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Filed Pursuant to Rule 424(b)(7)
Registration No. 333-229400

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount of Securities to be Registered	Proposed Maximum Offering Price (1)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(1)
Common Stock, par value $0.01 per share	30,000,000.00	$3.53	$105,900,000.00	$12,835.08

(1) Estimated in accordance with Rule 457(c) promulgated under the Securities Act of 1933, as amended, solely for purposes of calculating the registration fee. The maximum price per security and the maximum aggregate offering price are based on the average of the $3.75 (high) and $3.31 (low) sale price of the Registrant's Common Stock as reported on the Nasdaq Global Select Market on February 1, 2019.

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PROSPECTUS SUPPLEMENT
(TO PROSPECTUS DATED JANUARY 28, 2019)

OPKO Health, Inc.

30,000,000 shares of Common Stock

Up to 30,000,000 shares of our common stock are being offered by the selling stockholders named herein. The selling stockholders will borrow such shares through a lending arrangement from an affiliate of the underwriter in our concurrent offering of $200,000,000 aggregate principal amount of our 4.50% convertible senior notes due 2025 (the "convertible notes"), not including the underwriter's option to purchase up to an additional $30,000,000 principal amount of the convertible notes from us solely to cover overallotments, if any, which affiliate (the "Share Borrower") is borrowing the shares from us. The borrowed shares are newly-issued shares issued in connection with this transaction and will be cancelled or held as treasury shares by us upon the expiration or the early termination of the share lending arrangement described herein.

We expect that the selling stockholders will sell the borrowed shares and use the resulting short position to establish their initial hedge with respect to their investments in our convertible notes, which are being offered in a concurrent offering pursuant to a separate prospectus supplement and accompanying prospectus. The selling stockholders may effect such transactions by selling the borrowed shares at various prices from time to time through the Share Borrower or its affiliates. The selling stockholders will receive all of the net proceeds from the sale of the borrowed shares, and we will not receive any of those proceeds, but we will receive a one-time nominal fee of $0.01 per share for each newly-issued share from the Share Borrower for the use of the borrowed shares.

The borrowed shares may be offered for sale in transactions that may include block sales, sales on the Nasdaq Global Select Market (the "Nasdaq"), sales in the over-the-counter market, sales pursuant to negotiated transactions or otherwise. See "Description of the Share Lending Agreement; Concurrent Offering of Convertible Notes." The delivery of the borrowed shares being offered hereby is conditioned upon the closing of the concurrent offering of the convertible notes.

Our common stock is listed on the Nasdaq under the symbol "OPK." The last reported sale price of our common stock on the Nasdaq on February 1, 2019 was $3.59 per share.

Investing in our common stock involves risks. See "Risk Factors" beginning on page S-15 of this prospectus supplement, as well as the documents we file with the Securities and Exchange Commission (the "SEC") that are incorporated by reference herein for more information.

Neither the SEC nor any state securities commission has approved or disapproved the issuance of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

February 4, 2019

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We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any free writing prospectuses we have prepared. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus is an offer to sell only the borrowed shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of the respective dates of such documents.

ABOUT THIS PROSPECTUS SUPPLEMENT

Unless the context otherwise requires, all references in this prospectus supplement to "OPKO," "Company," "our company," "we," "us," or "our" refer to OPKO Health, Inc., a Delaware corporation, including its wholly-owned subsidiaries.

This prospectus supplement and the accompanying prospectus form part of a registration statement on Form S-3 that we filed with the SEC using a "shelf" registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part consists of the accompanying prospectus, which provides more general information, some of which may not apply to this offering. Generally, when we refer only to the "prospectus," we are referring to both parts combined. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference herein or therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference herein and therein.

This prospectus supplement and the accompanying prospectus relate to the offering of the borrowed shares. Before buying any borrowed shares offered hereby, we urge you to carefully read this prospectus supplement and the accompanying prospectus, together with the information incorporated herein and therein by reference as described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference." These documents contain important information that you should consider when making your investment decision.

