer systems of Retrieval-Masters Creditors Bureau, Inc. d/b/a American Medical Collection Agency, or AMCA, one of our third-party vendors, and affected a limited number of our patients whose data was stored in AMCA's systems. While the accessed data did not include Social Security numbers, the credit card information of a small number of the patients was compromised. We notified the affected individuals as required by HIPAA. Further, in August 2020, we were notified of a data security incident that compromised the systems of another third-party vendor, which affected a number of our patients whose data was stored in the vendor's systems. The compromised information included protected health information of such patients, but did not include Social Security numbers, financial information or test results. The vendor notified the affected individuals as required by HIPAA.

Our cloud-based distribution model adds additional data privacy risk, as certain personal health and other information may be sent to and stored in the cloud by our laboratory licensees, many of which are located outside of the United States. We contractually prohibit our licensees from sending personally-identifiable information to our cloud servers, and the vendor that hosts our software in the cloud is contractually required to comply with data privacy laws, such as HIPAA and GDPR. However, we cannot be certain that these third parties will comply with the terms of our agreements, nor that they will not experience security breaches or other disruptions.

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

The marketing, sale and use of Panorama, Horizon and our other products could lead to product liability claims against us if someone were to allege that our test failed to perform as it was designed or as claimed in our promotional materials, was performed pursuant to incorrect or inadequate laboratory procedures, if we delivered incorrect or incomplete test results, or if someone were to misinterpret test results. In addition, we may be subject to liability for errors in, a misunderstanding of, or inappropriate reliance upon, the information we provide, or for failure to provide such information, in connection with our marketing and promotional activities or as part of the results generated by Panorama, Horizon and our other products. For example, Panorama could provide a low-risk result which a patient or physician may rely upon to make a conclusion about the health of the fetus, which may, in fact, have the condition for which we delivered a low-risk result because the Panorama result was a so-called false negative. Even though Panorama and our other tests are highly accurate, they are not 100% accurate and we may report false negative results. If the resulting baby with the condition is born, the family may file a lawsuit against us claiming product or professional liability, as has happened in the past and may happen in the future. 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, cause our insurance coverage

to be terminated 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 services or cause our partners to terminate our agreements with them, any of which could adversely impact our results of operations.

If we are unable to successfully scale our operations, our business could suffer.

Our overall test volumes grew from approximately 668,600 to 804,300 and further to 1,026,500 tests processed during the years ended December 31, 2018, 2019 and 2020, respectively, and since 2009 we have launched 16 product offerings, four of them in 2017 alone and both Signatera and Prospera, among other products, in 2020. In addition, we regularly evaluate and refine our testing process, often significantly updating our workflows, as with Panorama in 2017 and Horizon in 2018. As our test volumes and product offerings continue to grow, we will need to continue to ramp up our testing capacity and implement increases in scale, such as increased headcount, additional or new equipment, laboratory space and qualified laboratory personnel, increased office and laboratory space, expanded customer service capabilities, billing and systems process improvements, enhanced controls and procedures and expanded or internal quality assurance program and technology platform. The value of Panorama, Horizon and our other products depends on our ability to perform the tests on a timely basis and at an exceptionally high standard of quality, and on maintaining our reputation for such timeliness and quality. Failure to implement necessary procedures, transition to new facilities, equipment or processes or to hire the necessary personnel in a timely and effective manner could result in higher processing costs or an inability to meet market demand, or could otherwise affect our operating results, as we have experienced in the past.

In addition, our efforts to scale our operations may be unable to keep pace with an increase in the frequency of our launches of new or enhanced products and services. Since 2017, we have launched eight new products, three in markets or industries new to us. As we continue to launch additional offerings and product enhancements, we will need to manage our resources among various initiatives, and such competing priorities could lead to delays in one or more of our business initiatives. Conversely, to the extent that we scale our operations, infrastructure and other resources but do not ultimately meet our anticipated timelines in our product development efforts, we will experience higher costs and expenses than necessary until our project timelines and operational resources become aligned. We may also, intentionally or unintentionally, allocate resources to new products or initiatives in a manner disproportionate to the amount of revenue that such initiatives generate compared to our existing or core offerings. We cannot assure you that our efforts to scale our commercial operations will not negatively affect the quality of our test process or results, or that we will be successful in managing the growing complexity of our business operations.

To execute our growth plan, we must attract and retain highly qualified personnel. Competition for these personnel is intense, especially for sales, scientific, medical, laboratory, research and development and other technical personnel, and especially in the San Francisco Bay Area where we have an office and laboratory facilities, and the turnover rate of such personnel can be high. 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 highly qualified 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 or we have breached their legal obligations to their former employers, which occurs from time to time. In addition, job candidates and existing employees in the San Francisco Bay Area often consider the value of the equity awards they receive in connection with their employment. To the extent that our current or potential employees perceive the value of our equity awards to be low, our ability to recruit, retain and motivate highly skilled employees may be adversely affected, which could then have an adverse effect on our business and future growth prospects. Furthermore, to the extent that we are unable to retain our employees and they leave our company to join one of our competitors, we cannot assure you that any invention, non-disclosure or non-compete agreements we have in place will provide meaningful protection against a departing employee's unauthorized use or disclosure of our confidential information, as further discussed in "*—Risks Relating to our Intellectual Property—If we are not able to adequately protect our trade secrets and other proprietary information, the value of our technology and products could be significantly diminished*."

In addition, our growth may place a significant strain on our operating and financial systems and our management, sales, marketing and administrative resources. As a result of our growth, our operating costs may escalate faster than we anticipate, we may face difficulties in obtaining additional office or laboratory space, and some of our internal systems

may need to be enhanced or replaced. If we cannot effectively manage our expanding operations and our costs, we may not be able to grow successfully or we may grow at a slower pace, and our business could be adversely affected.

If our sales, distribution, development or other partnerships are not successful and we are not able to offset the resulting impact through our own efforts or through agreements with new partners, our commercialization activities may be impaired and our financial results could be adversely affected.

Part of our business strategy is to develop relationships with laboratory and other partners to develop or sell our products, both in the United States and internationally. For example, we have entered into an agreement with BGI Genomics pursuant to which, among others, we will commercialize Signatera in China and develop reproductive health tests on BGI Genomics's sequencing platform; and an agreement with Foundation Medicine to develop and commercialize personalized circulating tumor DNA monitoring assays for use by biopharmaceutical and clinical customers who order Foundation Medicine's companion diagnostic cancer test. Developing and commercializing products with third parties reduces our control over such development and commercialization efforts and subjects us to the various risks inherent in a joint effort with a third party, such as delays, operational issues, technical difficulties and other contingencies outside of our influence or control. Distributing Panorama, Signatera and our other products through partners reduces our control over our revenues, our market penetration and our gross margin on sales by the partner if we could have otherwise made that sale through our direct sales force. The financial condition of these third parties could weaken, or they could terminate their relationship with us and/or stop selling our products, as has happened in the past; reduce their marketing efforts in respect of our products; develop and commercialize or otherwise sell competing products in addition to or in lieu of our tests, as has also occurred; merge with or be acquired by a competitor of ours or a company that chooses to de-prioritize or cease the efforts to develop, sell or otherwise partner with us on our products; or otherwise breach their agreements with us. For example, as further described in "*Note 3—Revenue Recognition—Licensing and Other Revenues—Qiagen*" of our consolidated financial statements, we had entered into a license, distribution and development agreement with Qiagen pursuant to which, among others, Qiagen would distribute an NIPT based on our Panorama test on a sequencer to be developed by us and Qiagen; however, Qiagen thereafter discontinued the development of its Next Generation Sequencing Platform and instead partnered with Illumina to develop next-generation sequencing based tests. Furthermore, our laboratory partners may misappropriate our trade secrets or use our proprietary information in such a way as to expose us to litigation and potential liability; and our compliance risk may increase to the extent that we are responsible, or deemed responsible, for our partners' sales and marketing activities. Disagreements or disputes with our partners, including disagreements over customers, proprietary rights or our or their compliance with contractual obligations, might cause delays or impair the commercialization of Panorama, Signatera or our other tests, lead to additional responsibilities for us with respect to new tests, or result in litigation or arbitration, any of which would divert management attention and resources and be time-consuming and expensive. As is typical for companies in our industry, we are continually evaluating and pursuing various strategic or commercial partnerships, relationships, or collaborations, some of which may involve the sale and issuance of our common stock, which could result in additional dilution of the percentage ownership of our stockholders and could cause the price of our common stock to decline.

If our partnerships are not successful, our ability to increase sales of our products and to successfully execute our strategy could be compromised.

Our financial condition and results of operations may be adversely affected by international regulatory and business risks.

As we expand our operations, including by offering our tests in other countries, we are increasingly subject to varied and complex foreign and international laws and regulations due to operating, offering our products, or contracting with employees, contractors and other service providers in various other countries. Compliance with these laws and regulations often involves significant costs and may require changes in our business practices that may result in reduced revenues and adversely affect our operating results.

We are subject to the Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, which prohibits companies and their intermediaries from making payments in violation of law to non-U.S. government officials for the purpose of obtaining or retaining business or securing any other improper advantage. Our reliance on independent laboratories to sell Panorama and other products internationally demands a high degree of vigilance in maintaining our policy against participation in corrupt activity, because these distributors could be deemed to be our agents and we could be held responsible for their actions. Other U.S. companies in the medical device and pharmaceutical field have faced

criminal penalties under the FCPA for allowing their agents to deviate from appropriate practices in doing business with foreign government officials. We are also subject to similar anti-bribery laws in the jurisdictions in which we operate, including the United Kingdom's Bribery Act of 2010, which also prohibits commercial bribery and makes it a crime for companies to fail to prevent bribery. These laws are complex and far-reaching in nature. Any violations of these laws, or allegations of such violations, could disrupt our operations, involve significant management distraction, involve significant costs and expenses, including legal fees, and we could be subject to severe penalties, including criminal and civil penalties, disgorgement, and other remedial measures, any of which could result in a material adverse effect on our business, prospects, financial condition, or results of operations.

In addition, our international activities are subject to U.S. economic and trade sanctions, which restrict or otherwise limit our ability to do business in certain designated countries. Other limitations, such as restrictions on the import into the United States or the export to other countries of tissue or genetic data necessary for us to perform our tests, or restrictions on importation and circulation of blood collection tubes or other equipment or supplies by countries outside of the United States, may limit our ability to offer our tests internationally. We may also face competition from companies located in the countries in which we or our partners or licensees offer our tests, and in which we may be at a competitive disadvantage because the country may favor a local provider or for other reasons.

By operating internationally, we may experience longer accounts receivable payment cycles and difficulties in collecting accounts receivable; realize lower margins due to lower pricing in many countries; incur potentially adverse tax consequences, including the complexities of foreign value added tax systems, tax inefficiencies related to our corporate structure and restrictions on the repatriation of earnings; experience financial accounting and reporting burdens and complexities; experience difficulties in staffing and managing foreign operations, including under labor and employment laws and regulations that are new or unfamiliar to us; be subject to trade barriers such as tariffs, quotas, preferential bidding or import or export licensing requirements; be exposed to political, social and economic instability abroad, including terrorist attacks and security concerns; be exposed to fluctuations in currency exchange rates; and experience reduced or varied protection for intellectual property rights and practical difficulties in enforcing intellectual property and other rights, including with respect to assignment of inventions to us by our consultants in foreign jurisdictions.

Outside of the United States we enlist local and regional laboratories, contract employees and other contracted service providers to assist with various aspects of our business operations, including blood draws, engineering, sales, marketing, billing and customer support. Subject to regulatory clearance where required, we also contract with international licensees to run the molecular portion of our tests in their own labs and then access our algorithm for analysis of the resulting data through our cloud-based Constellation platform. Locating, qualifying and engaging additional distribution partners and local laboratories with local industry experience and knowledge is necessary to effectively market and sell our tests outside of the United States. We may not be successful in finding, attracting and retaining such distribution partners or laboratories, or we may not be able to enter into such arrangements on favorable terms. Sales practices and other activities utilized by our distribution partners, contract employees and other service providers, some of which may be locally acceptable, may not comply with relevant standards required under United States laws that apply to our operations overseas, including through third parties, which could create additional compliance risk. Our training and compliance program and our other internal control policies and procedures, and our contractual terms with these third parties, may not always protect us from acts committed by our employees, contractors, partners or agents abroad. Non-compliance by us or our employees, contractors, partners or agents, whether maliciously or in error, of any applicable laws or regulations could result in fines or penalties, or adversely affect our ability to operate and grow our business. Even if we are able to effectively manage our international operations, if our distribution partners and local and regional laboratory licensees are unable to effectively manage their businesses, our business and results of operations could be adversely affected. Furthermore, the legal landscape governing advertising, promotional and other marketing activities can vary widely from jurisdiction to jurisdiction, and is often more complex, less clear or less developed than in the United States. If our marketing activities are found to be in violation of local laws, regulations or practices, we may be subject to fines and other penalties, and may be required to cease marketing or commercialization activities in such jurisdiction. If our sales and marketing efforts are not successful outside of the United States, we may not achieve market acceptance for our tests outside of the United States, which would harm our business.

Operating internationally requires significant management attention and financial resources. We cannot be certain that the investment and additional resources required to increase international revenues or expand our international presence will produce desired levels of revenues or profitability.

If we lose the services of our founder and Executive Chairman or other members of our senior management team, 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. In particular, our founder and Executive Chairman, Matthew Rabinowitz, as well as Steve Chapman, our Chief Executive Officer, are critical to our vision, strategic direction, culture, products and technology. Although Dr. Rabinowitz spends significant time with us and is active in our management, he is no longer our Chief Executive Officer. In addition, we do not maintain key-man insurance for Dr. Rabinowitz, Mr. Chapman or any other member of our senior management team. The loss of our founder and Executive Chairman, our Chief Executive Officer or one or more other members of our senior management team could have an adverse effect on our business.

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

From time to time, we may enter into transactions to acquire or dispose of businesses, products or technologies or to engage in other strategic transactions. Because we have not made any such acquisitions to date, our ability to do so successfully is unproven. Even if we identify suitable transactions, we may not be able to complete such transactions on favorable terms or at all. Any acquisitions or other strategic transactions we consummate may not strengthen our competitive position, and these transactions may be viewed negatively by customers or investors. We may decide to incur debt in connection with an acquisition or issue shares of our common stock or other equity securities to the stockholders of the acquired company, which would cause dilution to our existing stockholders. We could incur losses resulting from such strategic transactions, including undiscovered liabilities of an acquired business that are not covered by any indemnification we may obtain from the seller. In addition, we may not be able to successfully integrate any acquired personnel, technologies and operations into our existing business in an effective, timely and non-disruptive manner. Any dispositions may also cause us to lose revenue and may not strengthen our financial position. Strategic transactions may also divert management attention from day-to-day responsibilities, increase our expenses, result in accounting charges, and reduce our cash available for operations and other uses. We cannot predict the number, timing or size of future strategic transactions or the effect that any such transactions might have on our operating results.

We may need to raise additional funds through public or private equity or debt financings, corporate 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:

- our ability to achieve broader commercial success with Panorama, Horizon and our other products;
- the costs and success of our research, development, and commercialization efforts for potential new products;
- our ability to obtain more extensive coverage and reimbursement for our tests, including in the average-risk patient population and for microdeletions screening in NIPT, as well as in additional indications in oncology as we continue to expand our offerings in that field;
- our ability to generate sufficient revenues from our cloud-based distribution model;
- our ability to collect on our accounts receivable;
- our need to finance capital expenditures and further expand our clinical laboratory operations;
- our ability to manage our operating costs; and

- the timing and results of any regulatory authorizations that we are required to obtain for our tests.

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, or grant of equity or equity-linked securities in connection with any debt financing, will dilute stockholders' ownership interests in us 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, and may impose other constraints on us and our operations, as was the case under our 2017 Term Loan with OrbiMed. To the extent that we raise capital 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 have to delay development programs or sales and marketing initiatives. In addition, we may have to work with a partner on one or more of our tests or programs, which could lower the economic value of those programs to our company.

We have incurred substantial indebtedness that may decrease our business flexibility, access to capital, and/or increase our borrowing costs, which may adversely affect our operations and financial results.

In April 2020, we issued $287.5 million aggregate principal amount of 2.25% Convertible Senior Notes due 2027, or the Convertible Notes. Our indebtedness may:

- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions or other general business purposes;
- limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions or other general business purposes;
- require us to use a substantial portion of our cash flow from operations to make debt service payments;
- limit our flexibility to plan for, or react to, changes in our business and industry;
- place us at a competitive disadvantage compared to our less leveraged competitors; and
- increase our vulnerability to the impact of adverse economic and industry conditions.

Further, the indenture governing the Convertible Notes does not restrict our ability to incur additional indebtedness and we and our subsidiaries may incur substantial additional indebtedness in the future, subject to the restrictions contained in any future debt instruments existing at the time, some of which may be secured indebtedness.

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

DNA testing, like that conducted using Panorama, Horizon, Signatera, 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. These and other ethical, legal and social concerns may limit market acceptance of our tests or reduce the potential markets for services and products enabled by our technology platform, either of which could harm our business.

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

We have a significant amount of net operating loss, or NOL, carryforwards that can be used to offset potential future taxable income and related income taxes. As of December 31, 2020, we had federal and state NOL carryforwards of approximately $727.2 million and $412.9 million, respectively, which, if not utilized, begin to expire in 2027 and 2028, respectively. Approximately $407.3 million of these federal NOLs can be carried forward indefinitely. We also had federal research and development credit carryforwards of approximately $21.4 million, which begin to expire in 2027, and state research and development credit carryforwards of approximately $16.9 million, which can be carried forward indefinitely. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change" (generally defined as a greater than 50% change, by value, in equity ownership over any three-year period), the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. We may experience ownership changes in the future as a result of shifts in our stock ownership, some of which may not be within our control. Our ability to use these carryforwards could be limited if we experience an "ownership change."

Our estimates of total addressable market opportunity and forecasts of market growth may prove to be inaccurate, and even if the market in which we compete achieves the forecasted growth, our business could fail to grow at similar rates.

Total addressable market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. Our publicly announced estimates and forecasts relating to the size and expected growth of our market may prove to be inaccurate. Even if the market in which we compete meets our size estimates and forecasted growth, our business could fail to grow at similar rates.

Risks Related to Reimbursement

If we are unable to expand, maintain or obtain third-party payer coverage and reimbursement for Panorama, Horizon and our other tests, or if we are required to refund any reimbursements already received, our revenues and results of operations would be adversely affected.

Our business depends on our ability to obtain and maintain adequate coverage and reimbursement from third-party payers and patients. Third-party reimbursement for our testing represents a significant portion of our revenues, and we expect third-party payers such as insurance companies and government healthcare programs to continue to be our most significant source of payments. In particular, we believe that the following will be necessary for us to continue to achieve commercial success: continued expansion of insurance coverage from the high-risk to the average-risk pregnancy population, which represents roughly 80% of the United States pregnancy market, and for microdeletions screening, and obtaining positive coverage determinations and favorable reimbursement rates from commercial third-party payers, the Centers for Medicare & Medicaid, or CMS, and state reimbursement programs for our tests. As discussed in the risk factor entitled "*—Uncertainty in the development and commercialization of our enhanced or new tests or services could materially adversely affect our business, financial condition and results of operations*", we expect to publish data from our SMART Study in 2021. Historically, we have not received reimbursement for a significant number of Panorama tests that we have performed for average-risk patients and for microdeletions; we have recently released positive key results from our SMART Study, but we cannot be certain whether, or to what extent, the SMART Study may impact insurance coverage and reimbursement for Panorama in the average-risk population or for microdeletions. In addition, while we have received a positive local coverage determination from the Molecular Diagnostic Services Program, which identifies and establishes Medicare coverage and reimbursement for molecular diagnostic tests, to provide Medicare benefits for serial use of our Signatera test in patients with Stage II or III colorectal cancer, we cannot guarantee that our test will be reimbursed at the rate we expect. Furthermore, while we have also received a positive coverage decision for our Prospera test, we cannot guarantee that our test will continue to be reimbursed at the same or a similar rate as we have received thus far. If we are unable to obtain or maintain coverage or adequate reimbursement from, or achieve in-network status with, third-party payers for our existing or future tests, our ability to generate revenues will be limited. For example, physicians may be reluctant to order our tests due to the potential of a substantial cost to the patient if reimbursement coverage is unavailable or insufficient.

In making coverage determinations, third-party payers often rely on practice guidelines issued by professional societies. The practice guidelines issued by professional societies now generally acknowledge that NIPT is the most sensitive screening option for, and/or are generally supportive of NIPT in, average-risk pregnancies, in addition to high-risk pregnancies. However, the latest of such practice bulletins, issued by the American College of Obstetrics and Gynecology and supported by the Society for Maternal-Fetal Medicine, or SMFM, was very recent, and while many third-party payers now reimburse for NIPT for average-risk patients, it remains the case that not all third-party payers, particularly state Medicaid payers, do so. In addition, SMFM's position with respect to microdeletions remains that routine screening for microdeletions should not be performed. Many third-party payers do not reimburse for microdeletions screening. While we have published data on the performance of Panorama for the 22q11.2 deletion syndrome, we have and may continue to experience low reimbursement rates for Panorama for microdeletions. If we are unable to publish satisfactory additional data on the performance of Panorama for 22q11.2 deletion syndrome, including data from our SMART Study, we may be unable to obtain positive coverage determinations for our test. If third-party payers do not reimburse for NIPT for average-risk pregnancies or microdeletions in the future, our future revenues and results of operations would be adversely affected, particularly to the extent that we continue to perform large volumes of tests for which third-party payors do not reimburse.

In addition, a CPT code for microdeletions took effect in January 2017. We have experienced low average reimbursement rates for microdeletions under this code, and we expect that this code will continue to cause our microdeletions reimbursement to remain low, at least in the near term, due to third-party payers declining to reimburse and as a result of reduced reimbursement, under the code, which has had, and we expect to continue to have, an adverse effect on our revenues. Also, a new CPT code for expanded carrier screening tests took effect in January 2019. The new code has caused and may continue to cause reimbursement rates for our broader Horizon carrier screening panel to decrease because those tests may be reimbursed as a combined single panel instead of as multiple individual tests.

The reimbursement environment, particularly for molecular diagnostics, is continually changing and our efforts to broaden reimbursement for our tests with third-party payers may not be successful. Third-party payers from whom we have received reimbursement may withdraw coverage or decrease the amount of reimbursement for our tests at any time and for any reason. In some cases, our tests or their uses within certain populations, such as for microdeletions, are considered experimental by third-party payers and, as a result, some payers have decided not to cover or reimburse for such tests. In addition, some third-party payers bundle payment for multiple tests or tests that screen for multiple conditions, such as our Horizon test or our Panorama test and the separate Panorama screen for microdeletions, into a single payment rate, thereby limiting our reimbursement in those situations. Payers may also dispute our billing or coding. Based on any of the foregoing, third-party payers may also 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 deal with requests for recoupment from third-party payers from time to time in the ordinary course of our business, and it is likely that we will continue to do so in the future. See "Note 8—Commitments and Contingencies—Third-Party Payer Reimbursement Audits" in the Notes to Consolidated Financial Statements. If a third-party payer denies payment for testing, reimbursement revenue for our testing could decline. If a third-party payer successfully proves that payment for prior testing was in breach of contract or otherwise contrary to law, they may recoup payment, which amounts could be significant and would impact our results of operations, and it may decrease reimbursement going forward. We may also decide to negotiate and settle with a third-party payer in order to resolve an allegation of overpayment. Any of these outcomes might require us to restate our financials from a prior period, which would likely cause our stock price to decline. For example, in 2018 we reached a settlement with certain government payers regarding past reimbursement submissions; although the settlement involved no admission of fault by us and no corporate integrity agreement, we cannot guarantee that we will not be subject to similar claims, resulting in additional settlements or repayments, in the future.

Furthermore, some of our contracts with third-party payers contain so-called most favored nation provisions, pursuant to which we have agreed that we will not bill the third-party payer more than we bill any other third-party payer. We must therefore monitor our billing and claims submissions to ensure that we remain in compliance with these contractual requirements with third-party payers. If we do not successfully manage these most favored nation provisions, we may need to forego revenues from some third-party payers or reduce the amount we bill to each third-party payor with a most-favored nation clause in its contract that is violated, which would adversely affect our revenues. This situation could also subject us to claims for recoupment, which could require the time and attention of our management, require the

expense of engaging outside counsel or consultants, and may be a distraction from development of our business, adversely impacting our operations. Such recoupment demands could also ultimately result in an obligation to repay amounts previously earned.

In addition, if a third-party payer denies coverage, it may be difficult for us to collect from the patient, and we may not be successful in doing so. In particular, we are often unable to collect the full amount of a patient's responsibility where we are an out-of-network provider and the patient is left with a large balance, despite our good faith efforts to collect. As a result, we cannot always collect the full amount due for our tests when third-party payers deny coverage, cover only a portion of the invoiced amount or the patient has a large deductible, which may cause payers to raise questions regarding our billing policies and patient collection practices. We believe that our billing policies and our patient collection practices are compliant with applicable laws. However, we have in the past received, and we may in the future receive, inquiries from third-party payers regarding our billing policies and collection practices. While we have addressed these inquiries as and when they have arisen, there is no guarantee that we will always be successful in addressing such concerns in the future, which may result in a third-party payer 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 would impact our results of operations, and we might be required to restate our financials from a prior period, which would likely cause our stock price to decline.

We are aware of policies and practices of our competitors to offer patients a set cap on their out-of-pocket responsibility, waive patient responsibility altogether, and, in some cases, to not send patients a bill at all, all of which we believe is not in accordance with third-party payers' policies and, in many cases, not compliant with the law. In contrast, it is our policy not to offer such caps or waivers and to send bills to patients for services rendered. Because of this discrepancy, our offerings may be perceived as less attractive to patients and their healthcare providers, who are concerned about patients having a large financial responsibility for these products. As a result, we believe that our revenues and results of operations have been adversely affected, and may continue to be so affected to the extent that our competitors continue such practices.

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 relatively small, given the population that Medicare covers and the fact that our testing in women's health, which has comprised the significant majority of our business, generally is not received by Medicare beneficiaries. As a result, we do not expect our Medicare revenues to change materially with regard to NIPT. However, Medicare reimbursement impacts our revenues in our oncology and organ health business, as a large proportion of these patients are covered by Medicare. Furthermore, Medicare reimbursement can affect both Medicaid reimbursement, which is relevant to NIPT, and reimbursement from commercial third-party payers. 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 payers set their payment rates at a percentage of the amounts that Medicare pays for testing services. Medicare reimbursement rates are typically based on the Clinical Laboratory Fee Schedule, or CLFS, set by CMS. Our current Medicare Part B reimbursement for Panorama 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 could issue an adverse coverage determination as to Panorama which could influence other third-party payers, including Medicaid, and could have an adverse effect on our revenues.

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, including under a Medicaid managed care plan. Our San Carlos laboratory is currently recognized by 48 states as a Medicaid provider, and we are currently in the process of obtaining recognition of our Austin laboratory as a Medicaid provider in states in which the Austin laboratory is not already

credentialed; however, even if we are recognized as a Medicaid provider in a state, if Medicare's CLFS rate for our services and tests are low, the Medicaid reimbursement amounts are sometimes as low, or lower, than the Medicare reimbursement rate. In addition, from time to time we receive requests from state Medicaid programs seeking information or documents to determine eligibility for and the amount of Medicaid reimbursement. As a result of all of these factors, many state Medicaid programs only reimburse our testing at a very low dollar amount, or not at all. Low or zero-dollar Medicaid reimbursement rates for our tests could have an adverse effect on our business and revenues.

Our revenues may be adversely impacted if third-party payers 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 the significant majority of third-party payers from whom we receive reimbursement; this means that we have agreements with most third-party payers that govern approval or payment terms. However, these contracts do not guarantee reimbursement for all testing we perform. For example, many third-party payers with whom we have written agreements have policies that state they will not reimburse for the screening of microdeletions, or don't 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 payers have increasingly required 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 or source resources to ensuring that these requirements are met and to conduct follow-up and address issues as they arise, and has also impacted our results of operations, including our gross margins, since the fourth quarter of 2017, when these requirements began to take effect. To the extent we or the physicians 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 and may occur more frequently in the future, which does and would have an adverse impact on our revenues.

Where we are considered to be an out of network provider, which is the case with some third-party payers from whom we receive reimbursement, such third-party payers could withdraw coverage and decline to reimburse for our tests in the future, for any reason. 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 payers may 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 payers 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 diagnostic tests. These measures have resulted in reduced payment rates and decreased utilization in the clinical laboratory industry. Because of these cost-containment measures, governmental and commercial third-party payers may reduce, suspend, revoke or discontinue payments or coverage at any time, including payors that currently provide reimbursement for our tests. Reduced reimbursement of our tests may harm our business, financial condition or results of operations.