You should rely only on the information contained in or incorporated by reference into this prospectus supplement, the accompanying prospectus and any free writing prospectus authorized by us. To the extent the information contained in this prospectus supplement differs or varies from the information contained in the accompanying prospectus or any document filed prior to the date of this prospectus supplement and incorporated by reference, the information in this prospectus supplement will control. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

The industry and market data and other statistical information contained in the documents we incorporate by reference are based on management's own estimates, independent publications, government publications, reports by market research firms or other published independent sources and, in each case, are believed by management to be reasonable estimates. Although we believe these sources are reliable, we have not independently verified the information.

PROSPECTUS SUPPLEMENT SUMMARY

The following summary of our business highlights some of the information contained elsewhere in or incorporated by reference into this prospectus supplement or the accompanying prospectus. Because this is only a summary, however, it does not contain all of the information that may be important to you. You should carefully read this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, which are described under "Incorporation of Certain Information by Reference" in this prospectus supplement and in the accompanying prospectus. You should also carefully consider the matters discussed in the section in this prospectus supplement entitled "Risk Factors" and in the accompanying prospectus, in our Annual Report on Form 10-K for the year ended December 31, 2017 and in the other documents incorporated herein by reference.

Our Company

We are a diversified healthcare company that seeks to establish industry-leading positions in large and rapidly growing medical markets. Our diagnostics business includes BioReference Laboratories, the nation's third-largest clinical laboratory with a core genetic testing business and an almost 300-person sales and marketing team to drive growth and leverage new products, including the *4Kscore* prostate cancer diagnostic test and the *Claros 1* in-office immunoassay platform (in development). Our pharmaceutical business features *Rayaldee*, a U.S. Food and Drug Administration ("FDA") approved treatment for secondary hyperparathyroidism in adults with stage 3 or 4 chronic kidney disease and vitamin D insufficiency (launched in November 2016), OPK88004, a selective androgen receptor modulator which we have studied for benign prostatic hyperplasia but for which we are exploring other potential indications, and OPK88003, a once or twice weekly oxyntomodulin for type 2 diabetes and obesity which is a clinically advanced drug candidate among the new class of GLP-1 glucagon receptor dual agonists (phase 2b). Our pharmaceutical business also features hGH-CTP, a once-weekly human growth hormone injection (in phase 3 and partnered with Pfizer Inc. ("Pfizer")).

We operate established pharmaceutical business operations in Spain, Ireland, Chile and Mexico, which are generating revenue and from which we expect to generate positive cash flow and facilitate future market entry for our products currently in development. We have a development and commercial supply pharmaceutical company, as well as a global supply chain operation and holding company in Ireland, which we expect will play an important role in the development, manufacturing, distribution and approval of a wide variety of drugs with an emphasis on high potency products. We also own a specialty active pharmaceutical ingredients manufacturer in Israel, which we expect will facilitate the development of our pipeline of molecules and compounds for our proprietary molecular diagnostic and therapeutic products.

We are a Delaware corporation. We maintain our principal executive offices at 4400 Biscayne Blvd., Miami, FL 33137. Our telephone number is (305) 575-4100. We maintain a website at *www.opko.com*. The information contained on our website or that can be accessed through our website does not constitute part of this prospectus supplement or the accompanying prospectus.

Current Products and Services and Related Markets

Diagnostics

BioReference Laboratories

Through BioReference, the third largest full service clinical laboratory in the U.S., we offer comprehensive laboratory testing services utilized by healthcare providers in the detection, diagnosis, evaluation, monitoring and

treatment of diseases, including esoteric testing, molecular diagnostics, anatomical pathology, genetics, women's health and correctional healthcare. We market and sell these services to physician offices, clinics, hospitals, employers and governmental units nationally, with the largest concentration of business in the larger metropolitan areas across New York, New Jersey, Florida, Texas, Maryland, California, Pennsylvania, Delaware, Washington DC, Illinois and Massachusetts.

BioReference has an almost 300-person sales and marketing team and operates a network of approximately 200 patient service centers.

Our BioReference laboratory testing business consists of routine testing and esoteric testing. Routine tests measure various health parameters, such as the functions of the heart, kidney, liver, thyroid and other organs, including such tests as blood cell counts, cholesterol levels, pregnancy, substance abuse and urinalysis. We typically operate 24 hours per day, 365 days per year and perform and report most routine test results within 24 hours.

The esoteric tests we perform require sophisticated equipment and materials, highly skilled personnel and professional attention. Esoteric tests are ordered less frequently than routine tests and typically are priced higher than routine tests. Esoteric tests include tests related to endocrinology, genetics and genomics, immunology, microbiology, HIV tests, molecular diagnostics, next generation sequencing, oncology, serology and toxicology.

Through BioReference, we operate in the following highly specialized laboratory divisions:

- *BioReference Laboratories*. BioReference constitutes our core clinical testing laboratory offering automated, high volume routine testing services, STAT testing, informatics, HIV, Hep C and other molecular tests.
- *GenPath (Oncology)*. National oncology presence with expertise in cancer pathology and diagnostics, as well as molecular diagnostics. Core tests include FLOW, IHC, MicroArray, FISH, ISH, Morphology and full-service oncology.
- *GenPath (Women's Health)*. Innovative technology platform for sexually transmitted infections has enabled expansion nationally with specimens coming from 41 states, including Image Directed Paps analysis, HPV Plus and STI Testing.
- *GeneDx*. Industry leading national laboratory for testing rare and ultra-rare genetic diseases with international reach, performing testing on specimens from more than 50 countries.
- *Laboratorio Bueno Salud*. National testing laboratory dedicated to serving the Spanish-speaking population in the U.S., where all business is conducted in Spanish including patient and physician interaction.

We have one of the largest marketing staffs of any laboratory in the country with sales and marketing groups dedicated to urology, oncology, women's health, genetic testing and correctional health, as well as cross-over groups selling to large institutions. All of our sales and marketing personnel operate in a dual capacity, as both marketing and client support representatives, which we believe provides better customer service and a strong connection with our customers.

We expect the clinical laboratory testing industry will continue to experience growth in testing volumes due to aging of the population in the U.S., patient awareness of the value of laboratory tests, a decrease in the cost of tests, the development of sophisticated and specialized tests for detection and management of disease, increased recognition of early detection and prevention as a means of reducing healthcare costs and ongoing research and development in genetics and genomics and personalized medicine. Our mission is to be recognized by our clients as the premier provider of clinical laboratory testing, information and related services.

BioReference provides us with a significant diagnostics commercial infrastructure for marketing and sales that reached almost 11 million patients in 2018. In addition, its large team of managed care experts complement our efforts to ensure that payors recognize the value of our diagnostic and laboratory tests for reimbursement purposes. We continue to leverage the national marketing, sales and distribution resources of BioReference, along with its almost 300-person sales and marketing team, to enhance sales of and reimbursement for our 4Kscore test, a laboratory developed blood test that provides a personalized risk score for aggressive prostate cancer. We plan to continue to leverage the BioReference commercial infrastructure and capabilities, as well as its extensive relationships with payors, to commercialize OPKO's other diagnostic products under development, including the *Claros 1*.

4Kscore Test

We offer the *4Kscore* test through our BioReference laboratory located in Elmwood Park, New Jersey. We began selling the *4Kscore* test in the U.S. in March 2014 and in Europe and Mexico in September 2014 and January 2015, respectively. The *4Kscore* test is a laboratory developed test that measures the blood plasma levels of four different prostate-derived kallikrein proteins: Total PSA, Free PSA, Intact PSA and Human Kallikrein-2 ("hK2"). These biomarkers are then combined with a patient's age, Digital Rectal Exam ("DRE") status (nodule / no nodule), and prior negative biopsy status (yes / no) using a proprietary algorithm to calculate the risk (probability) of finding a Gleason Score 7 or higher prostate cancer. The four kallikrein panel of biomarkers utilized in the *4Kscore* test is based on decades of research conducted by scientists at Memorial Sloan-Kettering Cancer Center and leading European institutions. Investigators at the Lund University, Sweden, University of Turku, Finland and Memorial Sloan Kettering Cancer Center, New York, have also demonstrated that the *4Kscore* test can risk stratify the 20-year risk for development of prostate metastases and mortality in men who present at age 50 or 60 years old with an elevated PSA.