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 disputes over pricing and billing. Among the factors complicating our billing of third-party payers are disparity in coverage among various payers; disparity in, and increasingly difficult, information and billing requirements among payers, 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 practitioner. These billing complexities, and the associated uncertainty in obtaining payment for our tests, could result in reduced reimbursement of our tests, which could harm our business, financial condition and results of operations.

In the United States, the 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 diagnostic tests. Once the CPT code is established by the AMA, CMS establishes payment levels and coverage rules under Medicare while private payers independently establish rates and coverage rules. A CPT

code specific to NIPT for aneuploidies, and a CPT code for microdeletions, are in place, and CMS has established a pricing benchmark for aneuploidy and microdeletions testing. However, our microdeletions reimbursement has decreased since the implementation of the microdeletions CPT code because third-party payers are declining to reimburse under this 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, including the expected publications from our SMART Study, and obtain positive coverage determinations for Panorama for microdeletions. In addition, a CPT code for expanded carrier screening tests has been implemented, which has caused and may continue to cause reimbursement rates for our Horizon 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 or that third-party payers 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 payers may not establish positive coverage policies for our tests or adequately reimburse for any CPT code we may use, or seek recoupment for testing previously performed, which have occurred in the past.

Regulatory and Compliance Risks

We may be subject to increased compliance risks as a result of our rapid growth, including our dependence on our sales, marketing and billing efforts.

Approximately 87% and 80% of our total revenues for the years ended December 31, 2020 and 2019, respectively, were attributable to our U.S. direct sales. We have had to expand our training and compliance efforts in line with our increasing reliance on personnel in our sales, marketing and billing functions, and our expansion of these functions in line with the overall growth in our business. We continue to monitor our personnel, but we have in the past experienced, and may in the future experience, situations in which employees fail to strictly adhere to our policies. In addition, sales and marketing activities in the healthcare space are subject to various rules and regulations, as described in the risk factor entitled "*Reimbursement and Regulatory Risks Related to Our Business—If we or our laboratory distribution partners, consultants or commercial partners act in a manner that violates healthcare fraud and abuse laws or otherwise engage in misconduct, we may be subject to civil or criminal penalties*;" moreover, our billing and marketing messaging can be complex and nuanced, and there may be errors or misunderstandings in our employees' communication of such messaging. Furthermore, we utilize text messaging, email, phone calls and other similar methods to communicate with patients who are existing or potential users of our products for various business purposes. These activities subject us to laws and regulations relating to communications with consumers, such as the CAN-SPAM Act and the Telephone Consumer Protection Act, violations of which could subject us to claims by consumers, who may seek actual or statutory damages, which could be material in the aggregate, as has happened in the past, as described further in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements. As we continue to scale up our sales and marketing efforts in line with the rapid growth in our business, in particular our increased pace of product launches as well as further geographical expansion, we will continue to face an increased need to remain vigilant in monitoring and improving our policies, processes and procedures to maintain compliance with a growing number and variety of laws and regulations, including with respect to consumer marketing. To the extent that there is any violation, whether actual, perceived or alleged, of our policies or applicable laws and regulations, we may incur additional training and compliance costs, may receive inquiries from third-party payers or other third parties, or be held liable or otherwise responsible for such acts of non-compliance. Any of the foregoing could adversely affect our cash flow and financial condition.

If the FDA were to begin actively regulating our tests, we could incur substantial costs and delays associated with trying to obtain premarket clearance or approval and incur costs associated with complying with post-market controls.

We currently offer a number of genetic tests, and each of those tests is an LDT. The FDA considers an LDT to be a test that is designed, developed, validated and used within a single laboratory. The FDA has historically taken the position that it has the authority to regulate such tests as medical devices under the FDC Act, but it has generally exercised enforcement discretion with regard to LDTs. This means that even though the FDA believes it can impose regulatory

requirements on LDTs, such as requirements to obtain premarket approval or clearance of LDTs, it has generally chosen not to enforce those requirements to date.

The FDA has previously laid out elements of a potential LDT regulatory framework but has not established any regulatory requirements. In August 2020, the United States Department of Health and Human Services, or HHS, announced that FDA will no longer require premarket review of LDTs absent notice-and-comment rulemaking. HHS rescinded all guidance documents and informal statements of policy concerning LDTs. The FDA's activities around regulating LDTs had prompted the drafting of legislation governing diagnostic products and services that sought to substantially revamp the regulation of both LDTs and IVDs. Congress may still act to provide further direction on the regulation of LDTs and substantially modify the regulation of IVDs. The change of Administration in January 2021 could result in a change in HHS policy with respect to LDTs, which could lead to more active FDA regulation of our tests.

In the meantime, the regulation by the FDA of LDTs remains uncertain. If FDA premarket clearance, approval or authorization is required for any of our existing or future tests, or for any components or materials we use in tests, we may be forced to stop selling our tests or we may be required to modify claims for or make other changes to our tests while we or our supplier work to obtain FDA clearance, approval or de novo authorization. Our business would be adversely affected while such review is ongoing and if we or our supplier are ultimately unable to obtain premarket clearance, approval or de novo authorization. For example, the regulatory premarket clearance, approval or de novo authorization process may involve, among other things, successfully completing analytical, pre-clinical and/or clinical studies beyond the studies we have already performed or plan to perform for each of our products and would involve submitting a premarket notification, or 510(k), a de novo application, or filing a PMA application with the FDA. As further described in the risk factor entitled "*Uncertainty in the development and commercialization of our enhanced or new tests or services could materially adversely affect our business, financial condition and results of operations,*" completing such studies requires the expenditure of time, attention and financial and other resources, and may not yield the desired results, which may delay, limit or prevent regulatory clearances, approvals or de novo authorizations. In addition, we may require cooperation in our filings for FDA clearance, approval or de novo authorization from third-party manufacturers of the components of our tests. If we are unable to obtain such required cooperation, we may be unable to achieve the desired regulatory clearances, approvals or de novo authorizations, or may be delayed or be required to expend additional costs and other resources in doing so. For example, Illumina currently is our sole sequencer and sequencing reagent supplier. If we seek to achieve regulatory clearance, approval or de novo authorization for Panorama, to the extent that Panorama incorporates Illumina's sequencer or sequencing reagents, we may require Illumina's cooperation in the regulatory process. We may face difficulty obtaining cooperation from Illumina because Illumina is the parent company of Verinata, a direct competitor of ours in the NIPT field. In addition, we have been party to certain intellectual property proceedings with Illumina as described in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements. Furthermore, if FDA premarket clearance, approval or de novo authorization is required, our cash flows may be adversely affected until we obtain such clearance, approval or de novo authorization, as most third-party payers, including Medicaid, will not reimburse for use of medical devices which are required to, but which do not, have marketing authorization.

In May 2019, the FDA granted Breakthrough Device designation for our Signatera test for use in the post-surgical detection and quantification of ctDNA in the blood of patients previously diagnosed with certain types of cancer and in combination with certain drugs, which enables us to have increased interactions with FDA. We cannot assure you that this designation will lead to accelerated review or approval of our regulatory submissions for Signatera.

We cannot assure you that Panorama or any of our other tests for which we decide to pursue or are required to obtain premarket clearance, approval or de novo authorization by the FDA will be cleared, approved or authorized on a timely basis, if at all. In addition, if a test has been cleared, approved or authorized, certain kinds of changes that we may make to improve the test, or as a result of issues with suppliers of the components of the test or if a supplier modifies its component upon which our approval relies, may need to be cleared, approved or authorized by the FDA before we can implement them, which could increase the time and expense involved in implementing such changes commercially. Ongoing compliance with FDA regulations would increase the cost of conducting our business and subject us to heightened regulation by the FDA and penalties for failure to comply with these requirements, any of which may adversely impact our business and results of operations.

Furthermore, the FDA or the Federal Trade Commission, or FTC, may object to the materials and methods we use to promote the use of our current tests or other LDTs we may develop in the future, including with respect to the product claims in our promotional materials, and may initiate enforcement actions against us. Enforcement actions by the FDA may include, among others, untitled or warning letters; fines; injunctions; civil or criminal penalties; recall or seizure of current or future tests, products or services; operating restrictions and partial suspension or total shutdown of production. Enforcement actions by the FTC may include, among others, injunctions, civil penalties, and equitable monetary relief.

Failure to obtain necessary regulatory approvals may adversely affect our ability to expand our operations internationally, including our ability to continue commercializing our cloud-based distribution model.

An important part of our business strategy is to expand and offer our tests internationally, either by providing our testing services directly or through our laboratory partners, or through our licensees under our Constellation cloud-based distribution model. As we do so, we will become increasingly subject to or impacted by the regulatory requirements of foreign jurisdictions, which are varied and complex. Our tests, and certain components of our tests, may be subject to the regulatory approval requirements in each foreign country in which they are sold by us or a laboratory partner, or by our licensees under our cloud-based distribution model, and our future performance would depend on us or our partners or licensees obtaining any necessary regulatory approvals in a timely manner. For example, while we have entered into a license agreement with BGI Genomics to commercialize our Signatera test in China and to develop reproductive health tests in select markets using BGI Genomics's sequencing instruments and platform, such commercialization and development activities will be subject to obtaining and maintaining necessary regulatory approvals in the relevant jurisdictions. In addition, while we have obtained a CE Mark from the European Commission for our Constellation software and the key reagents required for our licensees to run their NIPT based on our technology, we have not obtained a CE Mark for our Panorama test as a whole. Therefore, while we are able to offer Constellation in the European Union and other countries that accept a CE Mark, we are unable to offer Panorama as an IVD directly in these jurisdictions. This, coupled with our use of our Panorama brand name under our Constellation model, has caused regulatory authorities to question whether we, our laboratory partners or our licensees may be marketing, commercializing or otherwise offering our tests without required approvals. We are occasionally required to address inquiries from regulatory authorities in various countries, such as those in the European Union, regarding the regulatory status of our Panorama or Constellation offerings, and expect that we will continue to face similar inquiries. If we do not continue to satisfactorily address any such questions in the future, we may be required to cease offering our products, either directly or through our partners or licensees, in the relevant country. This may in turn result in similar concerns, and subsequent cessation of our sources of revenue, in other countries.

We may also be at a competitive disadvantage in the European Union to our competitors who have obtained a CE Mark for their end to end NIPT. In addition, as further described in the risk factor entitled "*Risks Related to Our Business and Industry—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*," blood collection tubes sourced solely from Streck are required to run our tests. These blood collection tubes are CE Marked by the European Commission; however, if such blood collection tubes are not registered in jurisdictions that do not accept a CE Mark, we may be unable to expand our business in such jurisdictions.

We may also need to obtain regulatory clearance, approval or de novo authorization in the United States for our Constellation software in order for it to be used by third parties in the development and commercialization of their diagnostic tests based on our technology. We have discussed with the FDA the regulatory status of a portion of our Constellation software, the copy number calculator, or CNC, to make calls of copy number variants, which are genetic mutations in which relatively large regions of the genome have been deleted or duplicated. The FDA has indicated that the CNC may be appropriate for review under the de novo classification process, which is less burdensome than the premarket approval, or PMA, process. The FDA stated that it would not prevent us from marketing Constellation in the United States while we discuss with the FDA how it will be regulated; however, it is possible that the FDA may reverse itself either on the appropriate regulatory review path or on the issue of our ability to continue to market Constellation. In addition, the 21st Century Cures Act, enacted in 2016, included a number of changes to the FDA's regulatory approach to software that may have bearing on the regulatory status of our Constellation software. We cannot guarantee that we will be able to obtain such clearance, approval or authorization for our Constellation software, in the event that we are required to do so. If we are unable to do so, we would be unable to commercialize our cloud-based distribution model in the United

States. If we are able to do so, we will be subject to ongoing FDA obligations and continued regulatory oversight and review, including compliance with requirements such as the quality system regulation, or QSR, which establishes extensive requirements for quality assurance and control as well as manufacturing procedures; the listing of our devices with the FDA; adverse event and malfunction reporting; corrections and removals reporting; and labeling and promotional requirements. We may also be subject to additional FDA post-marketing obligations. If we are not able to maintain regulatory compliance to the extent required, we may not be permitted to offer our Constellation software and may be subject to enforcement action by the FDA, such as the issuance of warning or untitled letters, fines, injunctions and civil penalties; recall or seizure of products; operating restrictions and criminal prosecution.

Regulatory approval can be a lengthy, expensive and uncertain process. In addition, regulatory processes are subject to change, and new or changed regulations can result in unanticipated delays and cost increases. For example, the European Commission has adopted revised in-vitro diagnostic regulations, or IVDR, which are expected to become effective in 2022. Among others, the new regulations introduce risk-based classification for IVDs and will require notified body involvement for various classes of devices, including reproductive health tests such as Panorama, which will be classified as a Class C product. As such, we will also be required to submit clinical evidence and post-market performance data to regulators. We or our partners or licensees may not be able to obtain regulatory approvals on a timely basis, if at all, which may cause us to incur additional costs or prevent us from marketing our tests in the United States or in foreign countries.

Changes in laws and regulations, or in their application, may adversely affect our business, financial condition and results of operations.

The clinical laboratory testing industry is highly regulated, and failure to comply with applicable regulatory, supervisory, accreditation, registration or licensing requirements may adversely affect our business, financial condition and results of operations. In particular, the laws and regulations governing the marketing and research of clinical diagnostic testing are extremely complex and in many instances there are no clear regulatory or judicial interpretations of these laws and regulations, increasing the risk that we may be found to be in violation of these laws.

Furthermore, the molecular diagnostics industry as a whole is a growing industry and regulatory bodies such as HHS or the FDA may apply heightened scrutiny to new developments in the field. While we have taken steps to ensure compliance with the current regulatory regime in all material respects, given its nature and our geographical diversity, there could be areas where we are non-compliant. 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 non-compliant 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, financial condition and results of operations by increasing our cost of compliance or limiting our ability to develop, market and commercialize our tests.

In addition, there has been a recent trend of increased U.S. federal and state regulation, scrutiny and enforcement relating to payments made to referral sources, which are governed by laws and regulations including the Stark law, the federal Anti-Kickback Statute, the federal False Claims Act, and EKRA 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 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.

If we fail to comply with federal, state and foreign 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 or impairment of, or assessment of the health of, human beings. CLIA regulations require clinical laboratories to obtain a certificate and mandate specific standards in the areas of personnel qualifications, administration, 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 payers, for our tests. Our laboratories located in Austin, Texas and San Carlos, California are both CLIA certified and accredited by the College of American Pathologists, or CAP, a third party accreditation organization under deemed, or recognized, authority by CMS. To renew these certifications, we are subject to survey and inspection every two years. Moreover, CLIA and/or state inspectors may conduct random inspections of our clinical laboratory or conduct an inspection as a result of a complaint or reported incident, as has occurred. Any failure to address identified deficiencies, or to otherwise comply with CLIA, CAP or state requirements, can result in enforcement actions, including the revocation, suspension, or limitation of our CLIA and/or CAP certificate of accreditation or state laboratory permit, as well as a directed plan of correction, on-site monitoring, civil monetary penalties, civil actions for injunctive relief, criminal penalties, suspension or exclusion from the Medicare and Medicaid programs and significant adverse publicity. Bringing our laboratory back into compliance with CLIA requirements could cause us to incur significant expenses and potentially lose revenues in order to address deficiencies and achieve compliance.

Some states require that we hold licenses or permits to test samples from patients in those states, even if our laboratory facilities are not located in those states, and as a result we are also required to maintain standards related to those states' licensure requirements to conduct testing in our laboratories. California state laboratory laws and regulations establish standards for the operation of our clinical laboratory and performance of test services in San Carlos, California as well as in our Austin, Texas laboratory, because our Texas laboratory receives specimens originating from California; the State of Texas implements CLIA requirements on laboratories operating within Texas but does not impose additional state licensure or registration requirements. Additionally, all personnel involved in testing in our California laboratory must maintain a California state license or be supervised by licensed personnel. We maintain a license in good standing with the California Department of Public Health, or CDPH, for both our California and Texas laboratories. In addition, because we test specimens originating from New York at our San Carlos, California laboratory, we have been required to obtain a state laboratory permit for our San Carlos laboratory from the New York State Department of Health, or NYSDOH. We do not test specimens originating from New York at our Texas laboratory. NYSDOH requires out-of-state laboratories that test specimens originating from New York to hold an NYSDOH permit and to comply with NYSDOH laboratory standards, including prior NYSDOH approval of LDTs. Our San Carlos clinical laboratory has received approval from the NYSDOH to offer our Panorama, Horizon, Spectrum, Anora, Prospera and non-invasive prenatal paternity LDTs. The laboratory director must also maintain a Certificate of Qualification issued by NYSDOH. As under CLIA, we are subject to routine on-site inspections or inspections in response to a complaint under both California and New York state laboratory laws and regulations. If we are found to be out of compliance with either California or New York requirements, CDPH or NYSDOH may suspend, restrict or revoke our license or laboratory permit, respectively (and, with respect to California, may exclude persons or entities from owning, operating or directing a laboratory for two years following such license revocation), assess civil monetary penalties, or impose specific corrective action plans, among other sanctions. We cannot assure you that the regulators in any state from which we have obtained a required license or permit will at all times find us to be in compliance with the applicable laws of their respective state, which may result in suspension, limitation, revocation or annulment of our laboratory's license for that state or negative impact to our CLIA certificate, censure, or civil monetary penalties, and would result in our inability to test samples from patients in that state. Any such consequences could materially and adversely affect our business by prohibiting or limiting our ability to offer testing.

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

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 potentially

significant and unanticipated changes in government healthcare policy, such as changes in reimbursement levels by government third-party payers. Any such changes could substantially impact our revenues, increase costs and divert management attention from our business strategy. We cannot predict the impact, if any, of governmental healthcare policy changes on our business, financial condition and results of operations.

In the United States, the Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Reconciliation Act of 2010, or collectively, the PPACA, 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 PPACA 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 PPACA 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. However, there have been multiple attempts to repeal PPACA or significantly scale back its applicability, which could negatively impact reimbursement for our testing. This could adversely affect our test volumes and, in turn, our business, financial condition, results of operations, and cash flows. For example, the Tax Cuts and Jobs Act of 2017, or the Tax Act, repeals the requirement under PPACA that consumers buy insurance or pay a penalty unless they qualified for an applicable exemption. The repeal of this mandate means that fewer consumers may 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, which could impact our test volumes and adversely affect our business, financial condition, results of operations, and cash flows. The PPACA 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. If Panorama or any of our other tests are not covered by plans offered in the health insurance exchanges, our business, financial condition and results of operations could be adversely affected. Furthermore, various proposed legislative initiatives with respect to the PPACA in the past, including possible repeal of the PPACA, 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 PPACA may continue to evolve, be modified, or otherwise 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 PPACA, 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 CLFS that is designed to bring Medicare allowable amounts in line with the often lower negotiated payment rates paid by private payers. The implementation of the PAMA rates have negatively impacted overall pricing and reimbursement for many clinical laboratory testing services and continue to be the subject of controversy in the industry. The new rates under PAMA have had minimal impact on our business because our revenues from Medicare have been very low; however, we expect the new rates to have greater impact on us as we increase billing for our Signatera and Prospera testing. 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 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 payers for our current and future tests, may adversely affect our test volumes and adversely affect our business, financial condition, results of operations, and cash flows.

If we or our laboratory distribution partners, consultants or commercial partners act in a manner that violates healthcare fraud and abuse laws or otherwise engage in misconduct, we may be subject to civil or criminal penalties.

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:

- HIPAA, which created federal civil and criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters and also imposes significant obligations with respect to maintenance of the privacy and security, and transmission, of individually identifiable health information;

- federal and state laws and regulations governing informed consent for genetic testing and the use of genetic material;

- 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;

- 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 payers;

- 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;

- the federal Civil Monetary Penalties Law, which, subject to certain exceptions, prohibits, among other things, the offer or transfer of remuneration 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;

- the Eliminating Kickbacks in Recovery Act of 2018, or EKRA, which, among other things, prohibits the knowing or willful payment or offer, or the solicitation or receipt, of any remuneration, whether directly or indirectly, overtly or covertly, in cash or in kind, in exchange for the referral or inducement of laboratory testing;

- the prohibition on reassignment by the program beneficiary of Medicare claims to any party; and

- 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 payer, including commercial insurers, and state data privacy and security laws and which may be more stringent than HIPAA.

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 payer 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 mandatory civil penalties of up to approximately $22,363 for each false claim.

In addition, various states have enacted false claim laws analogous to the federal False Claims Act, and in some cases go even further because many of these state laws apply where a claim is submitted to any third-party payer and not merely a governmental payer program. For example, in 2018 we reached a settlement with certain government payers regarding past reimbursement submissions. Although the settlement involved no admission of fault by us and no corporate integrity agreement, we cannot guarantee that we will not be subject to similar claims in the future.

Many of these laws and regulations have not been fully interpreted by regulatory authorities or the courts, and their provisions are open to a variety of interpretations. We have adopted policies and procedures designed to comply with these laws, and in the ordinary course of our business, we conduct internal reviews of our compliance with these laws. However, the rapid growth and expansion of our business both within and outside of the United States may increase the potential for violating these laws or our internal policies and procedures, and the uncertainty around the interpretation of these laws and regulations increases the risk that we may be found in violation of these or other laws and regulations, or of allegations of such violations, including pursuant to private qui tam actions brought by individual whistleblowers in the name of the government as described above. If our operations, including the conduct of our employees, distributors, consultants and commercial partners, are found to be in violation of any laws or regulations that apply to us, we may be subject to penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement of profits, exclusion from participation in government programs, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, contractual damages, reputational harm, diminished profits and future earnings and the curtailment or restructuring of our operations, any of which could materially and adversely affect our business, financial condition and results of operations.

Failure to comply with privacy and security laws and regulations could result in fines, penalties and damage to our reputation and have a material adverse effect on our business.

The federal HIPAA privacy and security regulations, including the expanded requirements under the Health Information Technology for Economic and Clinical Health Act, or HITECH, which was enacted as part of the American Recovery and Reinvestment Act of 2009, establish comprehensive federal standards with respect to the use and disclosure of protected health information by health plans, healthcare providers, and healthcare clearinghouses, in addition to setting standards to protect the confidentiality, integrity and security of protected health information. The regulations establish a complex regulatory framework on a variety of subjects, including patient authorization of the use and disclosure of, administrative, technical and physical safeguards for, and analysis of security incidents and breach notification requirements with respect to, protected health information. HIPAA, as amended by HITECH, provides for significant fines and other penalties for wrongful use or disclosure of protected health information in violation of privacy and security regulations, including potential civil and criminal fines and penalties.

The HIPAA privacy and security regulations establish minimum requirements, and do not supersede state laws that are more stringent. A number of states include medical information in the definition of personal information and have implemented requirements or standards more stringent than HIPAA. Therefore, while we have implemented policies and procedures related to compliance with the HIPAA regulations, we are also required to comply with various state privacy and security laws and regulations, and could incur penalties, compliance costs as a result of non-compliance or damages under state laws pursuant to an action brought by a private party for the wrongful use or disclosure of confidential health information or other private personal information. In addition, other federal and state laws that protect the privacy and security of patient information may be subject to enforcement and interpretation by various governmental authorities and courts, resulting in complex compliance issues.

The European Union's data privacy regulations, the General Data Protection Regulation, or GDPR, became subject to enforcement in May 2018. These regulations comprehensively reform the prior data protection rules of the European Union, and are more stringent, provide for higher potential liabilities, and apply to a broader range of personal data than those in the United States. The GDPR is applicable to U.S.-based companies, such as ours, that do business or offer services in, or that process or hold personal data of data subjects in, the European Union. While our current processes and practices comply with the GDPR, we will need to expend considerable time and resources, including management attention, to continue to revise our practices to ensure ongoing compliance with GDPR. Furthermore, the GDPR enables EU member states to enact jurisdiction-specific requirements in key areas, which could require us to modify our plans to

comply with the GDPR, or otherwise to implement multiple policies unique to the jurisdictions in which we operate, which could make it more difficult and resource-intensive to continue to operate in the European Union.

As we continue to expand and grow our business, our overall compliance with applicable laws and regulations may result in increased costs and attention of management, and failure to comply may result in significant fines, penalties and damage to our reputation. Additionally, the interpretation and application of health-related, privacy and data protection laws are often uncertain, contradictory and in flux, and it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our practices. As a result, we could be subject to government-imposed fines or orders requiring that we change our practices, which could cause us to incur substantial costs and may adversely affect our business and our reputation.

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 sequencers, 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 labeled as for research use only, or RUO. In addition, we offer a version of our Signatera test as a research use only offering. Products that are intended for research use only and are labeled as RUO are exempt from compliance with FDA requirements, including the approval, clearance or authorization 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 FDC Act and subject to FDA enforcement action. The FDA has issued guidance stating that when determining the intended use of a product labeled RUO, it will consider the totality of the circumstances surrounding distribution of the product, including how the product is marketed and to whom. In addition, many of the reagents used to perform our testing are offered for sale as analyte specific reagents, or ASRs. ASRs are medical devices and must comply with QSR provisions and other device requirements, but most are exempt from 510(k) and PMA premarket review. The FDA could disagree with a manufacturer's assessment that the manufacturer's products are ASRs, or could conclude that products labeled as RUO are actually intended for clinical diagnostic use, and could take enforcement action against the manufacturer, such as us with respect to Signatera (RUO), including requiring the manufacturer to cease offering the product while it seeks clearance, approval or authorization. Manufacturers 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.

The sequencers and reagents supplied to us by Illumina and the blood collection tubes supplied to us by Streck are labeled as RUO in the United States. We are using these sequencers, reagents and blood collection tubes for clinical diagnostic use. If the FDA were to require clearance, approval or authorization for the sale of Illumina's sequencers and if Illumina does not obtain such clearance, approval or authorization, we would have to find an alternative sequencing platform for Panorama. We currently have not validated an alternative sequencing platform on which Panorama could be run in a commercially viable manner. If we were not successful in selecting, acquiring on commercially reasonable terms and implementing an alternative platform on a timely basis, our business, financial condition and results of operations would be adversely affected. Similarly, a decision by the FDA to require clearance, approval or authorization for the sale by Streck of the blood collection tubes used for Panorama, or a finding that any of our other suppliers failed to comply with applicable requirements, could result in interruptions in our ability to supply our products to the market and adversely affect our operations.

Our use of hazardous materials in the development of our tests exposes us to risks related to accidental contamination or injury and requires us to comply with regulations governing hazardous waste materials.

Our research and development activities involve the controlled use of hazardous materials and chemicals. We cannot eliminate the risk of accidental contamination or injury to employees or third parties from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our resources or any applicable insurance coverage we may have. In addition, we are subject on an ongoing basis to federal, state and local regulations governing the use, storage, handling and disposal of these

materials and specified hazardous waste materials. An increase in the costs of compliance with such laws and regulations could harm our business and results of operations.

If the validity of an informed consent from a patient intake for Panorama or our other tests is challenged, we could be precluded from billing for such testing, forced to stop performing such tests, or required to repay amounts previously received, which would adversely affect our business and financial results.

All clinical data and blood samples that we receive are required to have been collected from individuals who have provided appropriate informed consent for us to perform our testing, both commercially and in clinical trials. We seek to ensure that the individuals from whom the data and samples are collected do not retain or have conferred any proprietary or commercial rights to the data or any discoveries derived from them. Our partners operate in a number of different countries in addition to the United States, and, to a large extent, we rely upon them to comply with the individual's informed consent and with U.S. and international laws and regulations. The collection of data and samples in many different states and foreign countries results in complex legal questions regarding the adequacy of informed consent and the status of genetic material under a large number of different legal systems. The individual's informed consent obtained in any particular country could be challenged in the future, and those informed consents could be deemed invalid, unlawful or otherwise inadequate for our purposes. Any findings against us, or our partners, could deny us access to, or force us to stop testing samples in, a particular country or could call into question the results of our clinical trials. We could also be precluded from billing third-party payers for tests for which informed consents are challenged, or could be requested to refund amounts previously paid by third-party payers for such tests. We could become involved in legal challenges, which could require significant management and financial resources and adversely affect our revenues and results of operations.

Risks Related to Our Intellectual Property

Litigation or other proceedings resulting from either third-party claims of intellectual property infringement, or asserting infringement by third parties of our technology, is costly, time-consuming, and could limit our ability to commercialize our products or services.

Our success depends in part on our non-infringement of the patents or intellectual property rights of third parties, and our ability to successfully prevent third parties from infringing our intellectual property. We operate in a crowded technology area in which there has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the genetic diagnostics industry. Third parties, including our competitors, have asserted and may in the future assert that we are infringing their intellectual property rights.