The *4Kscore* test was developed by OPKO and validated in two prospective, blinded studies of 1,012 and 366 men, respectively. The first study was done in collaboration with 26 urology centers across the U.S. and the second study was conducted at eight VA centers in the U.S. with a predominantly African American cohort. African Americans are 1.7 times more likely to be diagnosed with prostate cancer than Caucasian men and 2.2 times more likely to die from the disease. Results showed that the *4Kscore* test was highly accurate for predicting the presence of high-grade cancer (Gleason score 7 or higher) prior to prostate biopsy, regardless of race. The full data from the blinded, prospective U.S. clinical validation studies have been published in peer reviewed medical journals.

The clinical data from both studies demonstrated the ability of the *4Kscore* test to discriminate between men with high-grade, aggressive prostate cancer and those men who had no findings of cancer or had low-grade or indolent form of the disease. The discrimination, measured by Area Under the Curve ("AUC") analysis, was greater than 0.80 and is significantly higher than previously developed tests. Furthermore, the *4Kscore* test demonstrated excellent risk calibration, indicating the accuracy of the result for an individual patient, both Caucasian and African American. The high value of AUC and the excellent risk calibration make the *4Kscore* test result valuable information for the shared decision-making between the urologist and patient on whether or not to perform a prostate biopsy.

A separate clinical utility study indicated that the *4Kscore* test led to 64.6% fewer biopsies. The study, "The *4Kscore*® Test Reduces Prostate Biopsy Rates in Community and Academic Urology Practices", was published in a peer reviewed medical journal. The study, which included 611 patients seen by 35 academic and community urologists across the U.S., evaluated the influence of the *4Kscore* test on urologist-patient decisions about whether to perform a biopsy in men who had an abnormal PSA and or DRE result. Test results for patients were stratified into low risk (< 7.5%), intermediate risk (7.5%-19.9%) and high risk (□20%) for developing aggressive prostate cancer. Nearly half (49.3%) of the men were categorized as low risk; 25.7% and 25.0% fell into the intermediate-risk and high-risk categories, respectively. Notably, the *4Kscore* test results influenced biopsy

decisions in 88.7% of the men. In the three risk groups, a biopsy was avoided in 94.0%, 52.9% and 19.0% of men in the low, intermediate and high-risk categories, respectively.

The *4Kscore* test has been granted a Category I CPT® code by the AMA (CPT Code 81539). A CPT code is used by insurance companies and government payors to describe health care services and procedures. A Category I CPT code is critical to facilitate reimbursement in government programs such as Medicare and Medicaid, as well as private insurance programs.

The National Comprehensive Cancer Network ("NCCN") included the *4Kscore* test as a recommended test in their 2015, 2016, 2017 and 2018 Guidelines for Prostate Cancer Early Detection. The panel making this recommendation concluded that the *4Kscore* test is indicated for use prior to a first prostate biopsy, or after a negative biopsy, to assist patients and physicians in further defining the probability of high-grade cancer. In addition, the European Association of Urology ("EAU") Prostate Cancer Guidelines Panel included the *4Kscore* test in the 2018 EAU Guidelines for Prostate Cancer, concluding that the *4Kscore*, as a blood test with greater specificity over the PSA test, is indicated for use prior to a first prostate biopsy or after a negative biopsy to assist patients and physicians in further defining the probability of high-grade cancer.

We have and will continue to commit substantial efforts to obtaining broad reimbursement coverage for the *4Kscore* test. We have obtained a positive coverage decision from at least one national private payor and pricing agreements from several regional payors. Novitas Solutions, the local Medicare Administrative Contractor ("MAC") for our laboratory in New Jersey, issued a proposed non-coverage policy for the *4Kscore* test in May 2018 subject to a public comment period ending July 5, 2018. We made oral presentations at a Novitas open meeting and submitted substantial evidence and data to address the comments raised in the draft non-coverage determination. In January 2019, Novitas issued a notice of a future non-coverage determination for the *4KScore* test to be effective March 20, 2019. We are evaluating options to appeal the decision and undertake other steps with the Center for Medicare and Medicaid Services ("CMS") in an effort to have this determination rescinded or reversed.

Point-of-Care Diagnostics

OPKO Diagnostics, LLC ("OPKO Diagnostics"), formerly Claros Diagnostics, Inc., has developed a novel diagnostic instrument system to provide rapid, high performance blood test results in the point-of-care setting. The technology only requires a finger stick drop of blood introduced into the test cassette that can then run a quantitative test. The instrument performs the tests on a disposable, one-time usable cassette that is a microfluidics-based diagnostic test system. The credit card-sized test cassette works with a sophisticated desktop analyzer to provide high performance quantitative blood test results within minutes and permits the transition of complex immunoassays from the centralized reference laboratory to the physician's office, hospital nurses station or other decentralized location.

We completed multiple in vitro analytical validation and field use tests for the PSA test in mid-2017 and filed the pre-marketing authorization ("PMA") for the Claros Analyzer and Sangia Total PSA Test with the FDA in November 2017. The key clinical study with patients who were suspicious for prostate cancer found that the Sangia Total PSA test improved the sensitivity of a DRE to 91%, detecting 2.9 times the prostate cancers compared to DRE alone. The FDA approved the PMA for the Sangia Total PSA Test using the Claros Analyzer in January 2019. We also intend to commence a clinical trial of a testosterone diagnostic test for our point-of-care system. We expect to fully leverage BioReference's marketing, sales and distribution resources for the launch of the *Claros 1* system and associated diagnostic tests in the U.S.

We are also presently working to add additional tests for our point-of-care system, including parathyroid hormone ("PTH") and vitamin D, and we believe that there are many more applications for the technology, including infectious disease, cardiology, women's health and companion diagnostics.

Pharmaceutical Business

We currently have one commercial stage pharmaceutical product and several pharmaceutical compounds and technologies in various stages of research and development for a broad range of indications and conditions, including the following:

Renal Products

We launched *Rayaldee*, our lead renal product, in the U.S. market in November 2016. In June 2016, the FDA approved *Rayaldee* extended release capsules for the treatment of secondary hyperparathyroidism ("SHPT") in adults with stage 3 or 4 chronic kidney disease ("CKD") and vitamin D insufficiency, defined as serum total 25-hydroxyvitamin D levels less than 30 ng/mL. *Rayaldee* is a patented extended release product containing 30 mcg of a prohormone called calcifediol (25-hydroxyvitamin D3).

We have a 79-person highly specialized sales, marketing and market access team dedicated to the launch and commercialization of *Rayaldee* as of December 31, 2018. As compared to the fourth quarter of 2017 and the third quarter of 2018, total *Rayaldee* prescriptions increased approximately 141% and 17%, respectively, in the fourth quarter of 2018. Efforts are underway to obtain broader commercial and Part D insurance coverage for *Rayaldee*. We have already contracted for commercial and Part D coverage for more than seventy percent (70%) of U.S. covered lives as of the end of 2018.

In connection with the launch of *Rayaldee*, we have also engaged in a comprehensive ongoing market education campaign highlighting the unmet need in treating SHPT, including by leveraging key opinion leaders in community outreach programs such as speakers' bureaus and patient advocacy programs.

In May 2016, we entered into a collaboration with Vifor Fresenius Medical Care Renal Pharma ("VFMCRP") for the development and commercialization of *Rayaldee* in Europe, Canada, Mexico, Australia, South Korea and certain other international markets for the treatment of SHPT in patients with stage 3, 4 or 5 CKD and vitamin D insufficiency. Under the terms of the agreement, OPKO received an upfront payment of $50 million. We also received a $2 million payment triggered by the marketing approval of *Rayaldee* in Canada and will receive up to $230 million in additional regulatory and sales-based milestones. In addition, VFMCRP will pay OPKO tiered, double digit royalties on sales of the product at percentage rates that range from the mid-teens to the mid-twenties or a minimum royalty, whichever is greater, upon commencement of sales of the product. OPKO and VFMCRP are also collaborating to develop and commercialize a new dosage form of *Rayaldee* for the treatment of SHPT in hemodialysis patients. OPKO granted VFMCRP an option to acquire rights to this dosage form for the U.S. market; if exercised, OPKO will receive up to $555 million in additional milestones and double digit royalties.