We are or have recently been engaged in patent infringement lawsuits and other intellectual property disputes against various competitors in each of the industries in which we operate, as described in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements. We may become subject to and/or initiate future intellectual property litigation as our product portfolio, and the level of competition in our industry segments, grow.

Should we be unsuccessful defending against patent infringement claims, we may be required to pay substantial royalties, money damages, or be enjoined from offering certain products or services. We may be required to change our marketing practices, pay large damages awards, and in the case of patent infringement, pay unsustainably high royalties to obtain licenses from third parties. In addition, we could experience delays in product introductions or sales growth while we attempt to develop non-infringing alternatives. Any of these or other adverse outcomes could prevent us from offering our tests or otherwise have a material adverse effect on our business, financial condition and our results of operations.

We cannot predict whether, or offer any assurance that, the patent infringement claims we have initiated or may initiate in the future will be successful. We are and may become subject to counterclaims by patent infringement defendants. Our patents may be declared invalid or unenforceable, or narrowed in scope. Even if we prevail in an infringement action, we cannot assure you that we would be adequately compensated for the harm to our business. If we are unable to enjoin third-party infringement, our revenues may be adversely impacted and we may lose market share; and such third-party product may continue to exist in the market, but fail to meet our regulatory or safety standards, thereby causing irreparable

harm to our reputation as a provider of quality products, which in turn could result in loss of market share and have a material adverse effect on our business, financial condition and our results of operations.

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 patent infringement claims, including the types of claims described in this risk factor. We have agreed, and may in the future 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, financial condition and results of operations.

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 other countries; this becomes increasingly important as we expand our operations and enter into strategic collaborations with partners to develop and commercialize products. The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and we may encounter difficulties in establishing and enforcing our proprietary rights outside of the United States. In addition, the proprietary positions of companies developing and commercializing tools for molecular diagnostics, including ours, generally are uncertain and involve complex legal and factual questions. 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 protected by valid and enforceable patents or are effectively maintained as trade secrets. We have worked to procure patents protecting our technologies, but our procurement efforts may not always be successful, and any patents we successfully procure may be challenged in ways that lead to post-procurement scope reduction or invalidity. For example, certain of our intellectual property is, or recently has been, the subject of challenges instituted by our competitors, as described in "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements. These challenges may impede our ability to protect our proprietary rights from unauthorized use. In addition, any 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.

Certain of our intellectual property was partly supported by a U.S. government grant awarded by the National Institutes of Health, and the government accordingly has certain rights in this intellectual property, including a non-exclusive, non-transferable, irrevocable worldwide license to use applicable inventions for any governmental purpose. Such rights also include "march-in" rights, which refer to the right of the U.S. government to require us to grant a license to the technology to a responsible applicant if we fail to achieve practical application of the technology or if action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give preference to U.S. industry.

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

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

We rely on trade secret and proprietary know-how protection for our confidential and proprietary information and have taken security measures to protect this information. These measures, however, may not provide adequate protection. For example, we have a policy of requiring our consultants, advisors and collaborators, including, for example, our strategic collaborators with whom we seek to develop and commercialize products, to enter into confidentiality agreements and our employees to enter into invention, non-disclosure and non-compete agreements. However, breaches of our physical or electronic security systems, or breaches caused by our employees failing to abide by their confidentiality obligations during or upon termination of their employment with us, could compromise these protection efforts. Any action

we take to enforce our rights may be time-consuming, expensive, and possibly unsuccessful. Even if successful, the resulting remedy may not adequately compensate us for the harm caused by the breach. These risks are heightened in countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States or Europe. 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 adverse effect on our programs and our 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 and time-consuming, and possibly unsuccessful. Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to infringe on other marks.

Our pending trademark applications in the United States and in other foreign jurisdictions where we may file may not be successful. Even if these applications result in registered trademarks, third parties may challenge 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 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 our Convertible Notes

Servicing our debt will require a significant amount of cash. We may not have sufficient cash flow from our business to pay our outstanding debt, and we may not have the ability to raise the funds necessary to settle conversions of the Convertible Notes in cash or to repurchase the Convertible Notes upon a fundamental change, which could adversely affect our business and results of operations.

Our ability to make scheduled payments of the principal of, to pay interest on, or to refinance our indebtedness, including the amounts payable under the Convertible Notes, depends on our future performance, which is subject to economic, financial, competitive, and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our indebtedness and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt, or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Further, holders of the Convertible Notes have the right to require us to repurchase all or a portion of their Convertible Notes upon the occurrence of a "fundamental change" (as defined in the indenture governing the Convertible Notes) before the maturity date at a repurchase price equal to 100% of the principal amount of the Convertible Notes to

be repurchased, plus accrued and unpaid interest, if any. In addition, upon conversion of the Convertible Notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the Convertible Notes being converted. However, we may not have enough available cash, or be able to obtain sufficient financing, at the time we are required to repurchase the Convertible Notes.

The conditional conversion feature of the Convertible Notes, when triggered, may adversely affect our financial condition and operating results.

In the event the conditional conversion feature of the Convertible Notes is triggered, holders of the Convertible Notes will be entitled to convert their Convertible Notes at any time during specified periods at their option. If one or more holders elect to convert their Convertible Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation in cash, which could adversely affect our liquidity.

In addition, even if holders of Convertible Notes do not elect to convert their Convertible Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Convertible Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The accounting method for convertible debt securities that may be settled in cash, such as the Convertible Notes, could have a material effect on our reported financial results.

The accounting method for reflecting the Convertible Notes on our balance sheet, accruing interest expense for the Convertible Notes and 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 initial liability carrying amount of the Convertible Notes will be the fair value of a similar debt instrument that does not have a conversion feature, valued using our cost of capital for straight, unconvertible debt. We have reflected the difference between the net proceeds from the sale of the Convertible Notes and the initial carrying amount as a debt discount for accounting purposes, which is amortized into interest expense over the term of the Convertible Notes. As a result of this amortization, the interest expense to be recognized for the Convertible Notes for accounting purposes will be greater than the cash interest payments we will pay on the Convertible Notes, which results in lower reported net income. The lower reported income (or higher net loss) resulting from this accounting treatment could depress the trading price of our common stock and the Convertible Notes.

Under historical accounting standards, under certain circumstances we would be eligible to use the treasury stock method to reflect the shares underlying the Convertible Notes in our diluted earnings per share. Under this method, if the conversion value of the Convertible Notes exceeds their principal amount for a reporting period, then we will calculate our diluted earnings per share assuming that all the Convertible Notes were converted and that we issued shares of our common stock to settle the excess. However, if reflecting the Convertible Notes in diluted earnings per share in this manner is anti-dilutive, or if the conversion value of the Convertible Notes does not exceed their principal amount for a reporting period, then the shares underlying the Convertible Notes will not be reflected in our diluted earnings per share. In August 2020, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40). This guidance, which will be effective for fiscal years beginning after December 15, 2021 (including interim periods within those fiscal years) eliminated the treasury stock method for convertible instruments such as the Convertible Notes and instead requires application of the "if-converted" method. Under that method, once adopted, diluted earnings per share would generally be calculated assuming that all the Convertible Notes were converted solely 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.

Furthermore, if any of the conditions to the convertibility of the Convertible Notes is satisfied, then we may be required under applicable accounting standards to reclassify the liability carrying value of the Convertible Notes as a

current, rather than a long-term, liability. This reclassification could be required even if no noteholders convert their Convertible Notes and could materially reduce our reported working capital.

Conversion of the Convertible Notes will dilute the ownership interest of existing stockholders, including holders who had previously converted their Convertible Notes, or may otherwise depress the price of our common stock.

The conversion of some or all of the Convertible Notes will dilute the ownership interests of stockholders to the extent we deliver shares of our common stock upon such conversion. The Convertible Notes are currently convertible and may from time to time in the future be convertible at the option of their holders prior to their scheduled terms under certain circumstances. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Convertible Notes may encourage short selling by market participants because the conversion of the Convertible Notes could be used to satisfy short positions, or anticipated conversion of the Convertible Notes into shares of our common stock could depress the price of our common stock.

Risks Related to Ownership of Our Common Stock

The market price of our common stock has been and may be volatile, which could subject us to litigation.

The trading prices of the securities of life sciences companies, including ours, have been and may continue to be highly volatile. Accordingly, 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' results of operations, as well as how those results compare to analyst and investor expectations;
- announcements by us or our competitors of new products, significant acquisitions, other strategic transactions, including strategic and commercial partnerships and relationships, joint ventures, divestitures, collaborations or capital commitments;
- changes in reimbursement practices by current or potential payers;
- failure of analysts to initiate or maintain coverage of our company, issuance of new securities analysts' reports or changed recommendations for our stock;
- forward-looking statements related to our financial guidance or projections, our failure to meet or exceed our financial guidance or projections or changes in our financial guidance or projections;
- actual or anticipated changes in regulatory oversight of our products;
- development of disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;
- announcement or expectation of additional debt or equity financing efforts;
- any major change in our management; and
- general economic conditions and slow or negative growth of our markets.

In addition, if the market for life sciences stocks or the stock market in general 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, including us, that have experienced volatility in the trading price of their stock have been the subject of securities class action litigation. For example, we have in the past been subject to a purported securities class action lawsuit filed against us, our directors and certain of our officers and stockholders related to our initial public offering. Under certain circumstances, we have contractual and other legal obligations to indemnify and to incur legal expenses on behalf of current and former directors and officers, and on behalf of our former underwriters, in connection with any future lawsuits. Any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms. Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation or adverse changes to our offerings or business practices. Defending against litigation is costly and time-consuming, and could divert our management's attention and resources. Furthermore, during the course of litigation, there could be negative public announcements of the results of hearings, motions or other interim proceedings or developments, which could have a material adverse effect on the market price of our common stock.

Commencing December 31, 2019, we were no longer an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies no longer apply to us.

As of December 31, 2019, we ceased to qualify as an "emerging growth company", as defined by the Jumpstart Our Businesses Act of 2012, or the JOBS Act, because as of June 30, 2019, the market value of our common stock that was held by non-affiliates exceeded $700 million. As a result, we are no longer permitted to take advantage of reduced regulatory and reporting requirements that are otherwise generally applicable to public companies. These include, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation, and exemptions from the requirements of holding non-binding advisory votes on executive compensation and golden parachute payments. As we are no longer an emerging growth company, we expect to incur additional expenses and devote substantial management effort toward ensuring compliance with those requirements applicable to companies that are not emerging growth companies. Compliance with these additional laws, rules and regulations has and will continue to increase our legal and financial compliance costs, make some activities more difficult, time consuming or costly and increase demand on our systems and resources. In addition, management's attention may be diverted from other business concerns and our costs and expenses will increase, which could harm our business and operating results. We may also need to hire more employees in the future or engage additional outside consultants to comply with these requirements, which will increase our costs and expenses.

If we are unable to implement and maintain effective internal controls over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be adversely affected.

We are required to maintain internal controls over financial reporting and to report any material weaknesses in such internal controls. Section 404 of the Sarbanes-Oxley Act requires that we evaluate and determine the effectiveness of our internal controls over financial reporting and provide a management report on internal controls over financial reporting. The Sarbanes-Oxley Act also requires that our management report on internal controls over financial reporting be attested to by our independent registered public accounting firm.

Although we determined that our internal controls over financial reporting were effective as of December 31, 2020, we must continue to monitor and assess our internal controls over financial reporting. If we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. If we identify material weaknesses in our internal controls over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner, if we are unable to assert that our internal controls over financial reporting are effective, or, when required in the future, if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be adversely affected, and we could become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities.

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.

We have never declared or paid any cash dividends on our capital stock. 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. Any return to stockholders will therefore be limited to the increase, if any, in the price of our common stock.

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

From time to time, we may issue additional securities or sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine. We also expect to continue to issue common stock to employees and directors pursuant to our equity incentive plans. If we sell or issue common stock, convertible securities, or other equity securities, or common stock is issued pursuant to equity incentive plans, investors in our common stock may be materially diluted. We may decide to issue common stock or other equity securities in connection with an acquisition or a strategic or commercial transaction, which could cause dilution to our existing stockholders. New investors in such transactions could gain rights, preferences and privileges senior to those of holders of our common stock.

Sales of a substantial number of shares of our common stock in the public markets 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.

We may issue our shares of common stock or securities convertible into our common stock, such as our Convertible Notes, from time to time in connection with a financing, acquisition, investments or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the price of our common stock to decline.

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. Currently, only a small number of securities analysts cover our stock. If more analysts do not commence coverage of us, or if industry analysts cease coverage of us or fail to publish reports on us regularly, the trading price 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.

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

As of December 31, 2020, our directors and executive officers and their affiliates beneficially owned, in the aggregate, approximately 10.68% of our outstanding capital stock. As a result, these stockholders are and 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. This concentration of ownership could limit stockholders' ability to influence corporate matters and may have the effect of delaying or preventing a third party from acquiring control over us.

Provisions in our amended and restated certificate of incorporation, 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 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 all stockholder actions to be taken at a meeting of our stockholders;
- eliminate the ability of our stockholders to call 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;
- establish a classified board of directors so that not all members of our board are elected at one time;
- permit the board of directors to establish the number of directors;
- provide that directors may only be removed "for cause" and only with the approval of 75% of our stockholders;
- require super-majority voting to amend some provisions in our amended and restated certificate of incorporation and amended and restated bylaws; 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.

In addition, if a "fundamental change" (as defined in the indenture governing the Convertible Notes) occurs prior to the maturity date of the Convertible Notes, holders of the Convertible Notes will have the right, at their option, to require us to repurchase all or a portion of their Convertible Notes. If a "make-whole fundamental change" (as defined in the indenture governing the Convertible Notes) occurs prior to the maturity date, we will in some cases be required to increase the conversion rate of the Convertible Notes for a holder that elects to convert its Convertible Notes in connection with such make-whole fundamental change. Furthermore, we are prohibited from engaging in certain mergers or acquisitions unless, among other things, the surviving entity of such transaction assumes our obligations under the Convertible Notes.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is 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 amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law or any action asserting a claim against us that is governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees and may discourage these types of lawsuits. Alternatively, if a court were to find the choice of forum provision contained in our certificate of incorporation 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 results of operations.

Changes in accounting standards and their interpretations could adversely affect our operating results.

U.S. GAAP is subject to interpretation by the Financial Accounting Standards Board, or FASB, the Public Company Accounting Oversight Board, or PCAOB, the SEC, and various other bodies that promulgate and interpret appropriate accounting principles. These principles and related implementation guidelines and interpretations can be highly complex and involve subjective judgments. A change in these principles or interpretations, including with respect to the accounting for the Convertible Notes, could have a significant effect on our reported financial results, and could affect the reporting of transactions completed before or after the announcement of a change in such principles. Additionally, the adoption of these standards may potentially require enhancements or changes in our systems and will require significant time and cost on behalf of our financial management. A discussion of these standards and other pending changes in GAAP, are further discussed in "Note 2—Summary of Significant Accounting Policies" in the Notes to Consolidated Financial Statements.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None**.**

ITEM 2. PROPERTIES

We lease office facilities under non-cancelable operating lease agreements. We currently occupy approximately 136,000 square feet of laboratory and office space at 201 Industrial Road in San Carlos, California pursuant to a lease that we directly entered into with our landlord in October 2016. This lease covers two office spaces (the "First Space" and the "Second Space"). The First Space covers approximately 88,000 square feet at an average base rent of $340,972 per month for the year 2020. The Second Space covers approximately 48,000 square feet at an average base rent of $197,605 per month. The original lease term is approximately 84 months and expires in October 2023. In January 2021, we entered into an amendment of the lease to extend the term for 48 months to October 2027. The combined monthly rent for the First Space and Second Space will be $776,671 commencing in October 2023.

We entered into a sublease agreement in June 2019 with a third party to sublease 25,879 square feet of space located on the third floor of the San Carlos, California building while maintaining its primary obligation as the intermediate lessor. The term of this lease is approximately 48 months commencing in October 2019 and expiring in September 2023. In February 2021, we entered into an amendment of the San Carlos sublease agreement whereas the third party will initially return approximately 3,474 rentable square feet with the remainder of the subleased premises, consisting of approximately 22,405 rentable square feet, between October 2021 and December 2021.

In Tukwila, Washington, we lease a facility initially to provide storage of our cord blood tissue units. The facility covers approximately 10,000 square feet, with a lease term of 62 months beginning in June 2018 and expiring in July 2023. In the third quarter of 2019, we sold the Evercord business and the facility was subleased to a third party.

Our subsidiary leases laboratory and office space in Austin, Texas, comprising approximately 94,000 square feet pursuant to a lease expiring in November 2026. The lease term is 132 months beginning in December 2015 and expiring in November 2026 with monthly payments beginning in December 2016.

We entered into a lease agreement in November 2020 to lease 11,395 square feet of space located in South San Francisco, California over a three-year term. The premises will be used for general office, laboratory and research use.

We may expand our facilities capacity as our employee base and laboratory processing needs grow. We believe that we will be able to obtain additional space on commercially reasonable terms.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are involved in legal proceedings. The results of such legal proceedings and claims cannot be predicted with certainty, and regardless of the outcome, legal proceedings could have an adverse impact on us because of defense and settlement costs, diversion of resources and other factors.

For information regarding certain current legal proceedings, see "Note 8—Commitments and Contingencies—Legal Proceedings" in the Notes to Consolidated Financial Statements, which is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Price of Our Common Stock

Our common stock is listed on the Nasdaq Global Select Market under the symbol "NTRA".

Holders

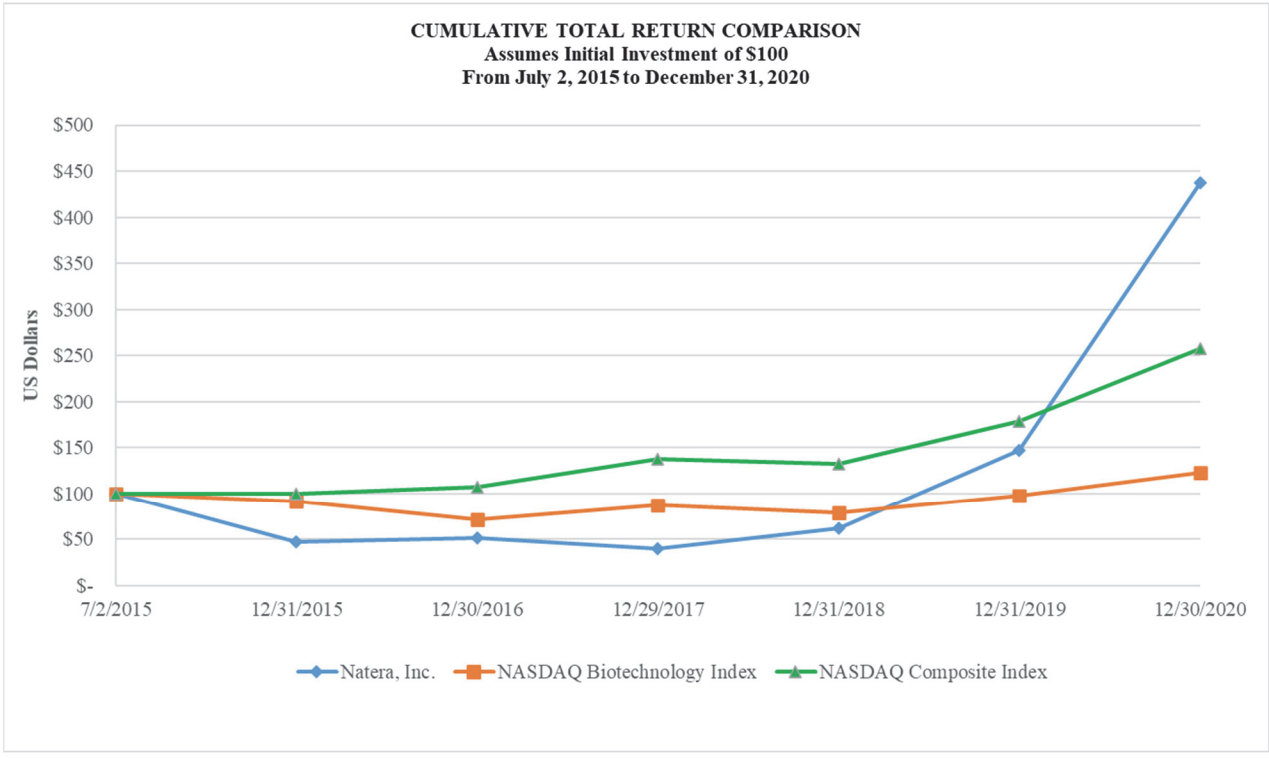
As of February 25, 2021, we had 12 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividends

No cash dividends have ever been paid or declared on our common stock. We currently intend to retain all future earnings, if any, for use in our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors our board of directors may deem relevant.

Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference into any of our other filings under the Exchange Act or the Securities Act except to the extent we specifically incorporate it by reference into such filing. The following graph compares the cumulative total stockholder return on our common stock between our initial public offering on July 2, 2015 and December 31, 2020 with the cumulative total return of (i) the NASDAQ Biotechnology Index and (ii) the NASDAQ Composite Index over the same period. The chart assumes $100 was invested at the close of market on July 2, 2015, and assumes the reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.



Trade Date	Natera, Inc.	Nasdaq Biotechnology	Nasdaq Composite
Base period 7/2/2015	$ 100	$ 100	$ 100
12/31/2015	$ 47.49	$ 91.34	$ 99.96
12/31/2016	$ 51.50	$ 71.53	$ 107.46
12/31/2017	$ 39.53	$ 86.60	$ 137.81
12/31/2018	$ 61.39	$ 78.52	$ 132.46
12/31/2019	$ 147.45	$ 97.34	$ 178.59
12/31/2020	$ 437.64	$ 122.78	$ 257.29

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Parties

None.

ITEM 6. SELECTED FINANCIAL DATA

The following table presents our selected historical consolidated financial data. The consolidated statements of operations data for the three fiscal years ended December 31, 2020, 2019, and 2018 and the consolidated balance sheet data as of December 31, 2020 and 2019 are derived from our audited consolidated financial statements included elsewhere in this annual report on Form 10-K.

The consolidated statements of operations data for the fiscal years ended December 31, 2017 and 2016, and the balance sheet data as of December 31, 2018, 2017 and 2016 are derived from audited financial statements that are not included in this annual report on Form 10-K.

The selected historical consolidated balance sheet and operating data presented below should be read in conjunction with the consolidated financial statements and the notes to such statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this annual report on Form 10-K. Historical results are not necessarily indicative of the results to be expected in the future.

	Year ended December 31,				
(in thousands, except per share data)	**2020**	**2019**	**2018**	**2017**	**2016**
Selected Statement of Operations Data:					
Total revenues	$ 391,005	$ 302,328	$ 257,654	$ 209,625	$ 212,512
Total cost and expenses	607,282	418,615	372,282	344,966	313,562
Interest expense and other (expense) income, net	(7,520)	(6,541)	(13,205)	(1,833)	865
Income tax expense	(98)	(1,999)	(321)	(454)	(142)
Loss on debt extinguishment	(5,848)	—	—	—	—
Net loss	$ (229,743)	$ (124,827)	$ (128,154)	$ (137,628)	$ (100,327)
Net loss per share, basic	(2.84)	$ (1.79)	(2.22)	(2.58)	(1.95)
Net loss per share, diluted	$ (2.84)	$ (1.79)	$ (2.22)	$ (2.59)	$ (1.95)

	As of December 31,				
(in thousands)	**2020**	**2019**	**2018**	**2017**	**2016**
Selected Balance Sheet Data:					
Cash, cash equivalents and restricted cash	$ 48,855	$ 61,981	$ 51,004	$ 13,021	$ 16,690
Short-term investments	688,606	379,065	107,461	106,247	130,860
Inventory	20,031	12,394	13,633	8,998	6,414
Property and equipment, net	33,348	23,283	24,336	29,667	32,289
Total assets	932,153	582,656	268,171	214,613	247,781
Debt	252,547	123,779	123,510	123,177	49,624
Total liabilities	445,917	303,945	236,009	189,196	104,204
Total stockholders' equity	486,236	278,711	32,162	25,417	143,577

ITEM 7. 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 in conjunction with our consolidated financial statements and related notes included in Part II, Item 8 of this report. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those discussed in "Risk Factors" included elsewhere in this report.

Overview

We are a diagnostics company with proprietary molecular and bioinformatics technology that we deploy to change the management of disease worldwide. Our technology has been proven clinically and commercially in the women's health space, in which we develop and commercialize non- or minimally- invasive tests to evaluate risk for, and thereby enable early detection of, a wide range of genetic conditions, such as Down syndrome. We are now translating our success in women's health and applying our core technology in the oncology space, in which we are commercializing a personalized blood-based DNA test to detect molecular residual disease and help guide treatment decisions, as well as in organ health, with tests to assess the health of organ transplant patients. We seek to enable even wider adoption of our technology through Constellation, our global cloud-based distribution model. In addition to our direct sales force in the United States, we have a global network of over 100 laboratory and distribution partners, including many of the largest international laboratories.

We currently provide a comprehensive suite of products in women's health, as well as our offerings in oncology and organ health, and our Constellation cloud-based platform. We generate a majority of our revenues from the sale of Panorama, our non-invasive prenatal test ("NIPT"), as well as Horizon, our Carrier Screening ("HCS") test. In addition to Panorama and Horizon, our product offerings in women's health include Spectrum Preimplantation Genetics, our Anora miscarriage test, and Vistara single-gene NIPT. Our oncology product is our Signatera molecular residual disease test, which we commercialize as a test run in our CLIA laboratory and offer on a research use only ("RUO") basis to research laboratories and pharmaceutical companies; and our primary organ health offering is our Prospera transplant assessment test.

In the year ended December 31, 2020, we processed most of our tests in our laboratory certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") in San Carlos, California, with an increasing number of tests processed in our CLIA-certified laboratory in Austin, Texas as we continued to expand our laboratory facilities at that location during the year. A portion of our testing is performed by third-party laboratories. Our customers include independent laboratories, national and regional reference laboratories, medical centers and physician practices for our screening tests, and research laboratories and pharmaceutical companies. We market and sell our prenatal screening tests both through our direct sales force and through our laboratory distribution partners. We bill clinics, laboratory distribution partners, patients, pharmaceutical companies and insurance payers for the tests we perform. In cases where we bill laboratory distribution partners, our partners in turn bill clinics, patients and insurers. The majority of our revenue comes from insurers with whom we have in-network contracts. Such insurers reimburse us for NIPT procedures pursuant to our in-network contracts with them, based on positive coverage determinations, which means that the insurer has determined that NIPT in general is medically necessary for this category of patient. In the United States, the majority of insurance providers provide positive NIPT coverage.

In addition to offering tests to be performed at our laboratories, either directly or through our laboratory distribution partners, we also establish licensing arrangements with laboratories under Constellation, our cloud-based distribution model, whereby our laboratory licensees run the molecular workflows themselves and then access our bioinformatics algorithms through our cloud-based software. This cloud-based distribution model results in lower revenues and gross profit per test than cases in which we process a test ourselves; however, because we don't incur the costs of processing the tests, our costs per test under this model are also lower. We began entering into these licensing arrangements starting in the fourth quarter of 2015.

The principal focus of our commercial operations is to offer our tests through both our direct sales force and laboratory distribution partners, and our Constellation licensees under our cloud-based distribution model. The number of tests that we accession is a key indicator that we use to assess our business. A test is accessioned when we receive the test at our laboratory, the relevant information about the test is entered into our computer system, and the test sample is routed into the appropriate workflow. This number is a subset of the number of tests that we process, which includes tests distributed through our Constellation licensees. The number of tests that we process is a key metric as it tracks overall volume growth, particularly as our laboratory partners may transition from sending samples to our laboratory to our cloud-based distribution model, as a result of which our tests accessioned would decrease but our tests processed would remain unchanged.

During the year ended December 31, 2020, we processed approximately 1,026,500 tests, comprised of approximately 974,400 tests accessioned in our laboratories, compared to December 31, 2019, in which we processed approximately 804,300 tests, comprised of approximately 753,800 tests accessioned in our laboratories, and approximately 668,600 tests processed during the year ended December 31, 2018, comprised of approximately 625,900 tests accessioned in our laboratories. This increase in volume represents continuous commercial growth of Panorama and HCS, both as tests performed in our laboratories as well as through our Constellation software platform.