On October 12, 2017, we entered into a Development and License Agreement (the "JT Agreement") with Japan Tobacco Inc. ("JT") granting JT the exclusive rights for the development and commercialization of *Rayaldee* in Japan (the "JT Territory"). The license grant to JT covers the therapeutic and preventative use of the product for (i) SHPT in non-dialysis and dialysis patients with CKD, (ii) rickets, and (iii) osteomalacia, as well as such additional indications as may be added to the scope of the license subject to the terms of the JT Agreement. Under the terms of the JT Agreement, OPKO received an initial upfront payment of $6 million and we received another $6 million milestone payment triggered by the initiation of OPKO's U.S. phase 2 study with *Rayaldee* in dialysis patients. OPKO is also eligible to receive up to an additional aggregate amount of $31 million upon the achievement of certain regulatory and development milestones by JT for *Rayaldee* in the JT Territory, and $75 million upon the achievement of certain sales based milestones by JT in the JT Territory. OPKO will also receive tiered, double digit royalty payments at rates ranging from low double digits to mid-teens on net product sales within the JT Territory. JT will, at its sole cost and expense, be responsible for performing all development

activities necessary to obtain all regulatory approvals for *Rayaldee* in Japan and for all commercial activities pertaining to *Rayaldee* in Japan, except for certain preclinical expenses which OPKO has agreed to reimburse JT up to a capped amount.

The FDA approval of *Rayaldee* was supported by successful results from two identical randomized, double-blind, placebo-controlled, multi-site phase 3 studies which established the safety and efficacy of *Rayaldee* as a new treatment for SHPT in adults with stage 3 or 4 CKD and vitamin D insufficiency.

Vitamin D insufficiency arises in CKD due to the abnormal upregulation of CYP24A1, an enzyme that destroys vitamin D and its metabolites, and from many other causes as well.

Studies in CKD patients have demonstrated that currently available over-the-counter and prescription vitamin D supplements cannot reliably raise blood vitamin D prohormone levels and effectively treat SHPT, a condition commonly associated with CKD in which the parathyroid glands secrete excessive amounts of PTH. Prolonged elevation of blood PTH causes excessive calcium and phosphorus to be released from bone, leading to elevated serum calcium and phosphorus levels, softening of the bones (osteomalacia) and calcification of vascular and renal tissues. SHPT affects 40-82% of patients with stage 3 or 4 CKD and approximately 95% of patients with stage 5 CKD.

The completed phase 3 trials for *Rayaldee* successfully met all primary efficacy and safety endpoints. The primary efficacy endpoint was a responder analysis in which "responder" was defined as any treated subject who demonstrated an average decrease in PTH of at least 30% from pre-treatment baseline during the last six weeks of the 26-week treatment period. A significantly higher response rate was observed with *Rayaldee* compared to placebo treatment in both trials and safety and tolerability data were comparable in both treatment groups. The PTH-lowering response rates with *Rayaldee* were similar in both stage 3 and 4 CKD. Patients completing the two pivotal trials were treated, at their election, for an additional six months with *Rayaldee* during an open-label extension study. Data from the extension study indicated that the PTH lowering response rate steadily increased with duration of *Rayaldee* treatment without deterioration in safety profile.

We also are developing *Rayaldee* for other indications, including for SHPT in patients with vitamin D insufficiency and stage 5 CKD requiring regular hemodialysis. A phase 2 study of a higher dose product commenced in this patient population during the third quarter of 2018. We expect to receive data from the study in the second half of 2020.

In August 2014, we also announced the submission of an Investigational New Drug Application ("IND") to the FDA to evaluate *Rayaldee* as an adjunctive therapy for the prevention of skeletal-related events in patients with bone metastases undergoing anti-resorptive therapy. We commenced a phase 1 dose escalation study in the fourth quarter of 2014 in breast and prostate cancer patients with bone metastases who were receiving anti-resorptive therapy. The study, which has been completed, was designed to evaluate safety, markers of vitamin D and mineral metabolism and tumor progression. We are currently collecting the final data and will shortly complete a final analysis of the study.

We filed an IND for *Rayaldee* in January 2019 for the treatment of SHPT arising from vitamin D insufficiency in patients who have undergone bariatric surgery. We intend to commence a phase 2 study in this population in the first half of 2019.

Our second most advanced renal product, Alpharen (Fermagate Tablets), is a new and potent non-absorbed phosphate binder to treat hyperphosphatemia in stage 5 CKD patients requiring regular hemodialysis. Alpharen (Fermagate Tablets) has been shown to be safe and effective in treating hyperphosphatemia in phase 2 and 3 trials in stage 5 CKD patients undergoing chronic hemodialysis. Hyperphosphatemia, or elevated serum phosphorus, is common in dialysis patients and tightly linked to the progression of SHPT and vascular calcification, both of which drive morbidity and mortality. The kidneys provide the primary route of excretion for

excess phosphorus absorbed from ingested food. As kidney function worsens, serum phosphorus levels increase and directly stimulate PTH secretion. Stage 5 CKD patients requiring dialysis must reduce their dietary phosphate intake and usually require regular treatment with orally administered phosphate binding agents to lower serum phosphorus to meet the recommendations of the Kidney Disease Improving Global Outcomes ("KDIGO") Clinical Practice Guidelines that elevated serum phosphorus levels should be lowered. Hyperphosphatemia contributes to soft tissue mineralization and affects approximately 90% of dialysis patients. Dialysis patients require ongoing phosphate binder treatment to maintain controlled serum phosphorus levels. A single additional phase 3 clinical trial is required to support marketing approvals for Alpharen in North America and in Europe.

We believe the CKD patient population is large and growing as a result of obesity, hypertension and diabetes; therefore this patient population represents a significant global market opportunity. According to the National Kidney Foundation, CKD afflicts over 40 million people in the U.S., including more than 21 million patients with stage 3 or 4 CKD. In stage 5 CKD, kidney function is minimal to absent and most patients require regular dialysis or a kidney transplant for survival. An estimated 71-97% of CKD patients have vitamin D insufficiency which can lead to SHPT and its debilitating consequences. CKD continues to be associated with poor outcomes, reflecting the inadequacies of the current standard of care.

Vitamin D insufficiency, hyperphosphatemia and SHPT, when inadequately treated, are major contributors to poor CKD outcomes. We intend to develop and commercialize *Rayaldee* and Alpharen to constitute part of the foundation for a new and markedly improved standard of care for CKD patients having SHPT and/or hyperphosphatemia.

SARM

Through the acquisition of Transition Therapeutics, a Toronto-based biotechnology company ("Transition"), we acquired OPK88004, an orally administered selective androgen receptor modulator ("SARM") which we have been developing for the treatment of Benign Prostatic Hypertrophy ("BPH") and other urologic and metabolic conditions. The selective and antagonistic properties of OPK88004 on the prostate appear to be well suited to potentially reduce prostate hyperplasia and volume, as well as provide anabolic therapeutic benefits such as increased lean body mass and physical function, and decreased fat mass in specific patient populations. We believe that SARMs hold considerable promise as new class of anabolic therapies for a variety of clinical indications, such as frailty and functional limitations associated with aging and chronic illnesses, cancer and osteoporosis.

A phase 2 study of 350 male subjects for another indication showed significantly increased lean body mass and muscle strength and significant fat mass reduction with no change in lower PSA levels. OPK88004 is currently being studied in a phase 2 study in prostate cancer patients who have undergone radical prostatectomy. The main objective of the study is to examine the effect of OPK88004 on sexual function and quality of life issues associated with this patient population. An additional phase 2b study to determine the optimal dose to treat patients with BPH commenced in November 2017 and we completed enrollment and randomized 114 patients in the U.S. in December 2018. The main focus of the study is to determine the optimal dose of OPK88004 that will reduce prostate volume and PSA levels, and increase anabolic effects such as lean body and decreased fat mass in BPH patients. Blinded data from the phase 2b study have shown significant variability in the measurement of prostate volume, rendering the assessment of prostate volume from treatment impractical. Additionally, a small number of subjects have shown increased liver enzymes. We plan to suspend the current trial but continue to analyze data relating to the study's other primary endpoint, the effect of OPK88004 on serum PSA levels, and the secondary endpoints, changes in lean body mass and fat mass. The results of this data analysis are expected in the second quarter of 2019. Additional indications including treatment of symptoms associated with androgen deprivation therapy in prostate cancer patients and low testosterone levels, muscle weakness and general frailty in kidney dialysis patients are being planned.