The percent of our revenues attributable to our U.S. direct sales force were 87%, 80%, and 83% for the years ended December 31, 2020, 2019, and 2018, respectively. The percent of our revenues attributable to U.S. laboratory partners for the year ended December 31, 2020 was 7%, which was up from 6% and 5%, when compared to the years ended December 31, 2019 and 2018. The percent of our revenues attributable to international laboratory partners and other international sales for the years ended December 31, 2020 was 6%, down from 14% and 12% for the years ended December 31, 2019 and December 31, 2018, respectively.

For the year ended December 31, 2020, total revenues were $391.0 million, compared to $302.3 million and $257.7 million in the years ended December 31, 2019 and 2018, respectively. Product revenues generated from our testing accounted for $367.2 million or 94% of total revenues for the year ended December 31, 2020; $269.9 million or 89% of total revenues for the year ended December 31, 2019; and $240.4 million or 93% of total revenues for the year ended December 31, 2018. For the years ended December 31, 2020, 2019, and 2018, there were no customers exceeding 10% of the total revenues on an individual basis. Revenues from customers outside the United States were $25.3 million, representing 6% of total revenues for the year ended December 31, 2020. For the years ended December 31, 2019 and 2018, revenues from customers outside the United States were $41.5 million and $31.7 million, representing approximately 14% and 12%, respectively, of total revenues.

Our net losses for the years ended December 31, 2020, 2019, and 2018 were $229.7 million, $124.8 million, and $128.2 million, respectively. This included non-cash stock compensation expense of $50.2 million, $28.6 million, and $14.2 million for the years ended December 31, 2020, 2019, and, respectively. As of December 31, 2020, we had an accumulated deficit of $929.3 million.

COVID-19 Impact

The COVID-19 pandemic continues to present a global public health and economic challenge and is affecting our business operations and the U.S. and other major economies and financial markets. The spread of COVID-19 has caused us to modify our business practices (including employee travel, mandating that all non-essential personnel work from home, temporary closures of our offices, and cancellation of physical participation in sales activities, meetings, events and conferences), and incur additional operating costs, and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers and business partners. Such actions could also impact our ability to fully integrate businesses we may acquire in the future. There is no certainty that such actions will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities. If significant portions of our workforce, and particularly our laboratory staff, are unable to work effectively, including due to illness, quarantines, social distancing, government actions or other restrictions in connection with the COVID-19 pandemic, our operations will be impacted.

The extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on future developments, which remain highly uncertain and cannot be predicted, including, but not limited to, the continued duration and spread of the pandemic, its severity, the actions to contain the virus or address its impact, and when and to what extent normal economic and operating activities can resume. The COVID-19 pandemic could limit the ability of our customers, suppliers and business partners to perform under their contracts with us, including third-party payers' ability to make timely payments to us during and following the pandemic. We may also experience a shortage of laboratory supplies and reagents or a suspension of services from other laboratories or third parties. We have also become increasingly dependent on growing and maintaining a network of mobile phlebotomy specialists who can provide testing capabilities, as many consumers are unable to visit clinics, hospitals or other testing facilities as a result of the COVID-19 pandemic. Even after the COVID-19 pandemic has subsided, we may continue to experience an adverse impact to our business because of its global economic impact, including any recession that has occurred or may occur in the future.

Specifically, difficult macroeconomic conditions as a result of COVID-19, such as decreases in per capita income and level of disposable income, increased and prolonged unemployment, a decline in consumer confidence, as well as limited or significantly reduced points of access of our products, could have a material adverse effect on the demand for some of our products, such as our products targeted for the IVF market. Decreased demand for our tests, particularly in the United States, could negatively affect our overall financial performance. A significant portion of our revenue is concentrated in the United States, where the impact of COVID-19 has been significant, and the potential decrease in demand for our tests could have a disproportionately negative impact on our business and financial results.

Our test volumes in 2020 increased from the previous year, however, test volumes may by adversely impacted by the COVID-19 pandemic. The average selling price of our genetic tests in 2020 increased compared to the prior year which resulted in a positive impact to the results of operations. We cannot predict volatility of the volumes and selling prices of our genetic tests. In response to the COVID-19 pandemic, we have implemented measures to protect the health of our employees and to support the functionality of our laboratories. We will continue to support and incur expenditures towards COVID-19 prevention and employee safety.

Components of the Results of Operations

The section of this Management's Discussion and Analysis generally discusses year-to-year comparisons between 2020 and 2019. Discussions of year-to-year comparisons between 2019 and 2018 that are not included in this Annual Report on Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of Part II of our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 2, 2020.

Revenues

Product Revenues

We generate revenues from the sale of our tests, primarily from the sale of our Panorama and HCS tests. Our two primary distribution channels are our direct sales force and our laboratory partners. In cases where we promote our tests through our direct sales force, we generally bill directly to a patient, clinic or insurance carrier, or a combination of the insurance carrier and patient for the fees.

Sales of our Panorama, HCS, Vistara, Anora, Spectrum, Signatera CLIA, and Prospera tests are recorded as product revenues. Revenues recognized from tests processed through our Constellation model, from the Qiagen, BGI Genomics, and Foundation Medicine agreements (collectively the "Strategic Partnership Agreements"), and from our Signatera research use only ("RUO") offering are reported in licensing and other revenues.

In cases where we sell our tests through our laboratory partners, the majority of our laboratory partners bill the patient, clinic or insurance carrier for the performance of our tests, and we are entitled to either a fixed price per test or a percentage of their collections.

Our ability to increase our revenues will depend on our ability to further penetrate the domestic and international markets and, in particular, generate sales through our direct sales force, develop and commercialize additional tests, obtain reimbursement from additional third-party payers and increase our reimbursement rate for tests performed. In particular, our financial performance depends on reimbursement for Panorama in the average risk population and for microdeletions. There has been a significant increase in the number of commercial third-party payers that cover the use of Panorama in the average risk population, representing approximately 95% of commercial covered lives in the United States, as well as an increasing number of state Medicaid payers expanding coverage to average risk pregnancies. Many third-party payers do not currently reimburse for microdeletions screening, as further discussed in the risk factor entitled "*Reimbursement and Regulatory Risks Related to Our Business— If we are unable to expand or maintain third-party payer coverage and reimbursement for Panorama and our other tests, or if we are required to refund any reimbursements already received, our revenues and results of operations would be adversely affected*," in part because there is currently limited published data on the performance of microdeletions screening tests. A new current procedure terminology ("CPT") code for microdeletions went into effect beginning January 1, 2017. We have experienced low average reimbursement rates thus far for microdeletions testing under this new code, and we expect that this new code will cause, at least in the near term, our microdeletions reimbursement to remain low, due to third-party payers declining to reimburse and through reduced reimbursement under the new code. This has had, and we expect it will continue to have, an adverse impact on our revenues. In addition, a new CPT code for expanded carrier screening went into effect beginning January 1, 2019, and has had, and may continue to have, an adverse effect on our reimbursement rates for our broader Horizon carrier screening panel for which we previously primarily received reimbursement on a per-condition basis, as those tests may be reimbursed as a combined single panel instead of as multiple individual tests. Because our revenues from Horizon continue to represent an increasing proportion of our overall revenues, a decline in our reimbursement rates for, and therefore our average selling price of, Horizon, could result in a decline in our overall revenue.

Our financial performance has also been impacted by our larger in-network coverage with third-party payers, which we believe is crucial to our growth and long-term success. However, because the negotiated fees under our contracts with third-party payers are typically lower than the list price of our tests, as we enter into additional in-network contracts with insurance providers, our average reimbursement per test may decrease as compared to out-of-network contracts. While we expect the reduction in average reimbursement per test from in-network pricing to reduce our revenues 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 driving more business from our most profitable accounts.

Licensing and Other Revenues

We also recognize licensing revenues through the licensing and the provisioning of services to support the use of our proprietary technology by licensees under our cloud-based distribution model. As of December 31, 2020, we are recognizing revenues on 15 licensing and service arrangements with laboratories under our Constellation model.

Our strategy to offer our tests to laboratory licensees via our Constellation cloud-based software platform may also cause our revenues to decrease because we do not process the tests and perform the molecular biology analysis in our own laboratory under this model, and therefore are not able to charge as high an amount, and as a result realize lower revenues per test than when we perform the entire test ourselves. However, cost of licensing and other revenues for the Constellation software platform are relatively low, and therefore, its associated gross margin is higher.

Cost of Product Revenues

The components of our cost of product revenues are material and service costs, impairment charges associated with testing equipment, personnel costs, including stock-based compensation expense, equipment and infrastructure expenses associated with testing samples, electronic medical records, order and delivery systems, shipping charges to transport samples, costs incurred from third party test processing fees, and allocated overhead such as rent, information technology costs, equipment depreciation and utilities. Costs associated with Whole Exome Sequencing ("WES") are also included, as well as labor costs, relating to our Signatera CLIA offering. Costs associated with performing tests are recorded when the test is accessioned. We expect cost of product revenues in absolute dollars to increase as the number of tests we perform increases.

As we continue to achieve scale, we have increased our focus on more efficient use of labor, automation, and DNA sequencing. For example, we updated the molecular and bioinformatics process for Panorama to further reduce the sequencing reagents, test steps and associated labor costs required to obtain a test result, while increasing the accuracy of the test to allow it to run with lower fetal fraction input. These improvements also reduced the frequency of the need to require blood redraws from the patient.

Cost of Licensing and Other Revenues

The components of our cost of licensing and other revenues are material costs associated with test kits sold to Constellation clients, development and support services relating to our Strategic Partnership Agreements, and costs associated with specimens and Whole Exome Sequencing ("WES"), as well as labor costs, relating to our Signatera (RUO) offering.

We currently have 15 revenue generating licensing and service agreements with laboratories under our Constellation distribution model. We consider our cost of licensing and other revenues for the Constellation software platform to be relatively low, and therefore we expect its associated gross margin is higher. We expect our cost of licensing will increase in relation to volume growth.

Research and Development

Research and development expenses include costs incurred to develop our technology, collect clinical samples and conduct clinical studies to develop and support our products. These costs consist of personnel costs, including stock-based compensation expense; prototype materials; laboratory supplies; consulting costs; regulatory costs; electronic medical record set up costs; and costs associated with setting up and conducting clinical studies at domestic and international sites and allocated overhead, including rent, information technology, equipment depreciation and utilities. We expense all research and development costs in the periods in which they are incurred. We expect our research and development expenses to increase in absolute dollars as we continue to invest in research and development activities related to developing enhanced and new products.

Selling, General and Administrative

Selling, general and administrative expenses include executive, selling and marketing, legal, finance and accounting, human resources, billing and client services. These expenses consist of personnel costs, including stock-based compensation expense; direct marketing expenses; audit and legal expenses; consulting costs; training and medical education activities; payer outreach programs and allocated overhead, including rent, information technology, equipment depreciation, and utilities.

Gain on Disposal of Business

In September 2019, we sold our Evercord business that provided cord tissue processing and storage services for total estimated consideration of $15.4 million, including $9.7 million in cash, $1.0 million of cash deposited in a third-party escrow account recorded in short-term other receivables, and $4.7 million of additional consideration. We recognized a gain of $14.4 million on the sale, which was included in loss from operations in the consolidated statements of operations and comprehensive loss.

Interest Expense

Interest expense is attributable to borrowing under our Credit Line, the 2017 Term Loan, as well as the Convertible Note, including the amortization of debt discounts.

Interest Income and Other (Expense) Income, Net

Interest income and other (expense) income, net is comprised of interest earned on our cash, realized gains and losses on investments, foreign currency remeasurement gains and losses, changes in the fair value of our warrants, and finance charges related to the unused borrowing capacity of our 2017 Term Loan.

Loss on Debt Extinguishment

The loss on debt extinguishment of $5.8 million was a result of the repayment of the outstanding principal and interest under the 2017 Term Loan with Orbimed in the second quarter of 2020. Refer to note 10, *Debt*, for details.

Critical Accounting Policies

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 accordance with generally accepted accounting principles in the United States. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated, and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We consider our critical accounting policies and estimates to be revenue recognition, leases, inventory, fair value measurements including the valuation of 2.25% Convertible Senior Notes due 2027 (the "Convertible Notes"), and stock-based compensation.

Recent Accounting Pronouncements

There are no recent accounting pronouncements that have a material impact to our consolidated financial statements. See Note 2, *Summary of Significant Accounting Policies*, for recently adopted accounting pronouncements.

Revenue Recognition

We recognize revenues when, or as, performance obligations in the contracts are satisfied, in the amount reflecting the expected consideration to be received from the goods or services transferred to the customers.

Product Revenues

Product revenues are derived from contracts with insurance carriers, laboratory partners and patients in connection with sales of prenatal genetic and other diagnostics tests. The majority of our revenues are derived from Panorama NIPT, HCS, and to a lesser extent, other genetic tests including Signatera CLIA and Prospera. We enter into contracts with insurance carriers with primarily payment terms related to tests provided to the patients who have health insurance coverage. Insurance carriers are considered to be third-party payers on behalf of the patients, and the patients are considered as the customers who receive genetic test services. Tests may be billed to insurance carriers, patients, or a combination of insurance carriers and patients. Further, we sell tests to a number of domestic and international laboratory partners and identify the laboratory partners as customers provided that there is a test services agreement between us and them.

Licensing and Other Revenues

We recognize licensing revenues from our Constellation cloud-based distribution model, pursuant to which we grant licenses to laboratories to access our proprietary bioinformatics algorithms through our cloud-based software to analyze the results of molecular workflows that such licensees perform in their laboratories. In addition, the royalties we receive from our arrangement with a prenatal paternity licensee are recognized Constellation revenues.

We also recognize revenues from our Signatera (RUO) offering, which is for research use only to cancer researchers and biopharmaceutical companies. We enter into agreements with pharmaceutical companies to utilize our Signatera tests typically to study new cancer treatments or to validate the outcomes of clinical trials for which the pharmaceutical companies are identified as customers.

We also recognize revenues from our Strategic Partnership Agreements. The performance obligations are unique in each agreement and would typically require the license of intellectual property, development services, support services, and future test work. We also record revenues from the sale of IVD kits in licensing and other revenues.

Income Taxes

We account for income taxes in accordance with ASC 740, *Income Taxes* ("ASC 740"), which requires recognition of deferred tax assets and liabilities for the expected tax consequences of our future financial and operating activities. Under ASC 740, we determine deferred tax assets and liabilities based on the temporary difference between the financial statement and tax bases of assets and liabilities using the tax rates in effect for the year in which we expect such differences to reverse. If we determine that it is more likely than not that we will not generate sufficient taxable income to realize the value of some or all of our deferred tax assets (net of our deferred tax liabilities), we establish a valuation allowance offsetting the amount we do not expect to realize. We perform this analysis each reporting period and reduce our measurement of deferred taxes, if the likelihood we will realize them becomes uncertain.

We also account for uncertain tax positions in accordance with ASC 740, which requires us to adjust our financial statements to reflect only those tax positions that are more-likely-than-not to be sustained upon review by federal or state examiners. We may recognize a tax benefit only if it is more likely than not the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such positions are then measured based on the largest benefit that has a greater than 50% likelihood of being realized upon settlement. We established a full valuation allowance against its net deferred tax assets in 2020 and 2019 due to the uncertainty surrounding realization of these assets (for details, please refer to Note 14, *Income Taxes*). In addition, our policy is to report interest and penalties related to unrecognized tax benefits as income tax expenses.

Stock-Based Compensation

We have included stock-based compensation as part of our cost of revenues and our operating expenses in our statements of operations as follows:

	Year ended December 31,								
	2020			2019			2018		
	Employee	Non-Employee	Total	Employee	Non-Employee	Total	Employee	Non-Employee	Total
					(in thousands)				
Cost of revenues	$ 1,691	$ —	$ 1,691	$ 905	$ 32	$ 937	$ 564	$ 5	$ 569
Research and development	10,777	647	11,424	5,354	—	5,354	4,043	—	4,043
Selling, general and administrative	36,747	309	37,056	21,730	603	22,333	9,474	112	9,586
Total	$ 49,215	$ 956	$ 50,171	$ 27,989	$ 635	$ 28,624	$ 14,081	$ 117	$ 14,198

Stock-based compensation related to stock options granted to our employees and non-employees is measured at the grant date based on the fair value of the award, which is determined by the Black-Scholes option-pricing model and the Monte Carlo simulation model. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective awards. No compensation cost is recognized on stock options for employees and non-employees who do not render the requisite service and therefore forfeit their rights to the stock options. The measurement of stock-based compensation is subject to periodic adjustments as the underlying equity instruments vest,

and the resulting change in value, if any, is recognized in our statements of operations and comprehensive loss during the period that the related services are rendered.

Impairment of Long-Lived Assets

We evaluate our long-lived assets for indicators of possible impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. We then compare the carrying amounts of the assets with the future net undiscounted cash flows expected to be generated by such asset. Should an impairment exist, the impairment loss would be measured based on the excess carrying value of the asset over the asset's fair value determined using discounted estimates of future cash flows. There were no asset impairment charges for the year ended December 31, 2020.

For the year ended December 31, 2019, an asset impairment charge of $1.7 million was recorded in general and administrative expenses in the statements of operations and comprehensive loss. This charge is comprised of $1.2 million from the impairment of leasehold improvements, $0.1 million from the impairment of capitalized software held for internal use, and $0.4 million from the right-of-use asset related to the disposal of business. The right-of-use asset and the leasehold improvements relate to the storage facility located in Tukwila, Washington, and both assets were evaluated for impairment as a single asset group. Subsequent to the sale of Evercord, we recognized an impairment charge for the leasehold improvements that was previously capitalized for the storage facility and wrote down the right-of-use asset to its fair value as of the sale date.

Results of Operations

Comparison of the years ended December 31, 2020, 2019, and 2018

(in thousands)	Year Ended December 31,			Changes			
	2020	2019	2018	2020 - 2019		2019 - 2018	
				Amount	Percent	Amount	Percent
Revenues:							
Product revenues	$ 367,211	$ 269,881	$ 240,366	$ 97,330	36.1 %	$ 29,515	12.3 %
Licensing and other revenues	23,794	32,447	17,288	(8,653)	(26.7)	15,159	87.7
Total revenues	391,005	302,328	257,654	88,677	29.3	44,674	17.3
Cost and expenses:							
Cost of product revenues	185,865	162,604	158,081	23,261	14.3	4,523	2.9
Cost of licensing and other revenues	17,755	12,866	7,974	4,889	38.0	4,892	61.3
Research and development	100,035	51,357	51,355	48,678	94.8	2	0.0
Selling, general and administrative	303,627	206,176	154,872	97,451	47.3	51,304	33.1
Gain on disposal of business	—	(14,388)	—	14,388	100.0	(14,388)	*
Total cost and expenses	607,282	418,615	372,282	188,667	45.1	46,333	12.4
Loss from operations	(216,277)	(116,287)	(114,628)	(99,991)	86.0	(1,659)	1.4
Interest expense	(15,082)	(10,693)	(10,476)	(4,389)	41.0	(217)	2.1
Interest and other (expense) income, net	7,562	4,152	(2,729)	3,410	82.1	6,881	(252.1)
Loss on debt extinguishment	(5,848)	—	—	(5,848)	100.0	—	—
Loss before income taxes	(229,645)	(122,828)	(127,833)	(106,818)	87.0	5,005	(3.9)
Income tax expense	(98)	(1,999)	(321)	1,901	(95.1)	(1,678)	522.7
Net loss	$ (229,743)	$ (124,827)	$ (128,154)	$ (104,916)	84.0 %	$ 3,327	(2.6)%

Revenues

Total revenues are comprised of product revenues, which are primarily driven by sales of our Panorama and HCS tests, and licensing and other revenues, which primarily includes development licensing revenue, licensing of our Constellation software to our licensees, and revenues from our Signatera (RUO) offering. Total revenues increased by $88.7 million, or 29%, when compared to the year ended December 31, 2019.

We derive our revenues from tests based on units reported to customers—tests delivered with a result. All reported units are either accessioned in our laboratories or processed outside of our laboratories. As noted in "Overview," the number of tests that we process is a key metric as it tracks overall volume growth. During the year ended December 31, 2020, total reported units were approximately 962,400, comprised of approximately 912,500 tests reported in our laboratories. Comparatively, during the year ended December 31, 2019, total reported units were approximately 763,900, comprised of approximately 718,500 tests reported in our laboratories.

Product Revenues

During the year ended December 31, 2020, product revenues increased by $97.3 million, or 36% compared to the year ended December 31, 2019, as a result of the continued revenue growth from test volumes.

Licensing and Other Revenues

Licensing and other revenues decreased by $8.7 million, or 27%, during the year ended December 31, 2020 compared to the year ended December 31, 2019. The decrease in revenue was primarily due to a $6.1 million decrease from the Evercord offering due to the sale of this business in the third quarter of 2019. The remaining decrease of a net $2.6 million was primarily related to a decrease in revenues recognized from our collaborative agreements partially offset by increased revenues from our oncology offering.

Cost of Product Revenues

During the year ended December 31, 2020, cost of product revenues increased by $23.3 million or 14% when compared to the year ended December 31, 2019, primarily due to higher costs related to inventory consumption of $18.1 million driven by an increase in accessioned cases, higher labor and overhead costs of approximately $11.0 million driven by headcount growth, product support, our HCS automation workflow, and COVID-19 related costs (e.g., virus preventative supplies, hazard pay, and salary increases for essential workers) partially offset by a net decrease of $5.8 million in specimen related fees primarily related to cost savings from our HCS automation workflow.

Cost of Licensing and Other Revenues

Cost of licensing and other revenues for the year ended December 31, 2020, when compared to the year ended December 31, 2019, increased by $4.9 million, or 38%, primarily due to an increase in costs to satisfy performance obligations for our oncology offering and collaboration agreements of a net $8.3 million. This was offset by a decrease of $3.4 million in cost related to the Evercord offering as we stopped offering this service during the third quarter of 2019.

Research and Development

Research and development expenses during the year ended December 31, 2020 increased by $48.7 million, or 95%, when compared to the year ended December 31, 2019. The increase was primarily driven by $30.8 million of higher salary and related expenditures due primarily to headcount growth, which include a $6.1 million increase in stock-based compensation expense. In addition, there was an increase of $6.4 million of consulting costs and $9.5 million of costs related to clinical studies from our new product offerings, and a $2.0 million increase related to software licenses, production support, and other expenses.

Selling, General and Administrative

Selling, general and administrative expenses increased by $97.5 million, or 47%, in the year ended December 31, 2020 compared to the year ended December 31, 2019. The increase was primarily attributable to an increase of $73.1 million of higher salary and related expenditures due primarily to headcount growth, which include a $14.7 million increase in stock-based compensation expense, $12.7 million in additional consulting and legal fees, $6.3 million for increased marketing expenses, $4.8 million from increased business insurance costs, and $4.7 million of higher costs related to computer hardware, office supplies and other expenses. This was partially offset by a $4.1 million decrease in travel related costs due to restrictions from the COVID-19 pandemic.

Gain on Disposal of Business

Gain on disposal of business was $14.4 million in the year ended December 31, 2019 due to the gain on sale of Evercord. There was no such gain during the year ended December 31, 2020.

Interest Expense

Interest expense increased by $4.4 million, 41%, in the year ended December 31, 2020 compared to the same period in the prior year. The increase was primarily due to the issuance of the Convertible Notes in April 2020 with an outstanding principal balance of $287.5 million at a 2.25% interest rate (refer to note 10, *Debt*, for additional information).

Interest and Other Income

Interest and other income increased by $3.4 million, or 82%, in the year ended December 31, 2020, compared to the same period in the prior year, primarily due to additional interest income of $1.2 million from larger cash and cash equivalent and investments balances, and sublease and other income of $2.2 million.

Loss on Debt Extinguishment

The loss on debt extinguishment of $5.8 million was a result of the repayment of the outstanding principal and interest under the 2017 Term Loan with Orbimed in the third quarter of 2020. Refer to note 10, *Debt*, for additional information.

Liquidity and Capital Resources

We have incurred net losses each year since our inception. For the year ended December 31, 2020, we had a net loss of $229.7 million, and we expect to continue to incur losses in future periods as we continue to devote a substantial portion of our resources to our research and development and commercialization efforts for our existing and new products. As of December 31, 2020, we had an accumulated deficit of $929.3 million. We had $48.9 million in cash and cash equivalents and restricted cash, $688.6 million in marketable securities, $50.1 million of outstanding balance of the Credit Line including accrued interest, and $287.5 million outstanding principal balance on the Convertible Notes. We used a portion of the net proceeds from the offering of the Convertible Notes to repay its obligations under its 2017 Term Loan with OrbiMed (see Note 10, *Debt*).

While we have introduced multiple products that are generating revenues, these revenues have not been sufficient to fund all operations. Accordingly, we have funded the portion of operating costs that exceeds revenues through a combination of equity issuances and debt and other financings. We expect to develop and commercialize future products and, consequently, we will need to generate additional revenues to achieve future profitability and may need to raise additional equity or incur additional debt. If we raise additional funds by issuing equity securities, our stockholders would experience dilution. Additional debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any additional debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders and requires significant debt service payments, which diverts resources from other activities. Additional financing may not be available at all, or in amounts or on terms acceptable to us. If we are unable to

obtain additional financing, we may be required to delay the development and commercialization of our products and significantly scale back our business and operations.

In April 2019, we completed an underwritten equity offering and sold 6,052,631 shares of common stock at a price of $19 per share to the public. Before offering expenses of $0.6 million, we received proceeds of $108.1 million net of the underwriting discount. In October 2019, we completed another underwritten equity offering and sold 6,571,428 shares of its common stock at a price of $35 per share to the public. Before offering expenses of $0.4 million, we received proceeds of $216.2 million net of the underwriting discount. In September 2020, the Company completed an additional underwritten equity offering and sold 4,791,665 shares of its common stock at a price of $60.00 per share to the public. Before offering expenses of $0.3 million, the Company received proceeds of $271.0 million net of the underwriting discount.

Based on our current business plan, we believe that our existing cash and marketable securities will be sufficient to meet our anticipated cash requirements for at least 12 months after February 25, 2021.

Credit Line Agreement

In September 2015, we entered into the Credit Line with UBS providing for a $50.0 million revolving line of credit which can be drawn in increments at any time. The Credit Line was amended in July 2017 and bears interest at 30-day LIBOR plus 1.10%, and it is secured by a first priority lien and security interest in our money market and marketable securities held in our managed investment account with UBS. UBS has the right to demand full or partial payment of the Credit Line obligations and terminate it, in its discretion and without cause, at any time.

2017 Term Loan

In August 2017, we entered into the 2017 Term Loan with OrbiMed, which has a maximum borrowing capacity of $100.0 million. On the closing date of August 8, 2017, we borrowed $75.0 million, with the remaining $25.0 million available to borrow at our option at any time through December 31, 2019. Subsequently, we entered into several amendments and extended the expiration date until December 31, 2019 to draw the unused borrowing capacity of $50.0 million. After the amendments, the interest rate was equal to the sum of (i) 8.25% plus (ii) the higher of 1.00% or LIBOR, provided we draws the minimum capacity of $25.0 million. If the amount drawn is less than $25.0 million, the interest rate would remain at the sum of (i) 8.75% plus (ii) the higher of 1.00% or LIBOR. As a fee in consideration of extending the commitment to provide this option to draw until December 31, 2019, we issued an additional 25,000 shares of our common stock to OrbiMed. We did not exercise such option, and the right to draw the unused borrowing capacity expired. In April 2020, we used a portion of the net proceeds from the offering of the Convertible Notes to repay our obligations under the 2017 Term Loan with OrbiMed.

Convertible Notes

In April 2020, we issued $287.5 million aggregate principal amount of Convertible Notes in a private placement offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended.

The Convertible Notes are senior, unsecured obligations of the Company and bear interest at a rate of 2.25% per year, payable in cash semi-annually in arrears in May and November of each year, beginning in November 2020. The Convertible Notes mature in May 2027, unless earlier converted, repurchased or redeemed in accordance with their terms. Upon conversion, the Convertible Notes are convertible into cash, shares of our common stock or a combination of cash and shares of our common stock, at our election.

We received net proceeds from the Convertible Notes of $278.3 million, after deducting the initial purchasers' discounts and debt issuance costs. We used approximately $79.2 million of the net proceeds from the Convertible Notes offering to repay our obligations under the 2017 Term Loan with OrbiMed.

Cash Flows

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

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Cash used in operating activities	$ (182,512)	$ (63,444)	$ (70,581)
Cash used in investing activities	(331,461)	(266,353)	(5,161)
Cash provided by financing activities	500,847	340,774	113,725
Net increase (decrease) in cash, cash equivalents and restricted cash	(13,126)	10,977	37,983
Cash, cash equivalents and restricted cash, beginning of period	61,981	51,004	13,021
Cash, cash equivalents and restricted cash, end of year	$ 48,855	$ 61,981	$ 51,004

Cash Used in Operating Activities

Cash used in operating activities during the year ended December 31, 2020 was $182.5 million. The net loss of $229.7 million includes $86.4 million in non-cash charges resulting from $8.6 million of depreciation and amortization, $7.8 million non-cash lease expense, $50.2 million of stock-based compensation expense, $5.7 million premium amortization and discount accretion on investment securities, $1.3 million provision for credit losses, $7.0 million for accretion of the convertible note, $5.8 million loss on debt extinguishment, and $0.1 million of amortization of debt discount. These non-cash charges were offset by $0.2 million of inventory reserve adjustments, $0.1 million of gain on investments, and $0.2 million of non-cash benefits. Operating assets had cash outflows of $56.8 million resulting from $25.8 million increases in accounts receivable, $7.5 million increases in inventory, and $23.4 million decreases in prepaid assets, and $0.1 million increases in other assets. Operating liabilities generated cash inflows of $17.6 million resulting from a $10.3 million increase in other accrued liabilities, a $14.3 million increase in accrued compensation offset by $0.1 million decrease in accounts payable and $6.9 million decrease in deferred revenue.

Cash used in operating activities during the year ended December 31, 2019 was $63.4 million. The net loss of $124.8 million includes $34.2 million in non-cash benefits resulting from $7.7 million of depreciation and amortization, $7.7 million of amortization of the operating right-of-use assets on a straight-line basis subsequent to the adoption of ASC 842, $28.6 million of stock-based compensation expense; amortization of debt discount, premium amortization and discount accretion on investment securities totaling $1.4 million, $0.3 million of inventory excess adjustments, $1.7 million from impairment of assets, and $1.2 million in other non-cash charges. These non-cash charges were offset by $14.4 million gain on disposal of Evercord. Operating assets had $19.7 million cash outflow resulting from $13.9 million increases in prepaid and other current assets, $9.1 million increases in other assets, offset by a $2.4 million decrease in accounts receivable, $0.9 million decrease in inventory. Operating liabilities generated cash inflows of $46.9 million due to an increase of deferred revenues of $40.9 million primarily driven by prepaid license, royalties and milestone payments from our strategic partnership agreements, an increase in accrued compensation of $3.4 million, an increase in other long-term liabilities of $0.3 million, and an increase in other accrued liabilities by $8.6 million, offset by a decrease in accounts payable of $6.3 million.

Cash Used in Investing Activities

Cash used in investing activities for the year ended December 31, 2020 totaled $331.5 million, which was comprised of purchasing new investments of $685.2 million and $19.6 million in acquisitions of property, plant and equipment, offset by $343.3 million from proceeds of investments maturities and $30.0 million proceeds from sale of investments.

Cash used in investing activities for the year ended December 31, 2019 totaled $266.4 million, which was comprised of purchasing new investments of $446.6 million, acquisitions of property, plant and equipment of $5.0 million,

offset by $175.5 million in proceeds resulting from sales and maturities of investments and proceeds of $9.7 million from the disposal of Evercord.

Cash Provided by Financing Activities

Cash provided by financing activities for the year ended December 31, 2020 totaled $500.8 million comprised of $23.5 million cash proceeds from the exercise of stock options, $7.1 million in issuance of common stock under the employee stock purchase plan, $278.3 million net proceeds from the issuance of the Convertible Notes, and $270.7 million in net proceeds from our equity offering completed in the third quarter of 2020. This was offset by a $78.8 million repayment of the 2017 Term Loan with OrbiMed.

Cash provided by financing activities for the year ended December 31, 2019 totaled $340.8 million, of which $323.4 million was related to funds raised from the equity offering to sell shares of our common stock in April and October 2019, net of issuance costs. The remaining $17.4 million was proceeds from exercise of stock options and shares purchased from the employee stock purchase plan.

Contractual Obligations and Other Commitments

See "Liquidity and Capital Resources" for a description of our contractual obligations under the Credit Line and the Convertible Notes.

The following table summarizes our contractual obligations as of December 31, 2020:

	Payments Due by Period				
	Total	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years
			(in thousands)		
Operating leases	$ 28,546	$ 7,300	$ 15,378	$ 3,901	$ 1,967
Short-term debt obligations[(1)]	49,000	49,000	—	—	—
Long-term debt obligations[(2)]	287,500	—	—	—	287,500
Interest accrued on debt[(3)]	2,132	2,132	—	—	—
Inventory purchase and other contractual obligations[(4)]	76,020	50,031	16,665	9,324	—
Total	$ 443,198	$ 108,463	$ 32,043	$ 13,225	$ 289,467

(1) Represents proceeds drawn from our Credit Line.
(2) Represents the principal amount of our Convertible Notes due 2027.
(3) Represents interest accrued on our Convertible Notes and Credit Line.
(4) Represents various inventory purchase and other contractual obligations. Please refer to contractual commitments disclosures provided in Note 8, *Commitments and contingencies* for additional information.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements during the periods presented.

ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily relate to interest rates. Our Credit Line has an interest rate of one-month LIBOR plus 1.10%. The LIBOR rate is variable. An incremental change in the borrowing rate of 100 basis points would increase our annual interest expense by $0.5 million based on our $50.1 million gross debt outstanding on our Credit Line, including principal and accrued interest as of December 31, 2020. The interest rate for our Convertible Notes is fixed at 2.25% and not exposed market risk related to interest rates. Our

investment portfolio is exposed to market risk from changes in interest rates. This risk is mitigated as we have maintained a relatively short average maturity for our investment portfolio. An incremental change in the investment yield of 100 basis points would increase our annual interest income by approximately $6.9 million annually in relation to amounts we would expect to earn, based on our short-term investments as of December 31, 2020.

Foreign Currency Exchange Rate Fluctuations

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.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

NATERA, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Natera, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Natera, Inc. (the Company) as of December 31, 2020 and 2019, and the related consolidated statements of operations and comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 25, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Genetic Test Revenue

Description of the Matter	For the year ended December 31, 2020, the Company's revenue from sales of genetic tests was $367.2 million. As explained in Note 3 of the consolidated financial statements, revenue from genetic tests is recognized upon delivery of the test results. The revenue recognized for the genetic tests is based on an estimate of the total consideration expected to be received for the genetic tests. In particular, the estimate of total consideration is affected by assumptions of reimbursement from

patients and insurance carriers, including estimates for disallowed cases, discounts, refunds and doubtful accounts.

Auditing the measurement of the Company's genetic test revenue was complex as it requires significant judgement to evaluate the assumptions and inputs utilized by management in determining the total consideration to be received by the Company for delivered tests and the amounts involved are material to the financial statements taken as a whole.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design, and tested the operating effectiveness of internal controls that address the risks of material misstatement relating to the measurement of genetic test revenues. This included testing controls related to management's review of the significant assumptions and inputs used in the determination of the estimated amount that would be collected for tests performed during the period. We also tested controls over the current and historical data used by management in determining this estimate, including the completeness and accuracy of the data.

We performed audit procedures that included, among others, assessing methodologies and testing the significant assumptions discussed above and the underlying data used by the Company in its analysis. We compared the significant assumptions used by management to those used in prior periods and examined evidence regarding the changes in assumptions. We also assessed the historical accuracy of management's estimates.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2012
San Jose, California
February 25, 2021

Natera, Inc.
Consolidated Balance Sheets
(in thousands, except par value per share amount)

	December 31, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 48,668	$ 61,926
Restricted cash	187	55
Short-term investments	688,606	379,065
Accounts receivable, net of allowance of $3,080 in 2020 and $2,919 in 2019	78,565	53,351
Inventory	20,031	12,394
Prepaid expenses and other current assets	26,606	16,376
Total current assets	862,663	523,167
Property and equipment, net	33,348	23,283
Operating lease right-of-use assets	21,399	23,730
Other assets	14,743	12,476
Total assets	$ 932,153	$ 582,656
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 8,096	$ 8,604
Accrued compensation	30,371	16,088
Other accrued liabilities	60,407	49,043
Deferred revenue, current portion	50,125	56,016
Short-term debt financing	50,054	50,123
Total current liabilities	199,053	179,874
Long-term debt financing	202,493	73,656
Deferred revenue, long-term portion	22,805	23,808
Operating lease liabilities, long-term portion	21,246	26,297
Other long-term liabilities	320	310
Total liabilities	445,917	303,945
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Common stock, $0.0001 par value: 750,000 shares authorized at December 31, 2020 and 2019, respectively; 86,223 and 78,005 shares issued and outstanding at December 31, 2020 and 2019, respectively	9	8
Additional paid in capital	1,411,286	976,955
Accumulated deficit	(929,318)	(699,171)
Accumulated other comprehensive gain	4,259	919
Total stockholders' equity	486,236	278,711
Total liabilities and stockholders' equity	$ 932,153	$ 582,656

See accompanying notes.

Natera, Inc.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except per share data)

	Year Ended December 31,		
	2020	2019	2018
Revenues			
Product revenues	$ 367,211	$ 269,881	$ 240,366
Licensing and other revenues	23,794	32,447	17,288
Total revenues	391,005	302,328	257,654
Cost and expenses			
Cost of product revenues	185,865	162,604	158,081
Cost of licensing and other revenues	17,755	12,866	7,974
Research and development	100,035	51,357	51,355
Selling, general and administrative	303,627	206,176	154,872
Gain from disposal of business	—	(14,388)	—
Total cost and expenses	607,282	418,615	372,282
Loss from operations	(216,277)	(116,287)	(114,628)
Interest expense	(15,082)	(10,693)	(10,476)
Interest and other (expense) income, net	7,562	4,152	(2,729)
Loss on debt extinguishment	(5,848)	—	—
Loss before income taxes	(229,645)	(122,828)	(127,833)
Income tax expense	(98)	(1,999)	(321)
Net loss	$ (229,743)	$ (124,827)	$ (128,154)
Unrealized gain on available-for-sale securities, net of tax	3,340	1,471	214
Comprehensive loss	$ (226,403)	$ (123,356)	$ (127,940)
Net loss per share (Note 14):			
Basic and diluted	$ (2.84)	$ (1.79)	$ (2.22)
Weighted-average number of shares used in computing basic and diluted net loss per share:			
Basic and diluted	81,011	69,555	57,848

See accompanying notes.

Natera, Inc.
Consolidated Statements of Stockholders' Equity
(in thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance as of December 31, 2017	**54,040**	**6**	**472,552**	**(766)**	**(446,375)**	**25,417**
Issuance of common stock upon exercise of stock options	1,967	—	13,331	—	—	13,331
Issuance of common stock under employee stock purchase plan	391	—	3,617	—	—	3,617
Issuance of common stock upon exercise of warrants	333	—	6,762	—	—	6,762
Sale of common stock through equity offering, net of issuance costs	5,175	1	96,776	—	—	96,777
Vesting of restricted stock	177	—	—	—	—	-
Stock-based compensation	—	—	14,198	—	—	14,198
Unrealized gain on available-for sale securities	—	—	—	214	—	214
Net loss	—	—	—	—	(128,154)	(128,154)
Balance as of December 31, 2018	**62,083**	**7**	**607,236**	**(552)**	**(574,529)**	**32,162**
Issuance of common stock upon exercise of stock options	2,464	—	13,041	—	—	13,041
Issuance of common stock under employee stock purchase plan	268	—	4,323	—	—	4,323
Sale of common stock through equity offering, net of issuance costs	12,624	1	323,409	—	—	323,410
Issuance of common stock to Orbimed	25	—	507	—	—	507
Vesting of restricted stock	541	—	—	—	—	—
Stock-based compensation	—	—	28,624	—	—	28,624
Cumulative-effect adjustment upon adoption of ASU 2018-07 [(1)]	—	—	(185)	—	185	-
Unrealized gain on available-for sale securities	—	—	—	1,471	—	1,471
Net loss	—	—	—	—	(124,827)	(124,827)
Balance as of December 31, 2019	**78,005**	**8**	**976,955**	**919**	**(699,171)**	**278,711**
Issuance of common stock upon exercise of stock options	2,092	—	23,524	—	—	23,524
Issuance of common stock under ESPP	234	—	7,114	—	—	7,114
Vesting of restricted stock	1,100	—	—	—	—	—
Stock-based compensation	—	—	50,171	—	—	50,171
Unrealized gain on available-for sale securities	—	—	—	3,340	—	3,340
ASC 326 Adoption - CECL	—	—	—	—	(404)	(404)
Equity component of Convertible Notes, net	—	—	82,873	—	—	82,873
Issuance of common stock for public offering, net	4,792	1	270,649	—	—	270,650
Net loss	—	—	—	—	(229,743)	(229,743)
Balance as of December 31, 2020	**86,223**	**$ 9**	**$ 1,411,286**	**$ 4,259**	**$ (929,318)**	**$ 486,236**

(1) See Note 2 for a summary of the adjustment. The cumulative-effect adjustment to Accumulated Deficit resulting from the adoption of Accounting Standards Update No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07") as of December 31, 2019 was $0.2 million.

See accompanying notes.

Natera, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2020	2019	2018
Operating activities:			
Net loss	$ (229,743)	$ (124,827)	$ (128,154)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	8,613	7,730	7,501
Non-cash lease expense	7,834	7,748	—
Impairment of assets	—	1,671	1,544
Stock-based compensation	50,171	28,624	14,198
Inventory reserve adjustments	(163)	321	265
Premium amortization and discount accretion on investment securities	5,761	945	238
(Gain) loss on investments	(105)	(16)	43
Loss on sale of property and equipment	—	—	(12)
Loss from changes in fair value of warrants	—	—	4,118
Interest accrued for borrowings and claims related settlement	—	—	2,172
Amortization of debt discount and issuance cost	149	457	391
Other non-cash benefits	(149)	(51)	—
Gain on disposal of business	—	(14,388)	—
Provision for credit losses	1,354	1,141	(41)
Loss on Debt Extinguishment	5,848	—	—
Accretion of Convertible Note	7,048	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(25,831)	2,418	(18,093)
Inventory	(7,474)	917	(4,900)
Prepaid expenses and other current assets	(23,386)	(13,956)	2,643
Other assets	(60)	(9,099)	335
Accounts payable	(118)	(6,262)	3,781
Accrued compensation	14,284	3,419	3,069
Other accrued liabilities	10,340	8,606	(1,820)
Deferred revenue	(6,895)	40,848	42,769
Deferred rent, net of current portion	—	—	(628)
Other long term liabilities	10	310	—
Net cash used in operating activities	(182,512)	(63,444)	(70,581)
Investing activities:			
Purchases of investments	(685,239)	(446,626)	(170,268)
Proceeds from sale of investments	30,067	1,666	37,387
Proceeds from maturity of investments	343,315	173,900	131,600
Net proceeds from disposal of business	—	9,675	—
Purchases of property and equipment, net	(19,604)	(4,968)	(3,880)
Net cash used in investing activities	(331,461)	(266,353)	(5,161)
Financing activities:			
Proceeds from exercise of stock options	23,524	13,041	13,331
Proceeds from issuance of common stock under employee stock purchase plan	7,114	4,323	3,617
Proceeds from Convertible Note, net of issuance costs	278,316	—	—
Loan payment	(78,757)	—	—
Proceeds from public offering, net of issuance cost	270,650	323,410	96,777
Net cash provided by financing activities	500,847	340,774	113,725
Net increase (decrease) in cash equivalents and restricted cash	(13,126)	10,977	37,983
Beginning - cash equivalents & restricted cash	61,981	51,004	13,021
Ending - cash equivalents and restricted cash	$ 48,855	$ 61,981	$ 51,004
Supplemental disclosure of cash flow information:			
Cash paid for income taxes	$ 67	$ 2,154	$ 332
Cash paid for interest	$ 3,296	$ 12,455	$ 7,914
Non-cash investing and financing activities:			
Purchases of property and equipment in accounts payable and accruals	$ 2,781	$ 3,706	$ 268
Issuance of common stock for exercise of warrants	$ —	$ —	$ 6,762

See accompanying notes

Natera, Inc.
Notes to Consolidated Financial Statements

1. Description of Business

Natera, Inc. (the "Company") was formed in the state of California as Gene Security Network, LLC in November 2003 and incorporated in the state of Delaware in January 2007. The Company's mission is to change the management of disease worldwide, focusing on women's health, oncology, and organ health. The Company operates laboratories certified under the Clinical Laboratory Improvement Amendments ("CLIA") providing a host of cell-free DNA-based molecular testing services. The Company determines its operating segments based on the way it organizes its business to make operating decisions and assess performance. The Company operates one segment, the development and commercialization of molecular testing services, applying its proprietary technology in the fields of women's health, oncology and organ health. The Company also has a subsidiary that operates in the state of Texas.

The Company's product offerings include its Panorama Non-Invasive Prenatal Test ("NIPT") that screens for chromosomal abnormalities of a fetus as well as in twin pregnancies, typically with a blood draw from the mother; Vistara ("Vistara"), a single-gene mutations screening test performed to identify single-gene disorders; Horizon Carrier Screening ("HCS") to determine carrier status for a large number of severe genetic diseases that could be passed on to the carrier's children; Spectrum Pre-implantation Genetics ("Spectrum") to evaluate embryos to identify chromosomal anomalies or inherited genetic conditions to improve the chances of a healthy pregnancy during an in vitro fertilization ("IVF") cycle; Anora Miscarriage Test to rapidly and extensively analyze fetal chromosomes to understand the cause of miscarriage; Non-Invasive Paternity Testing ("PAT"), which is exclusively marketed and sold by a licensee from whom the Company receives a royalty; Signatera, which detects circulating tumor DNA in patients previously diagnosed with cancer to assess molecular residual disease and monitor for recurrence; and Prospera, to assess organ transplant rejection. All testing is available principally in the United States. The Company also offers its Panorama test to customers outside of the United States, primarily in Europe. The Company also offers Constellation, a cloud-based software platform that enables laboratory customers to gain access through the cloud to the Company's algorithms and bioinformatics in order to validate and launch tests based on the Company's technology. Through the third quarter of 2019, the Company offered Evercord for the collection and storage of newborn cord blood and cord tissue units, which was sold in the third quarter of 2019 to a third-party buyer.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("U.S. GAAP").

Liquidity Matters

The Company has incurred net losses since its inception and anticipates net losses and negative operating cash flows for the near future. For the year ended December 31, 2020, the Company had a net loss of $229.7 million and an accumulated deficit to $929.3 million. At December 31, 2020, the Company had $48.9 million in cash, cash equivalents and restricted cash, $688.6 million in marketable securities, $50.1 million of outstanding balance of the Credit Line (as defined in Note 10) including accrued interest, and $287.5 million outstanding principal balance of the its 2.25% Convertible Senior Notes (the "Convertible Notes"). The Company used a portion of the net proceeds from the offering of the Convertible Notes to repay its obligations under its 2017 Term Loan with OrbiMed (see Note 10, *Debt*).

While the Company has introduced multiple products that are generating revenues, these revenues have not been sufficient to fund all operations. Accordingly, the Company has funded the portion of operating costs that exceeds revenues through a combination of equity issuances, debt issuances, and other financings.

The Company continues to develop and commercialize future products and, consequently, it will need to generate additional revenues to achieve future profitability and may need to raise additional equity or debt financing. If the Company raises additional funds by issuing equity securities, its stockholders will experience dilution. Additional debt financing, if available, may involve covenants restricting its operations or its ability to incur additional debt. Any additional debt financing or additional equity that the Company raises may contain terms that are not favorable to it or its stockholders and requires significant debt service payments, which diverts resources from other activities. Additional financing may not be available at all, or in amounts or on terms acceptable to the Company. If the Company is unable to obtain additional financing, it may be required to delay the development and commercialization of its products and significantly scale back its business and operations.

In April 2019, the Company completed an underwritten equity offering and sold 6,052,631 shares of its common stock at a price of $19 per share to the public. Before offering expenses of $0.6 million, the Company received proceeds of $108.1 million net of the underwriting discount. In October 2019, the Company completed another underwritten equity offering and sold 6,571,428 shares of its common stock at a price of $35 per share to the public. Before offering expenses of $0.4 million, the Company received proceeds of $216.2 million net of the underwriting discount. In September 2020, the Company completed an additional underwritten equity offering and sold 4,791,665 shares of its common stock at a price of $60.00 per share to the public. Before offering expenses of $0.3 million, the Company received proceeds of $271.0 million net of the underwriting discount. Based on the Company's current business plan, the Company believes that its existing cash and marketable securities will be sufficient to meet its anticipated cash requirements for at least 12 months after February 25, 2021.

Principles of Consolidation

The accompanying consolidated financial statements include all the accounts of the Company and its subsidiary. The Company established a subsidiary that operates in the state of Texas to support the Company's laboratories and operational functions. All intercompany balances and transactions have been eliminated.

Use of Estimates

The preparation of financial statements in accordance with generally accepted accounting principles (GAAP) in the United States 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 revenues and expenses. Significant items subject to such estimates include the allowance for doubtful accounts based on the assessment of the collectability of customer accounts, the operating right-of-use assets and the associated lease liabilities, deferred revenues associated with unsatisfied performance obligations, accrued liability for potential refund requests, the valuation of the Convertible Notes, stock-based compensation and the related valuation of equity awards, income tax uncertainties, and the expected consideration to be received from contracts with customers. 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, including contractual terms and statutory limits; however, actual results could differ from these estimates and could have an adverse effect on the Company's financial statements.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and money market deposits with financial institutions.

Restricted Cash

Restricted cash is currently presented as a separate line item in the Company's balance sheet. In the statements of cash flows, it is included together with cash and cash equivalents and considered as part of the total ending cash balance. The following is the reconciliation between how restricted cash is presented in the balance sheet and the statements of cash flows for all periods presented:

	December 31, 2020	December 31, 2019
	(in thousands)	
Cash and cash equivalents in balance sheet	$ 48,668	$ 61,926
Restricted cash in balance sheet	187	55
Total cash, cash equivalents and restricted cash in statements of cash flows	$ 48,855	$ 61,981

Investments

Investments consist primarily of debt securities such as U.S. Treasuries, U.S. agency and municipal bonds. Management determines the appropriate classification of securities at the time of purchase and re-evaluates such determination at each balance sheet date. The Company generally classifies its entire investment portfolio as available-for-sale. The Company views its available-for-sale portfolio as available for use in current operations. Accordingly, the Company classifies all investments as short-term, irrespective of maturity date. Available-for-sale securities are carried at fair value, with unrealized gains and losses reported in accumulated other comprehensive income (loss), which is a separate component of stockholders' equity.

Fair Value

The Company discloses the fair value of financial instruments for financial assets and liabilities for which the value is practicable to estimate. Fair value is defined as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price).

Risk and Uncertainties

The Company is subject to risks and uncertainties as a result of the COVID-19 pandemic. The extent of the impact of the COVID-19 pandemic on the Company's business is highly uncertain and difficult to predict, and the full extent and duration of the impact of the COVID 19 pandemic on our business, our operations, and the global economy as a whole is not yet known. While the Company's test volumes as well as overall average selling prices increased in the year ended December 31, 2020 compared to the year ended December 31, 2019, the Company cannot predict the potential nature, magnitude and duration of the effects of the COVID-19 pandemic on the macroeconomic environment.

Financial instruments that potentially subject the Company to credit risk consist of cash, accounts receivable and investments. The Company limits its exposure to credit loss by placing its cash in financial institutions with high credit ratings. The Company's cash may consist of deposits held with banks that may at times exceed federally insured limits. The Company performs evaluations of the relative credit standing of these financial institutions and limits the amount of credit exposure with any one institution.

The Company performs evaluations of financial conditions for insurance carriers, patients, clinics and laboratory partners and generally does not require collateral to support credit sales. For the years ended December 31, 2020, 2019, and 2018, there were no customers exceeding 10% of total revenues on an individual basis. As of December 31, 2020 and 2019, there were no customers with an outstanding balance exceeding 10% of net accounts receivable.

Credit Losses

Trade accounts receivable and other receivables. The allowance for doubtful accounts is based on the Company's assessment of the collectability of customer accounts. The Company regularly reviews the allowance by considering factors such as historical experience, credit quality, the age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay.

The following is a roll-forward of the allowances for credit losses related to trade accounts receivable and other receivables for the year ended December 31, 2020:

	December 31, 2020
	(in thousands)
Beginning balance	$ 2,919
Cumulative-effect adjustment upon adoption of ASU 2016-13	404
Provision for credit losses	1,354
Write-offs	(457)
Total	$ 4,220

Available-for-sale debt securities. The amended guidance from ASU 2016-13 requires the measurement of expected credit losses for available-for-sale debt securities held at the reporting date over the remaining life based on historical experience, current conditions, and reasonable and supportable forecasts. The Company evaluated its investment portfolio under the new available-for-sale debt securities impairment model guidance. The vast majority of the Company's investment portfolio are low risk, investment grade securities.

Revenue Recognition

The Company adopted the new revenue recognition guidance, ASC 606, beginning January 1, 2018 on a full retrospective basis. ASC 606 mandates revenue recognition to be evaluated using the following five steps:

- Identification of a contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Revenue recognition when, or as, the performance obligations are satisfied

See Note 3, *Revenue Recognition,* for detailed discussions of product revenues, licensing and other revenues, and how the five steps described above are applied.

Cost of Product Revenues

The components of our cost of product revenues are material and service costs, impairment charges associated with testing equipment, personnel costs, including stock-based compensation expense, equipment and infrastructure expenses associated with testing samples, electronic medical records, order and delivery systems, shipping charges to transport samples, costs incurred from third party test processing fees, and allocated overhead such as rent, information technology costs, equipment depreciation and utilities. Costs associated with Whole Exome Sequencing ("WES") are also included, as well as labor costs, relating to our Signatera CLIA offering. Costs associated with performing tests are recorded when the test is accessioned. We expect cost of product revenues in absolute dollars to increase as the number of tests we perform increases.

However, having rapidly achieved scale, we have increased our focus on more efficient use of labor, automation, and DNA sequencing. For example, we updated the molecular and bioinformatics process for Panorama to further reduce the sequencing reagents, test steps and associated labor costs required to obtain a test result, while increasing the accuracy of the test to allow it to run with lower fetal fraction input. These improvements also reduced the frequency of the need to require blood redraws from the patient.

Cost of Licensing and Other Revenues

The components of our cost of licensing and other revenues are material costs associated with test kits sold to Constellation clients, development and support services relating to our Strategic Partnership Agreements, and costs associated with specimens and Whole Exome Sequencing ("WES"), as well as labor costs, relating to our Signatera (RUO) offering.

We currently have 15 revenue generating licensing and service agreements with laboratories under our Constellation distribution model. We consider our cost of licensing and other revenues for the Constellation software platform to be relatively low, and therefore we expect its associated gross margin is higher. We expect our cost of licensing will increase in relation to volume growth.

Research and Development

The Company records research and development costs in the period incurred. Research and development costs consist of personnel costs, contract services, cost of materials utilized in performing tests, costs of clinical trials and allocated facilities and related overhead expenses.

Advertising Costs

The Company expenses advertising costs as incurred. The Company incurred advertising costs of $0.6 million, $0.2 million, and $0.2 million for the years ended December 31, 2020, 2019, and 2018, respectively.

Product Shipment Costs

The Company expenses product shipment costs in cost of product revenues in the accompanying statements of operations. Shipping and handling costs for the years ended December 31, 2020, 2019, and 2018 were $13.3 million, $13.3 million, and $12.4 million, respectively.

Income Taxes

Income taxes are recorded in accordance with Financial Accounting Standards Board ASC *Topic 740, Income Taxes* ("ASC 740"), which provides for deferred taxes using an asset and liability approach. 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 bases using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Tax benefits are recognized when it is more likely than not that a tax position will be sustained during an audit. Deferred tax assets are reduced by a valuation allowance if current evidence indicates that it is considered more likely than not that these benefits will not be realized.

Stock-Based Compensation

Stock-based compensation related to stock options and restricted stock units (“RSUs”) granted to the Company’s employees is measured at the grant date based on the fair value of the award. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective awards. No compensation cost is recognized when the requisite service has not been met and the awards are therefore forfeited.

For stock options with market conditions, the Company derives the requisite service period using the Monte Carlo simulation model. For stock options and RSUs that vest upon meeting performance conditions or market conditions in combination with performance conditions, the Company derives the requisite service period from the grant date to the date it is probable that the vesting conditions will be met.

The Company uses the Black-Scholes option-pricing model to estimate the fair value of stock options issued to employees and non-employees. The Monte Carlo simulation model is used to estimate the fair value of market-based condition awards. The model requires the input of the Company's expected stock price volatility, the expected term of the awards, and a risk-free interest rate. Determining these assumptions requires significant judgment. See further discussion on the valuation assumptions used under Note 9.

On January 1, 2019, the Company adopted ASU 2018-07, which allows the accounting for nonemployee awards to be treated the same as for employee awards. The fair value of non-employee awards is now determined based on a one-time measurement at the grant date, and it is no longer subject to periodic remeasurement. The Company continues to recognize stock-based compensation expense as services are rendered by the non-employees over the vesting period, which

is accounted for on a straight-line basis. See further discussion under the Recently Adopted Accounting Pronouncements section within this footnote, as well as the election of certain accounting policy as a result of the adoption.

The Company uses the Black-Scholes option-pricing model and the Monte Carlo simulation model to estimate the fair value of stock options issued to employees and non-employees. The model requires the input of the Company's expected stock price volatility, the expected term of the awards, and a risk-free interest rate. Determining these assumptions requires significant judgment. See further discussion on the valuation assumptions used under Note 9.

Capitalized Software Held for Internal Use

The Company capitalizes salaries and related costs of employees and consultants who devote time to the development of internal-use software development projects. Capitalization begins during the application development stage, once the preliminary project stage has been completed, which includes successful validation and approval from management. If a project constitutes an enhancement to previously developed software, the Company assesses whether the enhancement is significant and creates additional functionality to the software, thus qualifying the work incurred for capitalization. Once the project is available for general release, capitalization ceases and the Company estimates the useful life of the asset and begins amortization. The Company periodically assesses whether triggering events are present to review internal-use software for impairment. Changes in estimates related to internal-use software would increase or decrease operating expenses or amortization recorded during the reporting period.

The Company amortizes its internal-use software over the estimated useful lives of three years. The net book value of capitalized software held for internal use was $1.7 million and $1.2 million as of December 31, 2020 and 2019, respectively. Amortized expense for amounts previously capitalized for the years ended December 31, 2020, 2019, and 2018 was $1.0 million, $1.2 million, and $1.3 million, respectively.

Accumulated Other Comprehensive Income (Loss)

Comprehensive loss and its components encompass all changes in equity other than those with stockholders, and include net loss, unrealized gains and losses on available-for-sale marketable securities.

	December 31,	
	2020	2019
	(in thousands)	
Beginning balance	$ 919	$ (552)
Net unrealized gains on available-for-sale securities, net of tax	3,340	1,471
Ending balance	$ 4,259	$ 919

Property and Equipment

Property and equipment, including purchased and internally developed software, are stated at cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets, which are generally three to five years. Leasehold improvements are amortized using the straight-line method over the estimated useful lives of the assets or the remaining term of the lease, whichever is shorter. The Company periodically reviews the depreciable lives assigned to property and equipment placed in service and change the estimates of useful lives to reflect the results of such reviews.

Impairment of Long-lived Assets

The Company evaluates its long-lived assets for indicators of possible impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. The Company then compares the carrying amounts of the assets with the future net undiscounted cash flows expected to be generated by such asset. Should an impairment exist, the impairment loss would be measured based on the excess carrying value of the asset over the asset's fair value determined using discounted estimates of future cash flows.

Inventory

Inventory is valued at the lower of the standard cost, which approximates actual cost, or market. Cost is determined using the first-in, first-out ("FIFO") method. Inventory consists entirely of supplies, which are consumed when providing its test reports, and therefore does not maintain any finished goods inventory. The Company enters into inventory purchases and commitments so that it can meet future delivery schedules based on forecasted demand for its tests.

The Company recorded inventory obsolescence charges totaling $0.2 million, $0.3 million, and $0.3 million in the years ended December 31, 2020, 2019, and 2018, respectively.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (the "FASB") under its accounting standard codifications ("ASC") or other standard setting bodies and adopted by the Company as of the specified effective date. Unless otherwise discussed below, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on its financial position or results of operations upon adoption.

Recently Adopted Accounting Pronouncements

Fair Value Measurement

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*. ASU 2018-13 proposes new disclosure requirements for unrealized gains or losses recognized in other comprehensive income that are attributable to fair value changes in assets and liabilities categorized within Level III of the fair value hierarchy, as well as quantitative information about significant unobservable inputs used to value such assets and liabilities. It eliminates the requirement to disclose the reasons for the transfers of assets and liabilities measured in fair value on a recurring basis between Level I and Level II. The Company has adopted this ASU as of January 1, 2020, which did not have a material impact on its consolidated financial statements.

Goodwill - Internal-Use Software

In August 2018, the FASB issued ASU 2018-15, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this update. The Company adopted ASU 2018-15 as of January 1, 2020 using the prospective approach, which did not have a material impact on its consolidated financial statements upon the adoption.

Credit Losses

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments* and also issued subsequent amendments to the initial guidance: ASU 2018-19, ASU

2019-04, and ASU 2019-05. The standard requires measurement and recognition of expected credit losses for financial assets by requiring an allowance to be recorded as an offset to the amortized cost of such assets. For available-for-sale debt securities, expected credit losses should be estimated when the fair value of the debt securities is below their associated amortized costs. The Company adopted ASU 2016-13, as amended, effective January 1, 2020 using the modified retrospective method and recorded a cumulative-effect adjustment of $0.4 million in accumulated deficit as of January 1, 2020.

Collaborative Arrangements

In November 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606*, which clarifies that certain transactions between participants in a collaborative arrangement should be accounted for under ASC 606 when the counterparty is a customer. In addition, Topic 808 precludes an entity from presenting consideration from a transaction in a collaborative arrangement as revenue from contracts with customers if the counterparty is not a customer for that transaction. This guidance will be effective for the Company beginning January 1, 2020. The Company has adopted this standard as of January 1, 2020, which did not have a material impact on its consolidated financial statements upon the adoption.

Income Taxes

In December 2019, the FASB issued ASU 2019-12, Simplifying the Accounting for Income Taxes (Topic 740), which simplifies the accounting for income taxes, eliminates certain exceptions within ASC 740, Income Taxes, and clarifies certain aspects of the current guidance to promote consistency among reporting entities. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020. An entity that elects early adoption must adopt all the amendments in the same period. Most amendments within this ASU are required to be applied on a prospective basis, while certain amendments must be applied on a retrospective or modified retrospective basis. The Company has adopted this standard as of September 30, 2020, which did not have a material impact on its consolidated financial statements upon the adoption.

New Accounting Pronouncements Not Yet Adopted

In March 2020, ASU 2020-04, *Reference Rate Reform (Topic 848)* was issued which provides temporary optional guidance to ease the potential burden in accounting for reference rate reform. The new guidance provides optional expedients and exceptions for applying generally accepted accounting principles to transactions affected by reference rate reform if certain criteria are met. These transactions include contract modifications, hedging relationship, and sale or transfer of debt securities classified as HTM. Early adoption of this ASU is permitted, and the Company may elect to apply the amendments prospectively through December 31, 2022. The Company's financial instruments that are in the scope of ASU 2020-04 include but are not limited to the UBS credit line agreement. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements.

In August 2020, ASU 2020-06, *Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40)* was issued which simplifies the accounting for convertible instruments. The guidance removes certain accounting models which separate the embedded conversion features from the host contract for convertible instruments. The Company expects the elimination of these models will reduce reported interest expense and increase reported net income for the Company's existing convertible instruments falling under the scope of those models before the adoption of ASU 2020-06. ASU 2020-06 requires the application of the if-converted method when calculating diluted earnings per share, eliminating the Company's ability to use the treasury stock method when certain conditions are met. The ASU is effective for annual reporting periods beginning after December 15, 2021, with early adoption permitted no earlier than fiscal years beginning after December 15, 2020. Either a modified retrospective method of transition or a fully retrospective method of transition is permissible for the adoption of this standard. Management is currently evaluating the impact of the adoption of this ASU on the Company's consolidated financial statements.

In October 2020, ASU 2020-10, *Codification Improvements*, was issued which simplifies the existing codification. The guidance includes presentation disclosures for the amount of income tax expense or benefit related to other comprehensive income. ASU 2010-10 is effective for fiscal years beginning after December 15, 2020, including

interim periods within those fiscal years. Early application of the amendments is permitted for public business entities for any annual or interim period for which financial statements have not been issued. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements.

3. Revenue Recognition

The Company recognizes revenues when, or as, performance obligations in the contracts are satisfied, in the amount reflecting the expected consideration to be received from the goods or services transferred to the customers.

Product Revenues

Product revenues are derived from contracts with insurance carriers, laboratory partners and patients in connection with sales of prenatal genetic and other diagnostics tests. The Company enters into contracts with insurance carriers with primarily payment terms related to tests provided to the patients who have health insurance coverage. Insurance carriers are considered as third-party payers on behalf of the patients, and the patients are considered as the customers who receive genetic test services. Tests may be billed to insurance carriers, patients, or a combination of insurance carriers and patients. Further, the Company sells tests to a number of domestic and international laboratory partners and identifies the laboratory partners as customers provided that there is a test services agreement between the two parties.

A performance obligation represents a promise in a contract to transfer a distinct good or service to a customer, which represents a unit of accounting in accordance with ASC 606. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. The Company considers a performance obligation satisfied once the Company has transferred control of a good or service to the customer, meaning the customer has the ability to use and obtain the benefit of the good or service. A portion of the consideration should be allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company evaluates its contracts with insurance carriers, laboratory partners and patients and identifies the performance obligations in those contracts, which are the delivery of the test results.

The total consideration which the Company expects to collect in exchange for the Company's products is an estimate and may be fixed or variable. Consideration includes reimbursement from both patients and insurance carriers, adjusted for variable consideration related to disallowed cases, discounts, refunds and doubtful accounts, and is estimated using the expected value approach. For insurance carriers with similar reimbursement characteristics, the Company uses a portfolio of relevant historical data to estimate variable consideration and total collections for the Company's products. The Company constrains the estimated variable consideration when it assesses it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. The consideration expected from laboratory partners usually includes a fixed amount, but it can be variable depending on the volume of tests performed, and the Company determines the variable consideration using the expected value approach. For insurance carriers, laboratory partners and patients, the Company allocates the total consideration to a single performance obligation, which is the delivery of the test results to the customers.

When assessing the total consideration for insurance carriers and patients, a certain percentage of revenues is further constrained for estimated refunds.

The Company generally bills an insurance carrier, a laboratory partner or a patient upon delivery of test results. The Company also bills patients directly for out-of-pocket costs involving co-pays and deductibles that they are responsible for. Tests billed to insurance carriers and directly to patients usually take an average of nine to twelve months to collect payment, and for tests billed to laboratory distribution partners, the average collection cycle takes approximately two to three months. At times, the Company may or may not get reimbursed for the full amount billed. Further, the Company may not get reimbursed at all for tests performed if such tests are not covered under the insurance carrier's reimbursement policies or the Company is not a qualified provider to the insurance carrier, or if the tests were not previously authorized.

Product revenue is recognized in an amount that equals to the total consideration (as described above) at a point in time when the test results are delivered. The Company reserves certain amounts in other accrued liabilities on the balance sheet in anticipation of requests for refunds of payments previously made by insurance carriers, which are accounted for as reductions in product revenues in the statement of operations and comprehensive loss. During the years ended December 31, 2020, 2019, and 2018, $5.4 million, $2.4 million, and $3.3 million, respectively, were released from amounts previously held in reserves in other accrued liabilities and recognized as product revenue.

Licensing and Other Revenues

The Company recognizes licensing revenues from its cloud-based distribution service offering, Constellation, by granting licenses to its licensees to use certain of the Company's proprietary intellectual properties and cloud-based software and IVD kits. The Company also recognizes revenues from the Signatera research use only ("RUO") offering, the Qiagen LLC, BGI Genomics Co., Ltd., and Foundation Medicine, Inc. agreements.

Constellation

The laboratory partners with which the Company enters into a licensing arrangement represent the licensees and are identified as customers. The licensees do not have the right to possess the Company's software, but rather receive professional services through the cloud software. These arrangements often include: (i) the delivery of the services through the cloud software, (ii) the necessary support and training, and (iii) the IVD kits to be consumed as tests are processed. The Company does not consider the software as a service, the support and training as being distinct in the context of such arrangements, and therefore they are combined as a single performance obligation. The software, support and training are delivered simultaneously to the licensees over the term of the arrangement.

The Company bills the majority of licensees, who process the tests in their laboratories, a fixed price for each test processed. Licensing revenues are recognized as the performance obligations are satisfied (i.e., upon the delivery of each test) and reported in licensing and other revenues in the statements of operations and comprehensive loss.

Signatera

The Company enters into agreements with pharmaceutical companies to utilize the Company's Signatera tests typically to study new cancer treatments or to validate the outcomes of clinical trials for which the pharmaceutical companies are identified as customers. Such arrangements generally involve performing whole exome sequencing ("WES") services and the testing of patient samples to detect cancer mutations using its Signatera test. Each test is billable to customers and the personalized cancer profile also makes each test distinct within the context of the contract as customers can exercise control over the test results upon delivery. The Company allocates the contract price to each test using the stand-alone selling price for each service and recognizes the test processing revenue as individual test results are delivered to customers.

Qiagen

In March 2018, the Company entered into a License, Development and Distribution Agreement ("the Qiagen Agreement") with Qiagen under which the Company granted Qiagen a license to develop, manufacture, distribute and commercialize NGS-based genetic testing assays and sequencing systems utilizing such assays, which incorporate the Company's proprietary technology. According to the terms of the agreement, the Company is initially entitled to receive an upfront license fee and prepaid royalties totaling $40.0 million, which was fully collected in 2018. All or a portion of the prepaid royalties are refundable in limited circumstances. In addition, the Company was entitled to potential milestone payments from Qiagen upon the successful achievement of certain volume, regulatory and commercial milestones, and tiered royalties of $10.0 million, of which the Company received $5.0 million due December 31, 2018. The Qiagen Agreement has a term of 10 years and expires in March 2028, and it may be terminated earlier in certain circumstances. Upon termination of the Qiagen Agreement, the license granted to Qiagen will also terminate, except in certain limited

circumstances. The Company provided to Qiagen standard indemnification protections, which is part of an assurance that the license meets the contract's specifications and is not an obligation to provide goods or services.

In October 2019, Qiagen announced that it had discontinued the development of its next generation sequencing platform and is now partnered with another supplier to develop next generation sequencing based tests. The Company subsequently notified Qiagen of its material breach of the Qiagen Agreement.

Effective in March 2020, the Company terminated the Qiagen Agreement, and all or a portion of the prepaid royalties are refundable in limited circumstances, including upon termination in certain circumstances. The parties are currently in discussions regarding their respective obligations resulting from the termination of the Qiagen Agreement. Because the amount of prepaid royalty subject to refund is not finalized, the refund amount, if any, is uncertain as of December 31, 2020. As a result, this variable consideration was not included in the transaction price in 2020 to mitigate the risk of significant reversal of the cumulative revenue in the subsequent periods. Accordingly, no revenues were recognized on the prepaid royalties which may be subject to a refund.

BGI Genomics

In February 2019, the Company entered into a License Agreement with BGI Genomics Co., Ltd. ("BGI Genomics") to develop, manufacture, and commercialize NGS-based genetic testing assays for clinical and commercial use. The agreement has a term of ten years and expires in February 2029. According to the agreement, the Company is entitled to a total of $50 million, comprised of upfront technology license fees, prepaid royalties relating to future sales of licensed products and performance of assay interpretation services, and milestone payments. During the three months ended June 30, 2019, the Company received $35.6 million, net of withholding taxes, of these amounts. The Company recorded a receivable of $2.5 million upon achieving the first milestone as of June 30, 2019, which was received in January 2021. Also, as required by the agreement with BGI Genomics, in June 2019 the Company prepaid $6.0 million to BGI Genomics for future sequencing services and $4.0 million for future sequencing equipment. These advance payments for equipment and services to be received in future periods aggregating to $10.0 million were recorded in long-term advances on the Balance Sheet.

Pursuant to the agreement, the Company licensed its intellectual property and will provide development services. Following completion of development services, the Company will provide assay interpretation services over the term of the agreement. The Company concluded that the license is not a distinct performance obligation as it does not have a stand-alone value to BGI Genomics apart from the related development services. Therefore, license and related development services, for each of NIPT and Oncology products, represents a single performance obligation.

The Company is responsible for granting a license to specified intellectual property and performing certain development activities to customize its genetic testing assays for oncology and NIPT for use with BGI Genomics' sequencing instruments and proprietary technology platform. Revenue associated with these performance obligations is recognized over time using the input method, based on costs incurred to perform the development services, since the level of costs incurred over time best reflect the transfer of development services. Revenue associated with the assay interpretation services will be recognized upon delivery of these services. Funds received in advance are recorded as deferred revenue and will be recognized as the related services are delivered.

The initial transaction price was primarily comprised of license and milestone fees. The Company constrains the estimated variable consideration when it assesses it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. Certain milestone and license fees were constrained and not included in the transaction price due to the uncertainties of research and development. The Company re-evaluates the transaction price, including the estimated variable consideration included in the transaction price and all constrained amounts, in each reporting period and as uncertain events are resolved or other changes in circumstances occur. The allocation of the transaction price was performed based on standalone selling prices, which are based on estimated amounts that the Company would charge for a performance obligation if it were sold separately.

In accordance with ASC 340-40, any incremental costs incurred to obtain a contract with a customer are required to be capitalized and amortized over the period in which the goods and services are transferred to the customer. The

Company has elected to apply a practical expedient under ASC 340-40 to recognize the incremental costs of obtaining a contract as an expense when incurred provided that the amortization period of such costs, if capitalized, is one year or less. The incremental costs incurred in connection with the BGI Genomics arrangement is not material on an accumulated basis and therefore will not be capitalized on the balance sheet but will be expensed as incurred.

Foundation Medicine, Inc.

In August 2019, the Company entered into a License and Collaboration Agreement ("the Foundation Medicine Agreement") with Foundation Medicine, Inc. ("Foundation Medicine") to develop and commercialize personalized circulating tumor DNA monitoring assays, for use by biopharmaceutical and clinical customers who order Foundation Medicine's FoundationOne CDx. The agreement has an initial term of five years, expiring in August 2024, with automatic renewals thereafter for successive one-year terms, unless the agreement is earlier terminated in accordance with its terms. Natera and Foundation Medicine will share the revenues generated from both biopharmaceutical and clinical customers in accordance with the terms of the agreement. The agreement provides for approximately $13.3 million in upfront licensing fees and prepaid revenues payable to the Company, and up to approximately $32.0 million in minimum annual payments and payments tied to the Company's achievement of certain developmental, regulatory, and commercial milestones. As of December 31, 2019, the Company received $16.3 million of these amounts, of which $3.0 million was for achieving certain milestones, and $13.3 million was for licensing fees and prepaid revenue. No additional payments have been received in the year ending December 31, 2020.

Pursuant to the agreement, the Company will provide development services in conjunction with granting the use of the Company's intellectual property. Following completion of those development services, the Company will provide assay testing services over the term of the agreement. The Company has concluded that the license is not a distinct performance obligation as it is highly interrelated and interdependent with the related development services. Therefore, license and related development services represent a single performance obligation.

The Company is responsible for providing the technology license and certain development services that are required to customize its proprietary Signatera test to work with Foundation Medicine's FoundationOne CDx. The intellectual property has been licensed to Foundation Medicine for the customized test. In addition, the Company is responsible for delivering clinical study plans in order to demonstrate efficacy of the customized test. Revenues associated with each of the performance obligations are recognized over time using the input method, based on costs incurred to perform the development services, since the level of costs incurred over time best reflect the transfer of development services. Revenue associated with the assay testing services will be recognized upon delivery of these services. Funds received in advance are recorded as deferred revenue and will be recognized as the related services are delivered.

The initial transaction price was primarily comprised of license and milestone fees. The Company constrains the estimated variable consideration when it assesses it is probable that a significant reversal in the amount of cumulative revenue recognized may occur in future periods. Certain milestone fees were constrained and not included in the transaction price due to the uncertainties of research and development. The Company re-evaluates the transaction price, including the estimated variable consideration included in the transaction price and all constrained amounts, in each reporting period and as uncertain events are resolved or other changes in circumstances occur. The allocation of the transaction price was performed based on standalone selling prices, which are based on estimated amounts that the Company would charge for a performance obligation if it were sold separately.

In accordance with ASC 340-40, any incremental costs incurred to obtain a contract with a customer are required to be capitalized and amortized over the period in which the goods and services are transferred to the customer. The Company has elected to apply a practical expedient under ASC 340-40 to recognize the incremental costs of obtaining a contract as an expense when incurred provided that the amortization period of such costs, if capitalized, is one year or less.

Disaggregation of Revenues

The Company measures its performance results primarily based on revenues recognized from the three categories described below. The following table shows disaggregation of revenues by payer types:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Insurance carriers	$ 300,220	$ 210,919	$ 193,895
Laboratory partners	58,196	59,876	44,062
Patients	32,589	31,533	19,697
Total revenues	$ 391,005	$ 302,328	$ 257,654

The following table presents total revenues by geographic area based on the location of the Company's payers:

	Year ended December 31,		
	2020	2019	2018
		(in thousands)	
United States	$ 365,660	$ 260,846	$ 225,931
Americas, excluding U.S.	3,469	3,218	3,472
Europe, Middle East, India, Africa	14,332	15,434	20,866
Asia Pacific and Other	7,544	22,830	7,385
Total	$ 391,005	$ 302,328	$ 257,654

The following table summarizes the Company's beginning and ending balances of accounts receivable and deferred revenues:

	Balance at December 31, 2020	Balance at December 31, 2019
	(in thousands)	
Assets:		
Accounts receivable	$ 78,565	$ 53,351
Liabilities:		
Deferred revenue, current portion	$ 50,125	$ 56,016
Deferred revenue, long-term portion	22,805	23,808
Total deferred revenues	$ 72,930	$ 79,824

The following table shows the changes in the balance of deferred revenues during the period:

	Deferred Revenues
	(in thousands)
Balance at December 31, 2019	$ 79,824
Increase in deferred revenues	2,397
Reclasses from deferred revenues to other to short-term liabilities	(799)
Revenue recognized during the period that was included in deferred revenues at the beginning of the period	(7,246)
Revenue recognized from performance obligations satisfied within the same period	(1,246)
Balance at December 31, 2020	$ 72,930

During the year ended December 31, 2020, revenue recognized that was included in the deferred revenue balance at the beginning of the period totaled $7.2 million with approximately $6.8 million related to BGI Genomics and Foundation Medicine, and the remaining $0.4 million related to genetic testing services. During the year ended December 31, 2020, $1.2 million was recognized as deferred revenue and later earned as revenue in the same period. The current portion of deferred revenue includes $3.9 million from the BGI Genomics agreement and $6.2 million from the Foundation Medicine agreement.

4. Fair Value Measurements

The Company's financial assets and liabilities carried at fair value are comprised of investment assets that include money market and investments, and a liability for common stock warrants.

The fair value accounting guidance requires that assets and liabilities be carried at fair value and classified in one of the following three categories:

Level I: Quoted prices in active markets for identical assets and liabilities that the Company has the ability to access.

Level II: Observable market-based inputs or unobservable inputs that are corroborated by market data, such as quoted prices, interest rates, and yield curves.

Level III: 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.

Assets and Liabilities That Are Measured at Fair Value on a Recurring Basis

The following table represents the fair value hierarchy for the Company's financial assets and financial liabilities measured at fair value on a recurring basis:

	December 31, 2020				December 31, 2019			
	Level I	Level II	Level III	Total	Level I	Level II	Level III	Total
				(in thousands)				
Financial Assets:								
Money market deposits	$ 28,990	—	$ —	$ 28,990	$ 22,477	$ —	$ —	$ 22,477
U.S. Treasury securities	597,744	—	—	597,744	293,157	—	—	293,157
Corporate bonds and notes	—	12,328	—	12,328	—	—	—	—
Municipal securities	—	78,534	—	78,534	—	85,908	—	85,908
Total financial assets	$ 626,734	$ 90,862	$ —	$ 717,596	$ 315,634	$ 85,908	$ —	$ 401,542

During the year ended December 31, 2020, the Company did not make any transfers between Level I and Level II assets.

5. Financial Instruments

The Company elected to invest a portion of its cash assets in conservative, income earning, liquid investments. Cash equivalents and investments, all of which are classified as available-for-sale securities, consisted of the following:

	December 31, 2020				December 31, 2019			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Estimated Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Estimated Fair Value
				(in thousands)				
Money market deposits	$ 28,990	$ —	$ —	$ 28,990	$ 22,477	$ —	$ —	$ 22,477
U.S. Treasury securities (1)	594,252	3,512	(20)	597,744	292,506	731	(80)	293,157
Corporate bonds and notes (1)	12,331	2	(5)	12,328	—	—	—	—
Municipal securities	77,764	796	(26)	78,534	85,638	277	(7)	85,908
Total	$ 713,337	$ 4,310	$ (51)	$ 717,596	$ 400,621	$ 1,008	$ (87)	$ 401,542
Classified as:								
Cash equivalents (2)				$ 28,990				$ 22,477
Short-term investments				688,606				379,065
Total				$ 717,596				$ 401,542

(1) Per the Company's investment policy, all U.S. Treasury securities, corporate bonds and notes are classified as short-term investments irrespective of holding period.

(2) Cash equivalents includes cash sweep accounts and U.S. Treasury money market mutual funds.

The Company invests in U.S. Treasuries, U.S. agency and high quality municipal bonds which mature at par value and are all paying their coupons on schedule. The Company has therefore concluded there is currently no other than temporary impairment of its investments and will continue to recognize unrealized gains and losses in other comprehensive income (loss). During the year ended December 31, 2020, the Company sold $30.1 million of investments. There were no sales of investments during the year ended December 31, 2019. During the year ended December 31, 2020, the amount of gross realized gains and realized losses upon sales of investments were insignificant. The Company uses the specific investment identification method to calculate realized gains and losses and amounts reclassified out of other comprehensive income to net income. As of December 31, 2020, the Company had 13 investments in an unrealized loss position in its portfolio. An allowance for credit losses was not necessary since the fair market value for a majority of the available-for-sale securities increased as a result of a significant average yield rate decrease for similar securities as of December 31, 2020.

In accordance with the adoption of ASU 2016-13 (Topic 326), the Company has assessed the unrealized loss position for available-for-sale debt securities for which an allowance for credit losses has not been recorded. The fair value for investment securities at an unrealized loss position as of December 31, 2020 was $144.0 million. The aggregate amount of unrealized losses of these securities were not significant, and the impact of the securities in a continuous loss position to the consolidated statements of operations and comprehensive loss were not material as of December 31, 2020.

The following table summarizes the Company's portfolio of available-for-sale securities by contractual maturity as of December 31, 2020:

	December 31, 2020	
	Amortized Cost	Fair Value
	(in thousands)	
Less than or equal to one year	$ 322,416	$ 323,002
Greater than one year but less than five years	361,931	365,604
Total	$ 684,347	$ 688,606

6. Balance Sheet Components

Credit Losses

The following is a roll-forward of the allowances for credit losses related to trade accounts receivable and other receivables for the years ended December 31, 2020, 2019, and 2018:

	December 31, 2020	December 31, 2019	December 31, 2018
		(in thousands)	
Beginning balance	$ 2,919	$ 1,788	$ 2,000
Cumulative-effect adjustment upon adoption of ASU 2016-13	404	—	—
Provision for credit losses	1,354	1,141	(41)
Write offs	(457)	(10)	(171)
Ending balance	$ 4,220	$ 2,919	$ 1,788

Property and Equipment, net

The Company's property and equipment consisted of the following:

	Useful Life	December 31, 2020	December 31, 2019
		(in thousands)	
Machinery and equipment	3-5 years	$ 51,001	$ 36,414
Furniture and fixtures	3 years	1,376	1,376
Computer equipment	3 years	2,428	1,828
Capitalized software held for internal use	3 years	7,417	5,917
Leasehold improvements	Life of lease	14,810	11,556
Construction-in-process		6,370	7,716
		83,402	64,807
Less: Accumulated depreciation and amortization		(50,054)	(41,524)
Total Property and Equipment, net		$ 33,348	$ 23,283

All of the Company's long-lived assets are located in the United States.

Other Assets

In August 2017, the Company entered into the 2017 Term Loan with OrbiMed (as described in Note 10, *Debt*) and issued 300,000 shares of its common stock in exchange for OrbiMed's initial and remaining funding commitments. In April 2019, the Company issued an additional 25,000 shares of its common stock to OrbiMed for extending the expiration date to draw the unused borrowing capacity until December 31, 2019. The Company previously classified $1.2 million out of the total debt issuance costs in noncurrent assets for the unused borrowing capacity of $50.0 million. The debt discount was amortized on a straight-line basis over the remaining term of the loan. Since the option to draw the unused borrowing capacity has expired as of December 31, 2019, the Company reclassed $0.9 million, the unamortized portion of debt issuance cost previously classified in noncurrent assets, to long-term debt financing. Subsequently, the debt was extinguished (See Note 10, *Debt*) and accordingly, as of December 31, 2020, total unamortized remaining in noncurrent assets was zero. Additionally, as of December 31, 2020, other assets also included long-term advances to BGI Genomics of $10.0 million for future sequencing equipment and services.

Accrued Compensation

The Company's accrued compensation consisted of the following:

	December 31, 2020	December 31, 2019
	(in thousands)	
Accrued paid time off	$ 2,260	$ 1,850
Accrued commissions	12,686	5,767
Accrued bonuses	9,635	5,710
Other accrued compensation	5,790	2,761
Total accrued compensation	$ 30,371	$ 16,088

Other Accrued Liabilities

The Company's other accrued liabilities consisted of the following:

	December 31, 2020	December 31, 2019
	(in thousands)	
Reserves for refunds to insurance carriers	$ 17,366	$ 9,410
Accrued charges for third-party testing	5,141	8,408
Testing and laboratory materials from suppliers	2,720	4,301
Marketing and corporate affairs	3,325	2,957
Legal, audit and consulting fees	4,189	2,873
Accrued shipping charges	1,604	305
Sales tax payable	1,723	1,691
Accrued specimen service fees	2,355	2,269
Clinical trials and studies	2,353	1,092
Operating lease liabilities, current portion	7,300	5,739
Fixed asset purchases	1,691	1,482
Other accrued interest	1,078	—
Other accrued expenses	9,562	8,516
Total other accrued liabilities	$ 60,407	$ 49,043

Reserves for refunds to insurance carriers include overpayments from and amounts to be refunded to insurance carriers, and additional amounts that the Company estimates for potential refund requests during the period. When the Company releases these previously accrued amounts, they are recognized as product revenues in the statements of operations and comprehensive loss.

The following table summarizes the reserve balance and activities for refunds to insurance carriers for the year ended December 31, 2020:

	December 31, 2020	December 31, 2019
	(in thousands)	
Beginning balance	$ 9,410	$ 10,012
Additional reserves	19,427	9,560
Refunds to carriers	(6,066)	(7,752)
Reserves released to revenue	(5,405)	(2,410)
Ending balance	$ 17,366	$ 9,410

7. Leases

Operating Leases

In September 2015, the Company's subsidiary entered into a long-term lease agreement for laboratory and office space totaling approximately 94,000 square feet in Austin, Texas. The lease term is 132 months beginning in December 2015 and expiring in November 2026 with monthly payments beginning in December 2016.

In October 2016, the Company entered into a lease directly with its landlord for laboratory and office spaces at its facilities located in San Carlos, California. The Company currently occupies approximately 113,000 square feet comprised of two office spaces (the "First Space" and the "Second Space"). The First Space covers approximately 88,000 square feet, and the Second Space totals approximately 25,000 square feet. The term of this lease is approximately 84 months and expires in October 2023. This lease contains an option to renew the lease term for five years, but the fair market rent amount upon renewal is not available from the landlord. In January 2021, the Company entered

into an amendment of the lease to extend the term for 48 months to October 2027. The combined annual rent for the First Space and Second Space will be $9.3 million commencing in October 2023.

The Company entered into a lease agreement commencing June 2018 for its cord blood tissue storage facility in Tukwila, Washington that covers approximately 10,000 square feet. The lease term is 62 months expiring in July 2023. The Company has the option to extend this lease for five years, and the fair market rent upon renewal is not determinable. However, since the Company sold its business related to cord blood and tissue storage in September 2019, the Company has subleased the facility and does not intend to exercise its option to renew the facility upon expiration.

In addition, the Company entered into a sublease agreement in June 2019 with a third party to sublease 25,879 square feet of space located on the third floor of the San Carlos, California building while maintaining its primary obligation as the intermediate lessor. The term of this lease is approximately 48 months commencing in October 2019 and expiring in September 2023. The annual lease payment starts at $1.9 million and will escalate annually commencing in October 2020. In February 2021, the Company entered into an amendment of the San Carlos sublease agreement whereas the third party will initially return approximately 3,474 rentable square feet with the remainder of the subleased premises, consisting of approximately 22,405 rentable square feet, between October 2021 and December 2021.

The Company entered into a lease agreement in November 2020 to lease 11,395 square feet of space located in South San Francisco, California over a 36-month term. The premises will be used for general office, laboratory and research use. The annual lease payment starts at $0.9 million and will escalate annually commencing in December 2021.

The Company has also entered into leases of individual workspaces at premises located in different locations on a month-to-month basis and is not committed to an established lease term. The Company has elected to not recognize them as the right-of-use assets on the balance sheet as they are all considered as short-term leases. Expenses associated with short-term lease were not significant for the year ended December 31, 2020.The operating lease right-of-use assets are classified as noncurrent assets in the balance sheet. The corresponding lease liabilities are separated into current and long-term portions as follows:

	December 31, 2020
	(in thousands)
Operating lease liabilities, current portion included in other accrued liabilities	$ 7,300
Operating lease liabilities, long-term portion	21,246
Total operating lease liabilities	$ 28,546

The initial recognition of the operating lease liabilities was measured as the present value of the future minimum lease payments using a discount rate determined as of January 1, 2019. The operating right-of-use assets was calculated as the operating lease liabilities discounted at the present value, less the amount of unamortized tenant improvement allowance and deferred rent. The discount rate used was the Company's incremental borrowing rate given that the implicit rate to each lease was not readily determinable. In accordance with ASC 842, the incremental borrowing rate was estimated as the annual percentage yield resulting from a corporate debt financing over a loan term approximating the remaining term of each lease, with the effect of certain credit risk rating. For the year ended December 31, 2020, we had noncash investing activities of $2.4 million related to right-of-use assets. As of December 31, 2020, the weighted-average remaining lease term was 2.28 years and the weighted-average discount rate was 10.68%.

The Company continues to recognize lease expense on a straight-line basis. The lease expense includes the amortization of the right-of-assets with the associated interest component estimated by applying the effective interest method. Total lease expense recognized in the statements of operations and comprehensive loss were $7.8 million, $7.8 million, and $7.4 million for the years ended December 31, 2020, 2019 and 2018. Cash paid for amounts in the measurement of operating lease liabilities totaled $9.0 million, $8.6 million and $7.9 million for the years ended December 31, 2020, 2019 and 2018, respectively.

The present value of the future annual minimum lease payments under all non-cancellable operating leases as of December 31, 2020 are as follows:

	Operating Leases
	(in thousands)
Year ending December 31:	
2021	$ 9,958
2022	10,242
2023	8,670
2024	2,400
2025	2,447
2026 and thereafter	2,283
Total future minimum lease payments	36,000
Less: imputed interest	(7,454)
Operating lease liabilities	$ 28,546

8. Commitments and Contingencies

Legal Proceedings

From time to time, the Company is involved in disputes, litigation, and other legal actions, including those with respect to intellectual property, employment, testing and other matters. Such actions may include allegations of negligence, products/professional liability or other similar legal claims, and could involve claims for substantial compensatory and/or punitive damages or claims for indeterminate amounts of damages. The Company is aggressively defending and/or prosecuting its current litigation matters, but cannot provide any assurance as to the ultimate outcome or that an adverse resolution would not have a material adverse effect on its financial condition and results of operations. There are many uncertainties associated with any litigation and these actions or other third party claims against the Company, or by the Company against third parties, may cause the Company to incur costly litigation and/or substantial settlement charges. In addition, the resolution of any intellectual property litigation may require the Company to make royalty payments, which could adversely affect gross margins in future periods. If this were to occur, the Company's business, financial condition, results of operations, and cash flows could be adversely affected.

The Company assesses legal contingencies to determine the degree of probability and range of possible loss for potential accrual in its financial statements. When evaluating legal contingencies, the Company may be unable to provide a meaningful estimate due to a number of factors, including the procedural status of the matter in question, the presence of complex or novel legal theories, and/or the ongoing discovery and development of information important to the matters. In addition, damage amounts claimed in litigation against it may be unsupported, exaggerated or unrelated to possible outcomes, and as such are not meaningful indicators of its potential liability. During the periods presented, the Company has not recorded any accrual for loss contingencies associated with such legal proceedings, determined that an unfavorable outcome is probable or reasonably possible, or determined that the amount or range of any possible loss is reasonably estimable.

Intellectual Property Litigation Matters.

In March 2018, Illumina, Inc., or Illumina, filed a lawsuit (the '831 lawsuit) against the Company in the United States District Court for the Northern District of California, alleging that the Company's Panorama test infringes certain claims of U.S. Patent No. 9,493,831 (the '831 patent) and seeking, among other relief, damages or other monetary relief including costs and pre- and post-judgment interest, treble damages, injunctive relief, attorneys' fees and costs. In August 2018, the Company filed a counterclaim against Illumina, alleging that certain of Illumina's NIPT tests infringe on the Company's U.S. Patent No. 8,682,592 (the '592 patent) and seeking, among other relief, damages or other monetary relief including costs and pre- and post-judgment interest, treble damages, injunctive relief, attorneys' fees and costs (together with the '831 lawsuit, the "Illumina Litigation"). In May 2020, the parties settled the Illumina Litigation pursuant to which all claims in the Illumina Litigation, including compulsory counterclaims, relating to NIPT and PGS/PGD activities occurring before the date of such settlement were resolved and dismissed. Separately, on December 11, 2020, the United States Patent and Trademark Office issued a final written decision affirming the validity of all claims challenged by Illumina in its *inter partes* review petition filed in June 2019. Illumina has affirmatively waived its right to appeal this decision, leaving the previously challenged claims of the '592 patent valid and fully enforceable.

The Company is involved in patent litigation against CareDx, Inc., or CareDx, in the United States District Court for the District of Delaware ("CareDx's Patent Case"). CareDx alleges, in a complaint filed on March 26, 2019 and amended on March 23, 2020, that the Company infringed three patents. The complaint seeks unspecified damages and injunctive relief. The Company has also alleged that CareDx infringes two of Natera's patents, seeking unspecified damages and injunctive relief. The Court has set a trial date of April 25, 2022. Natera is also opposing a European patent held by CareDx, with oral proceedings scheduled for May 11, 2021.

The Company is also the subject of a lawsuit filed by CareDx against the Company on April 10, 2019 in the United States District Court for the District of Delaware, alleging false advertising, trademark disparagement, unfair competition, and unfair or deceptive trade practices based on statements describing studies that concern the Company's technology and CareDx's technology ("CareDx's Advertising Case"). The complaint seeks unspecified damages and injunctive relief. On May 30, 2019, the Company filed a motion to dismiss the entirety of CareDx's Advertising Case for failure to state a claim. On February 7, 2020, CareDx filed an amended complaint withdrawing its trademark disparagement claim. On February 18, 2020, the Company filed a counterclaim against CareDx in the United States District Court for the District of Delaware, alleging false advertising, unfair competition and deceptive trade practices and seeking unspecified damages and injunctive relief. On December 2, 2020 the parties cross-moved for partial summary judgment.

The Company has filed suit against ArcherDX, Inc., or ArcherDX, in the United States District Court for the District of Delaware, alleging, in complaints filed on January 27, 2020, April 15, 2020 and August 6, 2020, that certain ArcherDX DNA oncology products infringe four of Natera's patents. Natera is seeking monetary damages and injunctive relief. On June 4, 2020, ArcherDX filed a motion to dismiss aspects of the Company's case, including to invalidate several of Natera's asserted patents. That motion was denied in its entirety on October 2, 2020. The cases were consolidated on September 25, 2020. On January 12, 2021, Company filed a second amended complaint naming an additional Archer DX entity, ArcherDx LLC, and Invitae Corp. as defendants. The second amended complaint seeks unspecified monetary damages and injunctive relief.

The Company is the subject of a lawsuit filed against it by Ravgen, Inc. on June 1, 2020 in the United States District Court for the Western District of Texas, alleging infringement of two Ravgen patents. The complaint seeks monetary damages and injunctive relief. Trial is tentatively set for December 13, 2021.

The Company filed suit against Progenity, Inc., or Progenity, in the United States District Court for the Western District of Texas on June 17, 2020 and in the United States District Court for the Northern District of Texas on June 19, 2020, in each case alleging that Progenity's NIPT test infringes six of Natera's patents. The complaints seek treble damages and injunctive relief. On or about July 2, 2020, Progenity filed suit against the Company in the United States District Court for the Southern District of California, seeking declaratory judgment of non-infringement of Natera's asserted patents. Progenity has petitioned the Patent Trial and Appeal Board of the United States Patent and Trademark Office for *inter partes* review of Natera's asserted patents.

On October 6, 2020, the Company filed suit against Genosity Inc., or Genosity, in the United States District Court for the District of Delaware, alleging that various Genosity oncology products infringe a Natera patent. The complaint seeks unspecified monetary damages and injunctive relief.

On January 20, 2021, the Company filed suit against Inivata, Inc. and Inivata Ltd. (collectively "Inivata") in the United States District Court for the District of Delaware, alleging that various Inivata oncology products infringe two Natera patents. The complaint seeks unspecified monetary damages and injunctive relief.

Other Litigation Matters.

On or about August 13, 2019, a suit was filed against the Company in the Circuit Court of Cook County, Illinois by a patient alleging claims relating to a discordant test result and seeking monetary damages.

On March 15, 2019, a purported class action lawsuit was filed against the Company in the United States District Court for the Northern District of California, alleging that the plaintiff received an unauthorized text message to her cellular telephone in violation of the Telephone Consumer Protection Act. Among other relief, the complaint sought statutory and other damages, injunctive relief, attorneys' fees, and costs. The case was dismissed by stipulation of the parties effective November 2, 2020.

Director and Officer Indemnifications

As permitted under Delaware law, and as set forth in the Company's Certificate of Incorporation and its Bylaws, the Company indemnifies its directors, executive officers, other officers, employees and other agents for certain events or occurrences that may arise while in such capacity. The maximum potential amount of future payments the Company could be required to make under this indemnification is unlimited; however, the Company has insurance policies that may limit its exposure and may enable it to recover a portion of any future amounts paid. Assuming the applicability of coverage, the willingness of the insurer to assume coverage, and subject to certain retention, loss limits and other policy provisions, the Company believes any obligations under this indemnification would not be material, other than an initial $2.5 million for securities related claims. However, no assurances can be given that the covering insurers will not attempt to dispute the validity, applicability, or amount of coverage without expensive litigation against these insurers, in which case the Company may incur substantial liabilities as a result of these indemnification obligations.

Third-Party Payer Reimbursement Audits

From time to time, the Company receives recoupment requests from third-party payers for alleged overpayments. The Company disagrees with the contentions of pending requests and/or has recorded an accrual when a refund is deemed to be probable and estimable for the alleged overpayments.

Contractual Commitments

The following table sets forth the material contractual commitments as of December 31, 2020 with a remaining term of at least one year:

Party	Total Commitments	Expiry Date
	(in thousands)	
Laboratory instruments supplier	$ 3,490	December 2021
Material suppliers	17,280	June 2026
Application service providers	39,425	January 2024
Gene sequencing reagents and kits provider	135	April 2021
Software development provider	4,000	December 2024
Other material suppliers	11,690	Various
	76,020	

9. Stock-Based Compensation

Equity Plans

2015 Equity Incentive Plan

General. The Company's board of directors adopted its 2015 Equity Incentive Plan, or the 2015 Plan, in June 2015. The Company's 2015 Plan replaced all of its prior stock plans.

Share Reserve. The initial number of shares of the Company's common stock available for issuance under the 2015 Plan was 3,451,495 shares. As of December 31, 2020, 13,988,187 shares were reserved for future issuance under the 2015 plan, which includes unissued and forfeited shares from the 2007 plan. The number of shares reserved for issuance under the 2015 Plan will be increased automatically on the first business day of each fiscal year, commencing in 2016, by a number equal to the smallest of:

- 3,500,000 shares;
- 4% of the shares of common stock outstanding on the last business day of the prior fiscal year; or
- the number of shares determined by the Company's board of directors.

Stock options vest as determined by the compensation committee. In general, they will vest over a four-year period following the date of grant. Stock options expire at the time determined by the compensation committee but in no event more than ten years after they are granted. These awards generally expire earlier if the participant's service terminates earlier.

Restricted Shares and Stock Units. Restricted shares and stock units may be awarded under the 2015 Plan in return for any lawful consideration, and participant who receive restricted shares or stock units generally are not required to pay cash for their awards. In general, these awards will be subject to vesting. Vesting may be based on length of service, the attainment of performance-based milestones or a combination of both, as determined by the compensation committee.

2015 Employee Stock Purchase Plan

General. The Company's 2015 Employee Stock Purchase Plan, or 2015 ESPP, was adopted by its board of directors in June 2015 and its stockholders approved it in June 2015. The 2015 ESPP is intended to qualify under Section 423 of the Internal Revenue Code.

Share Reserve. The Company has reserved 893,548 shares of its common stock for issuance under the 2015 ESPP. As of December 31, 2020, 2,184,963 shares were available for issuance under the 2015 ESPP. The number of shares reserved for issuance under the 2015 ESPP will automatically be increased on the first business day of each of the Company's fiscal years, commencing in 2016, by a number equal to the least of:

- 880,000 shares;
- 1% of the shares of common stock outstanding on the last business day of the prior fiscal year; or
- the number of shares determined by the Company's board of directors.

The number of shares reserved under the 2015 ESPP will automatically be adjusted in the event of a stock split, stock dividend or a reverse stock split (including an adjustment to the per-purchase period share limit).

Purchase Price. Employees may purchase each share of common stock under the 2015 ESPP at a price equal to 85% of the lower of the fair market values of the stock as of the beginning or the end of the six-month offering periods. An employee's payroll deductions under the ESPP are limited to 15% of the compensation, and up to a maximum of 5,000 shares may be purchased during any offering period. A participant shall not be granted an option under the ESPP if such option would permit the participant's rights to purchase stock to accrue at a rate exceeding $25,000 fair market value of stock for each calendar year in which such option is outstanding at any time.

Offering Periods. Each offering period will last a number of months determined by the compensation committee, not to exceed 27 months. A new offering period will begin periodically, as determined by the compensation committee. Offering periods may overlap or may be consecutive. Unless otherwise determined by the compensation committee, two offering periods of six months' duration will begin in each year on May 1 and November 1.

The following table summarizes the offering activity during the years ended December 31, 2020 and 2019:

	Number of Shares Purchased	Total Proceeds
Offering Period	*(in thousands)*	
November 1, 2018 - April 30, 2019	132,177	$ 2,147
May 1, 2019 - October 31, 2019	136,084	2,176
November 1, 2019 - April 30, 2020	97,247	3,061
May 1, 2020 - October 31, 2020	136,288	4,052

Stock Options

The following table summarizes option activity during the year ended December 31, 2020:

		Outstanding Options			
	Shares Available for Grant	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life	Aggregate Intrinsic Value
(in thousands, except for contractual life and exercise price)				*(in years)*	
Balance at December 31, 2019	6,416	8,497	$ 10.39	6.88	$ 197,955
Additional shares authorized	3,120	—	$ —		
Options granted	(457)	457	$ 27.67		
Options exercised	—	(2,092)	$ 11.24		
Options forfeited/cancelled	155	(155)	$ 15.39		
RSUs granted (1)	(6,204)				
RSUs forfeited/cancelled	436				
Balance at December 31, 2020	3,466	6,707	$ 11.19	6.04	$ 592,468
Exercisable at December 31, 2020		5,080	$ 9.04	5.40	$ 459,683
Vested and expected to vest at December 31, 2020		6,609	$ 11.09	6.01	$ 584,396

(1)– The RSUs and options are granted under the 2015 Stock Plan. RSUs granted impact the shares available for grant pool at a 2 to 1 ratio.

The total intrinsic value of stock options exercised during the years ended December 31, 2020, 2019, and 2018 were $184.7 million, $70.0 million, and $25.6 million, respectively.

The weighted-average grant date fair value of options granted during the years ended December 31, 2020, 2019, and 2018 were $27.70, $8.01, and $4.85 per share, respectively.

Performance-based Awards

The Company grants certain senior-level executives performance stock options and units which vest based on either market and time-based service conditions or performance and time-based service conditions, which are referred to herein as performance-based awards. The Company has assessed the performance-based award with the appropriate valuation method and has recognized the applicable stock-based compensation expense. The following table summarizes the performance-based and market-based awards as of December 31, 2020:

Period Granted	Options Granted	RSUs Granted	Options Vested	RSUs Vested	Milestone	Valuation Method
			(in thousands)			
Q1 2019	200	300	138	219	(1)	Monte-Carlo Simulation
Q2 2019	—	188	—	—	(2)	Fair Market Value
Q3 2019	—	50	—	25	(1)	Monte-Carlo Simulation
Q1 2020	150	300	75	150	(1)	Monte-Carlo Simulation
Q1 2020	—	436	—	4	(3)	Fair Market Value
Q1 2020	129	—	—	—	(3)	Black-Scholes-Merton
Q2 2020	—	21	—	—	(3)	Fair Market Value
Q3 2020	10	—	10	—	(4)	Black-Scholes-Merton
Q3 2020	—	27	—	5	(3)	Fair Market Value
Q4 2020	—	32	—	—	(1)	Monte-Carlo Simulation
Q4 2020	—	22	—	—	(5)	Fair Market Value

(1) The awards vest based on the achievement of certain values of the Company's common stock at multiple thresholds within certain periods and are contingent upon the completion of requisite service through the date of such vesting.
(2) The vesting of the awards will be triggered after the end of the achievement milestone, as measured by the Company.
(3) The awards vest based on achievement of certain revenue targets and are contingent upon the completion of requisite service through the date of such vesting.
(4) The awards vest based on achievement of a reimbursement target.
(5) The awards will vest based on achievement of certain revenue and recruiting targets.

The Company has recognized $17.2 million in stock-based compensation for performance-based awards for the year ended December 31, 2020 compared to $7.3 million in stock-based compensation for performance-based awards for the year ended December 31, 2019.

The fair value of the performance-based awards with market conditions granted estimated using a Monte Carlo simulation model used the following inputs for the years ended December 31, 2020 and 2019:

	December 31, 2020	December 31, 2019
Risk-free interest rate	0.54 % — 1.64 %	1.63 % — 2.61 %
Expected dividend yield	—	—
Expected volatility	55 % — 65 %	50 %
Expected term (years)	5.25 — 7.25	7.25

Restricted Stock Units

The following table summarizes restricted stock unit ("RSU") activity for the year ended December 31, 2020:

	Number of Shares	Weighted-Average Grant Date Fair Value
	(in thousands)	
Balance at December 31, 2019	2,404	$ 19.86
Granted	3,102	$ 39.94
Vested	(1,100)	$ 19.69
Canceled/Forfeited	(218)	$ 24.70
Balance at December 31, 2020	4,188	$ 34.02

The total fair value of stock options vested during the years ended December 31, 2020, 2019, and 2018 were $52.5 million, $11.0 million, and $11.3 million, respectively.

Stock-Based Compensation Expense

Stock based compensation is related to stock options and RSUs granted to the Company's employees and is measured at the grant date based on the fair value of the award. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective awards on a straight-line basis. No compensation cost is recognized when the requisite service has not been met and the awards are therefore forfeited.

Employee stock-based compensation expense was calculated based on awards ultimately expected to vest and has been reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods, if actual forfeitures differ from those estimates. Non-employee stock-based compensation expense was not adjusted for estimated forfeitures up until the occurrence of the actual forfeiture of the associated awards.

The following table presents the effect of employee and non-employee stock-based compensation expense on selected statements of operations line items for the years ended December 31, 2020, 2019, and 2018.

	Year ended December 31,								
	2020			2019			2018		
	Employee	Non-Employee	Total	Employee	Non-Employee	Total	Employee	Non-Employee	Total
					(in thousands)				
Cost of revenues	$ 1,691	$ —	$ 1,691	$ 905	$ 32	$ 937	$ 564	$ 5	$ 569
Research and development	10,777	647	11,424	5,354	—	5,354	4,043	—	4,043
Selling, general and administrative	36,747	309	37,056	21,730	603	22,333	9,474	112	9,586
Total	$ 49,215	$ 956	$ 50,171	$ 27,989	$ 635	$ 28,624	$ 14,081	$ 117	$ 14,198

As of December 31, 2020, approximately $118.4 million of unrecognized compensation expense, adjusted for estimated forfeitures, related to unvested option awards and RSUs will be recognized over a weighted-average period of approximately 2.9 years.

Valuation of Stock Option Grants to Employees and Non-Employees

The Company utilizes Black-Scholes option pricing model when estimating the fair value of stock options. For the year ended December 31, 2020 the following valuation assumptions were applied on both the employee and non-employee options. In the same period of the prior year, the valuation assumptions as follows were only used for stock options granted to employees.

	Year ended December 31,		
	2020	2019	2018
Expected term (years)	5.22 — 10.00	5.23 — 10.00	5.24 — 5.62
Expected volatility	49.94% — 61.96%	42.53% — 45.84%	40.28%— 42.53%
Expected dividend rate	0 %	0 %	0 %
Risk-free interest rate	0.31 % — 1.70 %	1.60 % — 2.60 %	2.37 %— 3.06 %

As of December 31, 2020, total options outstanding include 45,577 shares of option awards that were granted to non-employees, of which 5,366 shares are unvested. Stock-based compensation expense related to stock options granted to non-employees is recognized as the stock option is earned and the services are rendered. The Company believes that the estimated fair value of the stock options is more readily measurable than the fair value of the services rendered.

10. Debt

Credit Line Agreement

In September 2015, the Company entered into a credit line with UBS (the "Credit Line") providing for a $50.0 million revolving line of credit which can be drawn down in increments at any time. The Credit Line was amended in July 2017 and bears interest at 30-day LIBOR plus 1.10%, and it is secured by a first priority lien and security interest in the Company's money market and marketable securities held in its managed investment account with UBS. UBS has the right to demand full or partial payment of the Credit Line Obligations and terminate the Credit Line, in its discretion and without cause, at any time. For the years ended December 31, 2020, 2019, and 2018, the Company recorded interest expense of $0.8 million, $1.7 million, and $1.6 million, respectively. Interest payments totaling $0.8 million, $1.7 million, and $1.5 million, had been made on the Credit Line during the years ended December 31, 2020, 2019, and 2018, respectively. As of December 31, 2020, remaining accrued interest was $1.1 million, and the total principal amount outstanding including accrued interest was $49.0 million.

2017 Term Loan

In August 2017, the Company entered into the 2017 Term Loan with OrbiMed, which has a maximum borrowing capacity of $100.0 million. On the closing date of August 8, 2017, the Company borrowed $75.0 million, with the remaining $25.0 million available to borrow at the Company's option at any time through December 31, 2018. Subsequently, the Company entered into several amendments and extended the expiration date until December 31, 2019 to draw the unused borrowing capacity of $50.0 million. After the amendments, the interest rate was equal to the sum of (i) 8.25% plus (ii) the higher of 1.00% or LIBOR, provided the Company draw the minimum capacity of $25.0 million. If the amount drawn is less than $25.0 million, the interest rate would remain at the sum of (i) 8.75% plus (ii) the higher of 1.00% or LIBOR. As a fee in consideration of extending the commitment to provide this option to draw until December 31, 2019, the Company issued an additional 25,000 shares of our common stock to OrbiMed. As of December 31, 2019, the Company did not exercise such option, and the right to draw the unused borrowing capacity has expired. For the year ended December 31, 2020 and 2019, the Company recorded interest expense for the 2017 Term Loan totaling $2.5 million and $9.0 million, respectively, which also included the amortization of debt discount.

In April 2020, the Company used a portion of the net proceeds from the offering of the Convertible Notes to repay its obligations under its 2017 Term Loan with OrbiMed. The payment amount was $79.2 million, which included the principal amount of $75.0 million, $3.8 million of early payment penalties, and $0.4 million in accrued interest. In accordance with ASC Topic 470, the Company accounted for this transaction as debt extinguishment. The difference between the reacquisition price of the debt and the net carrying amount of the debt on the extinguishment date is recorded in loss on debt extinguishment in our consolidated statements of operations and comprehensive loss. The loss on debt extinguishment was computed as follows:

	December 31, 2020
	(in thousands)
Debt principal balance	$ 75,000
Plus: early payment penalties	3,757
Reacquisition price of debt	$ 78,757
Debt principal balance	$ 75,000
Less: unamortized debt discount	(2,091)
Net carrying amount at extinguishment date	$ 72,909
Loss on debt extinguishment	$ 5,848

Convertible Notes

In April 2020, the Company issued $287.5 million aggregate principal amount of Convertible Notes due 2027 in a private placement offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended.

The Convertible Notes are senior, unsecured obligations of the Company and bear interest at a rate of 2.25% per year, payable in cash semi-annually in arrears in May and November of each year, beginning in November 2020. The Convertible Notes mature in May 2027, unless earlier converted, repurchased or redeemed in accordance with their terms. Upon conversion, the Convertible Notes are convertible into cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock, at the Company's election.

The Company received net proceeds from the Convertible Notes of $278.3 million, after deducting the initial purchasers' discounts and debt issuance costs. The Company used approximately $79.2 million of the net proceeds from the Convertible Notes offering to repay its obligations under the 2017 Term Loan with OrbiMed.

The holders of the Convertible Notes may convert all or a portion of their Convertible Notes at their option at any time prior to the close of business on the business day immediately preceding February 1, 2027 in multiples of $1,000 principal amount, under any the following circumstances:

● During any fiscal quarter commencing after December 31, 2020 (and only during such fiscal quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding fiscal quarter is greater than or equal to 130% of the conversion price on each applicable trading day.

● During the five business day period after any five consecutive trading day period in which the trading price per $1,000 principal amount of Convertible Notes for each trading day of that five-day consecutive trading period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day.

● If the Company calls any or all of the Convertible Notes for redemption at any time prior to the close of business on the second business day prior to the redemption date.

● Upon the occurrence of certain distributions.

● Upon the occurrence of specified corporate transactions.

The Convertible Notes are convertible into shares of the Company's common stock, par value $0.0001 per share, at an initial conversion rate of 25.7785 shares of common stock per $1,000 principal amount of the Convertible Notes, which is equivalent to an initial conversion price of approximately $38.79 per share of common stock, convertible to 7,411,704 shares of common stock. The conversion rate and corresponding conversion price are subject to adjustment upon the occurrence of certain events but will not be adjusted for any accrued or unpaid interest. The holders of the Convertible Notes who redeem their Convertible Notes in connection with a make-whole fundamental change are, under certain circumstances, entitled to an increase in the conversion rate. Additionally, in the event of a fundamental change, the holders of the Convertible Notes may require the Company to repurchase for cash all or a portion of their Convertible Notes at a price equal to 100% of the principal amount, plus any accrued and unpaid interest.

The Company may not redeem the Convertible Notes prior to May 2024, and no sinking fund is provided for the Convertible Notes. The Company may redeem for cash all or any portion of the Convertible Notes, at the Company's option, on or after May 2024, if the last reported sale price of the Company's common stock has been at least 130% of the conversion price then in effect for at least 20 trading days during any 30 consecutive trading day period ending on the trading day immediately preceding the date on which the Company provides notice of redemption. The redemption price will be equal to 100% of the principal amount of the Convertible Notes to be redeemed plus accrued and unpaid interest. The Convertible Notes are accounted for in accordance with ASC 470-20, Debt with Conversion and Other Options, as the Convertible Notes may be settled entirely or partially in cash upon conversion. The Company separately accounted for the liability component and equity component of the Convertible Notes by allocating the debt proceeds between the liability and equity components. The carrying amount of the liability component is calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The Company used a discounted cash flow method and applied the average annual market yield of 7.832% as an input to measure its fair value. The allocation was performed in a manner that reflected the Company's non-convertible debt borrowing rate for similar debt. The carrying amount of the equity component is determined by deducting the fair value of the liability component from the initial debt proceeds. The fair value of liability component of the Convertible Notes on the date of issuance was $201.9 million, and accordingly, the remaining proceeds of $85.6 million are allocated to the equity component on the date of issuance. The carrying value of the liability component of the Convertible Notes is classified as long-term debt, and the equity component is classified as permanent equity in the Company's consolidated balance sheet as of December 31, 2020.

After allocating the proceeds of the debt and equity components, the Company further allocated $9.2 million initial purchasers' debt discount and debt issuance cost of $8.6 million and $0.6 million, respectively. The debt issuance costs primarily consisted of legal, accounting, and other professional fees. These costs were allocated to the liability and equity components based on the allocation of the proceeds as follows:

	(in thousands)		
	Amount	Equity Component	Debt Component
Debt Discount	$ 8,625	$ 2,568	$ 6,057
Debt Issuance Cost	558	166	392
Total	$ 9,183	$ 2,734	$ 6,449

The portion allocated to the liability component is amortized to interest expense using the effective interest method over the expected life of the Convertible Notes or approximately its seven-year term. The effective interest rate on the liability component of the Convertible Notes for the period from the date of issuance through May 2027 is 8.27%, which remains unchanged from the date of issuance.

The outstanding Convertible Notes balances as of December 31, 2020, are summarized in the following table:

	December 31, 2020
	(in thousands)
Liability Component	
Outstanding Principal	$ 287,500
Unamortized debt discount and debt issuance cost	(85,007)
Net carrying amount	$ 202,493

At the original issuance date, the estimated fair value of the liability component of our Convertible Notes was $201.9 million and the estimated fair value of the equity component was $85.6 million as measured on the date of issuance, resulting in a total fair value of $287.5 million for the Convertible Note. The Convertible Notes were priced at par at the valuation date resulting in the fair value of the Convertible Notes equal to the principal amount of $287.5 million. The fair value of the Convertible Note has been calculated as the residual amount between the fair value of the Convertible Note and the fair value of the debt component.

The unamortized debt discount and issuance cost is comprised of $79.1 million of debt discount resulting from allocating proceeds to the equity component, $5.6 million of debt discount from the liability component representing the difference between the net proceeds received upon issuance of debt and the amount repayable at its maturity, and $0.4 million of debt issuance costs.

The following table presents total interest expense recognized related to the Convertible Notes during the year ended December 31, 2020:

	December 31, 2020
	(in thousands)
Cash interest expense	
Contractual interest expense	$ 4,582
Non-cash interest expense	
Amortization of debt discount and debt issuance cost	7,048
Total interest expense	$ 11,630

11. Stockholders' Equity

In August 2017, the Company paid OrbiMed a fee in consideration of providing the 2017 Term Loan (as defined in Note 9) by issuing 300,000 shares of its common stock. The fair value of the fee was $2.4 million, which was determined based on the Company's stock price of $8.16 on August 8, 2017. In June 2018, OrbiMed exercised all of its warrants,

which were all converted into common stock. The exercise was a cashless transaction, and there were 332,896 of net shares issued to OrbiMed following the exercise at the fair value of $6.8 million.

In July 2018, the Company completed an equity offering to sell 4,500,000 shares of its common stock to the public at a price of $20 per share, along with the sale of 675,000 additional shares of its common stock to the underwriters upon their exercise of the option to purchase those shares. Upon the closing of the equity offering, the Company received proceeds of $97.3 million before offering expenses, which totaled approximately $0.5 million.

In April 2019, the Company completed an underwritten equity offering to sell 5,263,158 shares of its common stock at a price to the public of $19 per share. On April 26, 2019, the Company sold an additional 789,473 shares of its common stock to the underwriters at the same price upon their exercise of the option to purchase those shares. Before offering expenses of $0.6 million, the Company received proceeds of $108.1 million net of the underwriting discount.

In October 2019, the Company completed an underwritten equity offering to sell 5,714,286 shares of its common stock at a price to the public of $35 per share. The same day, the Company sold an additional 857,142 shares of its common stock to the underwriters at the same price upon their exercise of the option to purchase those shares. Before offering expenses of $0.4 million, the Company received proceeds of $216.2 million net of the underwriting discount.

In September 2020, the Company completed an underwritten equity offering and sold 4,791,665 shares of its common stock at a price of $60.00 per share to the public. Before offering expenses of $0.3 million, the Company received proceeds of $271.0 million net of the underwriting discount.

As of December 31, 2020, the Company had 50,000,000 authorized shares of its preferred stock, of which no shares were issued and outstanding; and 750,000,000 authorized shares of its common stock, at $0.0001 par value, and there were 86,223,000 shares of common stock issued and outstanding.

12. Disposal of Business

Sale of Evercord

In September 2019, the Company sold the Evercord business that provides cord blood and cord tissue processing and storage services for total estimated consideration of $15.4 million, including $9.7 million in cash, $1.0 million of cash deposited in a third-party escrow account recorded in short-term other receivables, and $4.7 million of additional consideration. The additional consideration is primarily related to the accounts receivable transferred to the buyer. The cash held in escrow serve as security for the indemnification obligations of the Company and eligible for release 12 months after the closing date. The assets relating to the Evercord services transferred to the buyer had a net book value of $6.2 million as of the sale date, and consisted of accounts receivables and equipment. The obligations and liabilities relating to the Evercord services transferred to the buyer consisted of deferred revenues of $5.2 million. The sale of the Evercord business did not meet criteria to be reported as a discontinued operation, because it did not represent a strategic shift with a major effect on the Company's operations and financial results. The Company recognized a gain of $14.4 million on the sale, which was included in Loss from operations in the Consolidated Statements of Operations and Comprehensive Loss.

The following table summarizes the computation of the gain realized from the disposal of business:

	December 31, 2019
	(in thousands)
Proceeds on disposal:	$ 15,377
Assets sold:	
Accounts receivable, net	5,782
Equipment and inventory	419

Total assets sold	$ 6,201
Liabilities assumed by purchaser:	
Deferred revenues	5,212
Net assets and liabilities sold	$ 989
Net gain realized on disposal	$ 14,388

In connection with the sale of the Evercord business, the Company recorded impairment expense on the retained assets previously used in this business of $1.7 million in selling, general, and administrative expenses in the consolidated statement of operations and comprehensive loss. This expense is comprised of $1.2 million from the impairment of leasehold improvements, $0.1 million from the impairment of capitalized software held for internal use, and $0.4 million of right-of-use asset from the storage facility lease. In addition, the Company expects to incur $0.4 million of exit or disposal activity—$0.1 million of involuntary employee termination benefits were incurred in the third quarter of 2019, recorded in selling, general and administrative expense in the consolidated statements of operations and comprehensive loss, and $0.3 million of early contract termination fee from biological sample processing and storage provider to be incurred in the next fiscal year.

13. Income Taxes

The Company's effective tax rates for the years ended December 31, 2020, 2019, and 2018 differ from the U.S. federal statutory rate as follows:

	December 31,					
	2020		2019		2018	
	(in thousands, except percentages)					
U.S. federal taxes (benefit) at statutory rate	$ (48,226)	(21.00)%	$ (25,794)	(21.00)%	$ (26,800)	(21.00)%
State tax expense	(10,672)	(4.65)%	(6,607)	(5.38)%	(4,468)	(3.50)%
Research and development credits	(3,964)	(1.73)%	(1,645)	(1.34)%	(1,164)	(0.91)%
Stock-based compensation	(23,791)	(10.36)%	(7,544)	(6.14)%	(3,148)	(2.47)%
Change in federal tax rate	—	0.00 %	—	0.00 %	—	0.00 %
Mark to market fair value adjustments	—	0.00 %	—	0.00 %	865	0.68 %
Nondeductible settlement for claims	—	0.00 %	—	0.00 %	1	0.00 %
Foreign tax	55	0.02 %	1,612	1.31 %	195	0.15 %
Other nondeductible items	9,776	4.26 %	1,378	1.12 %	690	0.54 %
Change in valuation allowance	76,920	33.50 %	40,599	33.06 %	34,150	26.76 %
Provision for income taxes	$ 98	0.04 %	$ 1,999	1.63 %	$ 321	0.25 %

During the year ended December 31, 2020, the Company recorded total income tax expense of $0.1 million. The Company provides testing to clinics and also licenses its cloud-based software to licensees that are based in a foreign country, which contributed to a foreign income tax expense of $0.1 million. Total income tax expense also included a state income tax benefit of $9,000 for the year ended December 31, 2020.

During the year ended December 31, 2019, the Company recorded total income tax expense of $2.0 million, which included a foreign withholding tax expense of $1.9 million, foreign income tax expense of $0.1 million and state income tax benefit of $0.04 million. During the year ended December 31, 2018, the Company recorded total income tax expense of $0.3 million, which included foreign income tax expense of $0.2 million and state income tax expense of $0.1 million.

Deferred income taxes reflect the net tax effects of temporary differences between carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes as well as net operating loss and tax credit carryforwards. The components of the net deferred income tax assets are as follows:

	December 31,	
	2020	2019
	(in thousands)	
Deferred tax assets:		
Net operating loss carryforwards	$ 177,899	$ 124,777
Research and development tax credit carryforwards	24,332	18,189
Reserves and accruals	21,770	10,002
Lease Liabilities	7,123	7,838
Deferred revenue	6,386	3,288
Stock-based compensation	10,673	6,106
Total deferred tax assets before valuation allowance	248,183	170,200
Less: valuation allowance	(222,521)	(163,040)
	25,662	7,160
Deferred tax liabilities:		
Convertible debt	(19,143)	
Right-of-use lease assets	(6,519)	(7,160)
Net deferred tax assets	$ —	$ —

The Company established a full valuation allowance against its net deferred tax assets in 2020 and 2019 due to the uncertainty surrounding realization of these assets. The valuation allowance increased to $222.5 million as of December 31, 2020 from $163.0 million as of December 31, 2019 due to current year losses and credits claimed.

As of December 31, 2020, the Company had federal and state net operating loss ("NOLs") carryforwards of approximately $727.2 million and $412.9 million, respectively, which begin to expire in 2027 and 2028, respectively, if not utilized. Approximately $407.3 million of federal net operating loss included above can be carried forward indefinitely.

The Company also had federal research and development credit carryforwards of approximately $21.4 million, which begin to expire in 2027, and state research and development credit carryforwards of approximately $16.9 million, which can be carried forward indefinitely. Realization of these deferred tax assets would require $882.4 million in taxable income to fully utilize. Realization is dependent on generating sufficient taxable income prior to expiration of the loss and credit carryforwards.

Federal and California tax laws impose substantial restrictions on the utilization of NOLs and credit carryforwards in the event of an "ownership change" for tax purpose, as defined in Section 382 of the Internal Revenue Code. Accordingly, the Company's ability to utilize these carryforwards may be limited as the result of such ownership change. Such a limitation could result in limitation in the use of the NOLs in future years and possibly a reduction of the NOLs available.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits is as follows:

	December 31,		
	2020	2019	2018
		(in thousands)	
Balance at beginning of year	$ 8,619	$ 7,362	$ 5,945
Additions based on tax positions related to the current year	2,889	1,426	1,416
Additions (reductions) for tax positions of prior years	(8)	(169)	1
Balance at end of year	$ 11,500	$ 8,619	$ 7,362

During the years ended December 31, 2020, 2019, and 2018, the amount of unrecognized tax benefits increased $2.9 million, $1.3 million, and $1.4 million, respectively, due to additional research and development credits generated during the year. As of December 31, 2020, 2019, and 2018, the total amount of unrecognized tax benefits was $11.5 million, $8.6 million, and $7.4 million, respectively. The reversal of the uncertain tax benefits would not affect the Company's effective tax rate to the extent that it continues to maintain a full valuation allowance against its deferred tax assets.

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief and Economic Security Act (CARES Act) was signed into law in March 2020. The CARES Act includes modifications for net operating loss carryovers and carrybacks, limitations of business interest expense for tax, immediate refund of alternative minimum tax (AMT) credit carryovers as well as a technical correction to the Tax Cuts and Jobs Act of 2017, for qualified improvement property. As of December 31, 2020, the Company expects that these provisions will not have a material impact as the Company has no net operating losses or AMT credits that would fall under these provisions and does not expect interest expense to be deductible due to current year losses.

The Company is subject to U.S. federal income taxes and to income taxes in various states in the United States. Tax regulations within each jurisdiction are subject to the interpretation of the related tax laws and regulations, and require significant judgment to apply. The Company is subject to U.S. federal, state and local tax examinations by tax authorities for all prior tax years since incorporation. The Company does not anticipate significant changes to its current uncertain tax positions through December 31, 2021.

The Company recognizes any interest and/or penalties related to income tax matters as a component of income tax expense. As of December 31, 2020, there were no accrued interest and penalties related to uncertain tax positions.

14. Net Loss per Share

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding for the period.

In periods when the Company has incurred a net loss, common stock equivalents such as outstanding common stock options, restricted stock units, unvested common shares subject to repurchase and warrants are excluded from the calculation of diluted net loss per share as they give an anti-dilutive effect.

The Convertible Note is convertible as of December 31, 2020. Upon conversion, the Company has the option to pay cash, issue shares of common stock, or any combination thereof for the aggregate amount due upon conversion. The value of the Convertible Notes, if-converted, exceeds its principal amount by $388.4 million as of December 31, 2020. Since the Company is in a net loss position in the periods presented, the shares which would be issued upon conversion of the Converted Notes are excluded from the net loss per share calculation as it would have an antidilutive effect. As such, the 7.4 million shares underlying the conversion option of the Convertible Notes will not have an impact on our diluted earnings per share. If converted, the Company does not intend to settle the obligation in cash.

The following table provides the basic and diluted net loss per share computations for the years ended December 31, 2020, 2019, and 2018:

	December 31,		
	2020	2019	2018
	(in thousands, except per share data)		
Numerator:			
Net loss used to compute net loss per share, basic and diluted	$ (229,743)	$ (124,827)	$ (128,154)
Denominator:			
Weighted-average number of shares used in computing net loss per share, basic and diluted	81,011	69,555	57,848
Net loss per share, basic and diluted	$ (2.84)	$ (1.79)	$ (2.22)

The following table shows the potentially dilutive common stock equivalents that were excluded from the computations of diluted net loss per share as their effect would be anti-dilutive, as of December 31, 2020, 2019, and 2018:

	December 31,		
	2020	2019	2018
		(in thousands)	
Options to purchase common stock	6,707	8,497	9,463
Restricted stock units	4,188	2,404	1,084
Employee stock purchase plan	37	32	42
Convertible Note	7,411	—	—
	18,343	10,933	10,589

15. Subsequent Events

None.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A: CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2020. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a 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 Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a 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 and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Based on the evaluation of our disclosure controls and procedures as of December 31, 2020, management has concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has evaluated the effectiveness of our internal control over financial reporting as of December 31, 2020 using the criteria set forth in the 2013 *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on our evaluation, management has concluded that we maintained effective internal control over financial reporting as of December 31, 2020 based on the COSO criteria.

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which appears in Item 9 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls or our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Natera, Inc.

Opinion on Internal Control Over Financial Reporting
We have audited Natera, Inc.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, Natera, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2020 consolidated financial statements of the Company and our report dated February 25, 2021 expressed an unqualified opinion thereon.

Basis for Opinion
The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Jose, California
February 25, 2021

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be contained in our definitive proxy statement to be filed with the Securities and Exchange Commission in connection with our 2021 annual meeting of stockholders (the "Proxy Statement"), which we expect to file no later than 120 days after the end of our fiscal year ended December 31, 2020, and is incorporated in this report by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be contained in the Proxy Statement, which we expect to file no later than 120 days after the end of our fiscal year ended December 31, 2020, and is incorporated in this report by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be contained in the Proxy Statement, which we expect to file no later than 120 days after the end of our fiscal year ended December 31, 2020, and is incorporated in this report by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be contained in the Proxy Statement, which we expect to file no later than 120 days after the end of our fiscal year ended December 31, 20120, and is incorporated in this report by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item will be contained in the Proxy Statement, which we expect to file no later than 120 days after the end of our fiscal year ended December 31, 2020, and is incorporated in this report by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Financial Statements (included in Part II of this report):

- Report of Independent Registered Public Accounting Firm
- Balance Sheets
- Statement of Operations
- Statement of Stockholders' Equity
- Statement of Cash Flows
- Notes to Financial Statements

(2) Financial Statement Schedules:

All financial statement schedules are omitted because the information is inapplicable or presented in the notes to the financial statements.

(b) The following exhibits are filed with or incorporated by reference as part of this Annual Report on Form 10-K:

INDEX TO EXHIBITS

		Incorporated by Reference				
Exhibit No.	**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed Herewith**
3.1	Amended and Restated Certificate of Incorporation of Natera, Inc.	8-K	001-37478	3.1	7/9/2015	
3.2	Amended and Restated Bylaws of Natera, Inc.	8-K	001-37478	3.2	7/9/2015	
4.1	Form of Common Stock Certificate	S-1/A	333-204622	4.1	6/22/2015	
4.2	Amended and Restated Investors' Rights Agreement, dated November 20, 2014.	S-1	333-204622	4.2	6/1/2015	
4.3	Description of Common Stock					X
4.4	Indenture (including form of Note) with respect to the Company's 2.25% Convertible Senior Notes due 2027, dated as of April 16, 2020, between the Registrant and Wilmington Trust, National Association, as trustee	8-K	001-37478	4.1	04/16/2020	
10.1*	2007 Stock Plan and form of agreements thereunder.	S-1	333-204622	10.1	6/1/2015	

		Incorporated by Reference				
Exhibit No.	**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed Herewith**
10.2*	2015 Equity Incentive Plan and forms of agreements thereunder.	10-K	001-37478	10.2	3/24/2016	
10.3*	2015 Employee Stock Purchase Plan.	S-1/A	333-204622	10.3	6/25/2015	
10.4	Form of Indemnification Agreement, by and between Registrant and each of its directors and executive officers.	10-K	001-37478	10.4	3/16/2017	
10.5.1**	Supply Agreement, dated September 18, 2014, by and between Registrant and Illumina, Inc., as amended (conformed copy).	S-1/A	333-204622	10.13	6/30/2015	
10.5.2**	Second Amendment to Supply Agreement, dated September 21, 2015, by and between Registrant and Illumina, Inc.	10-Q	001-37478	10.1	8/11/2016	
10.5.3**	Third Amendment to Supply Agreement, dated June 8, 2016, by and between Registrant and Illumina, Inc.	10-Q	001-37478	10.2	8/11/2016	
10.5.4**	Fourth Amendment to Supply Agreement, dated January 3, 2019, by and between Registrant and Illumina, Inc.	10-K	001-37478	10.8	3/15/2019	
10.5.5***	Fifth Amendment to Supply Agreement, dated December 18, 2019, by and between Registrant and Illumina, Inc.	10-K	001-37478	10.5.5	03/02/2020	
10.5.6***	Sixth Amendment to Supply Agreement, dated May 8, 2020, by and between Registrant and Illumina, Inc.	10-Q	001-37478	10.1	08/07/2020	
10.6.1**	Application Service Provider Agreement, dated September 19, 2014, by and between Registrant and DNAnexus, Inc., as amended	10-K	001-37478	10.11	3/16/2017	
10.6.2**	Third Amendment to Application Service Provider Agreement, dated January 1, 2018, by and between Registrant and DNAnexus, Inc.	10-Q	001-37478	10.1	11/9/2018	
10.6.3**	Fourth Amendment to Application Service Provider Agreement, dated July 1, 2018, by and between Registrant and DNAnexus, Inc.	10-Q	001-37478	10.2	11/9/2018	
10.6.4**	Fifth Amendment to Application Service Provider Agreement, dated October 18, 2019, by and between Registrant and DNAnexus, Inc.	10-Q	001-37478	10.2	11/8/2019	
10.7*	Amended Employment Agreement, by and between Registrant and Matthew Rabinowitz, dated June 7, 2007.	S-1/A	333-204622	10.15	6/25/2015	
10.8*	Amended Employment Agreement, by and between Registrant and Jonathan Sheena, dated June 7, 2007.	S-1/A	333-204622	10.16	6/25/2015	

		Incorporated by Reference				
Exhibit No.	**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed Herewith**
10.9*	Amended and Restated Employment Agreement, by and between Registrant and Steve Chapman, dated January 2, 2019.	10-Q	001-37478	10.1	5/10/2019	
10.10*	Amended Compensation Program for Non-Employee Directors.	10-Q	001-37478	10.2	5/10/2019	
10.11.1	UBS Credit Line Agreement, dated September 23, 2015, as amended.	10-Q	001-37478	10.2	11/12/2015	
10.11.2	Amendment to UBS Credit Line Agreement, dated July 5, 2017.	10-Q	001-37478	10.1	8/9/2017	
10.12*	Natera, Inc. Management Cash Incentive Plan.	10-Q	001-37478	10.3	11/12/2015	
10.13.1	Lease, dated October 26, 2015, by and between Registrant and BMR-201 Industrial Road LP.	10-K	001-37478	10.23	3/23/2016	
10.13.2	First Amendment to Lease, dated October 6, 2016, by and between Registrant and BMR-201 Industrial Road LP.	10-Q	001-37478	10.1	11/10/2016	
10.14.1**	Credit Agreement, dated as of August 8, 2017, by and between Registrant and OrbiMed Royalty Opportunities II, LP.	10-Q	001-37478	10.1	11/9/2017	
10.14.2**	Amendment and Waiver to Credit Agreement, dated as of December 28, 2018, by and between Registrant, Natera International, Inc., NSTX, Inc. and OrbiMed Royalty Opportunities II, LP.	10-K	001-37478	10.20	3/15/2019	
10.14.3**	Second Amendment to Credit Agreement, dated as of April 15, 2019, by and between Registrant, Natera International, Inc., NSTX, Inc. and OrbiMed Royalty Opportunities II, LP.	10-Q	001-37478	10.3	5/10/2019	
10.14.4**	Third Amendment to Credit Agreement, dated as of September 12, 2019, by and between Registrant, Natera International, Inc., NSTX, Inc. and OrbiMed Royalty Opportunities II, LP.	10-Q	001-37478	10.1	11/8/2019	
10.15**	Pledge and Security Agreement, dated as of August 8, 2017, by and between Registrant, Natera International, Inc., NSTX, Inc. and OrbiMed Royalty Opportunities II, LP.	10-Q	001-37478	10.2	11/9/2017	
10.16	Guarantee, dated as of August 8, 2017, by and between Natera International, Inc., NSTX, Inc. and OrbiMed Royalty Opportunities II, LP.	10-Q	001-37478	10.3	11/9/2017	
10.17**	License, Development and Distribution Agreement, dated as of March 9, 2018, by and between Registrant and QIAGEN LLC	10-Q/A	001-37478	10.1	2/6/2019	
21.1	List of Subsidiaries of the Registrant.	10-K	001-37478	21.1	3/16/2017	

		Incorporated by Reference				
Exhibit No.	**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Filed Herewith**
23.1	Consent of Independent Registered Public Accounting Firm.					X
24.1	Power of Attorney (see signature page of this Annual Report on Form 10-K).					X
31.1	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1†	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2†	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					X
Exhibit 104	Cover Page Interactive Data File - The cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.					X

* Indicates a management contract or compensatory plan.

** Portions of this exhibit (indicated by asterisks) have been omitted pursuant to an order granting confidential treatment.

Omitted portions have been submitted separately to the Securities and Exchange Commission (SEC).

*** Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment. Omitted portions have been submitted separately to the SEC.

† The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report on Form 10-K are not deemed filed with the SEC and are not to be incorporated by reference into any filing of Natera, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, regardless of any general incorporation language contained in any filing.

ITEM 16. FORM 10-K SUMMARY

None.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statements (Form S-8 Nos. 333-205441, 333-210374, 333-216747, 333-223751, 333-230324, and 333-236873) pertaining to the 2015 Equity Incentive Plan, 2007 Stock Plan and 2015 Employee Stock Purchase Plan of Natera, Inc., and

(2) Registration Statement (Form S-3 No. 333-214577, 333-230902, 333-234220 and 333-248690) of Natera, Inc.,

of our reports dated February 25, 2021, with respect to the consolidated financial statements of Natera, Inc. and the effectiveness of the internal control over financial reporting of Natera, Inc. included in this Annual Report (Form 10-K) of Natera, Inc. for the year ended December 31, 2020.

/s/ Ernst & Young LLP

San Jose, California
February 25, 2021

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Austin, State of Texas, on this 25th day of February, 2021.

Natera, Inc.

/ s / Michael Brophy

Michael Brophy
Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Steve Chapman and Michael Brophy as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent 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 for all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/ s / *Steve Chapman* Steve Chapman	Chief Executive Officer, President and Director (Principal Executive Officer)	February 25, 2021
/ s / *Michael Brophy* Michael Brophy	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 25, 2021
/ s / *Matthew Rabinowitz* Matthew Rabinowitz	Executive Chairman	February 25, 2021
/ s / *Jonathan Sheena* Jonathan Sheena	Founder and Director	February 25, 2021
/ s / *Roy Baynes* Roy Baynes	Director	February 25, 2021
/ s / *Monica Bertagnolli* Monica Bertagnolli	Director	February 25, 2021
/ s / *Roelof F. Botha* Roelof F. Botha	Director	February 25, 2021
/ s / *Rowan Chapman* Rowan Chapman	Director	February 25, 2021
/ s / *Todd Cozzens* Todd Cozzens	Director	February 25, 2021
/ s / *James I. Healy* James I. Healy	Director	February 25, 2021
/ s / *Gail Marcus* Gail Marcus	Director	February 25, 2021
/ s / *Herm Rosenman* Herm Rosenman	Director	February 25, 2021

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