Oxyntomodulin

Our internal product development program is also currently focused on developing a once weekly administered oxyntomodulin for type 2 diabetes and obesity. Our most advanced oxyntomodulin product candidate, OPK88003, a once-weekly administered peptide for the treatment of type 2 diabetes and associated obesity, is a dual agonist of the Glucagon-Like Peptide-1 ("GLP-1") and glucagon receptors. The receptors play an integral role in regulating appetite, food intake, satiety and energy utilization in the body. Stimulating both of the receptors, OPK88003 has the potential to regulate blood glucose.

OPK88003 has been evaluated in a phase 2 study enrolling 420 type 2 diabetes subjects in a 24-week study consisting of a 12-week randomized blinded stage followed by a 12-week open-label stage. The study included four once-weekly dose arms of OPK88003 (10mg, 15mg, 30mg, 50mg), a placebo arm and an active comparator arm (exenatide extended release – 2mg). The study was completed in February 2016.

Subjects receiving the highest dose of OPK88003 peptide once weekly in the study demonstrated significantly superior weight loss compared with currently approved extended release exenatide and placebo after 12 and 24 weeks of treatment. OPK88003 also provided a reduction in HbA1c, a marker of sugar metabolism, similar to exenatide at weeks 12 and 24.

OPK88003 is currently being evaluated in a dose escalation phase 2b trial in 110 type 2 diabetics in which patients are treated with a dose escalation regimen over 3 months intended to optimize dose levels, and increase body weight loss and reduce the adverse event profile, such as nausea and vomiting. Patient enrollment was completed in June 2018. The patients will be treated for a total of 30 weeks in the study. We expect to receive data from the study in the first quarter of 2019. The key primary endpoint will be HbA1c and secondary endpoints such as weight loss, lipid profile and safety will also be analyzed.

We believe oxyntomodulin has potential to be a safe, long term therapy for obesity and diabetes type II patients, representing significant market opportunities. More than 380 million are living with diabetes worldwide, of which approximately 90% have type II diabetes. According to the World Health Organization, there are more than 500 million severely overweight or obese people.

Biologics

Our biologics business focuses on developing and commercializing longer-acting proprietary versions of already approved therapeutic proteins. One of our innovative platform technologies uses a short, naturally-occurring amino acid sequence, carboxl terminal peptide ("CTP"), which has the effect of slowing the removal from the body of the therapeutic protein to which it is attached. This CTP can be readily attached to a wide array of existing therapeutic proteins, stabilizing the therapeutic protein in the bloodstream and extending its life span without additional toxicity or loss of desired biological activity. We are using the CTP technology to develop new, proprietary versions of certain existing therapeutic proteins that have longer life spans than therapeutic proteins without CTP. We believe that our products will have greatly improved therapeutic profiles and distinct market advantages.

hGH-CTP

Our lead product candidate utilizing CTP, hGH-CTP, is a recombinant human growth hormone product under development for the treatment of growth hormone deficiency ("GHD"), which is a pituitary disorder resulting in short stature in children and other physical ailments in both children and adults.

In December 2014, we entered into an exclusive worldwide agreement with Pfizer for the development and commercialization of hGH-CTP for the treatment of GHD in adults ("Adult GHD") and in children ("Pediatric

GHD"), as well as for the treatment of growth failure in children born small for gestational age ("SGA"). In connection with the transaction, we granted Pfizer an exclusive license to commercialize hGH-CTP worldwide, and we received non-refundable and non-creditable upfront payments of $295 million and are eligible to receive up to an additional $275 million upon the achievement of certain regulatory milestones. In addition, we are eligible to receive initial tiered royalty payments associated with the commercialization of hGH-CTP for Adult GHD with percentage rates ranging from the high teens to mid-twenties. Upon the launch of hGH-CTP for Pediatric GHD in certain major markets, the royalties will transition to regional, tiered gross profit sharing for both hGH-CTP and Pfizer's Genotropin®.

Pursuant to our agreement with Pfizer, we will lead the clinical development activities for the hGH-CTP program and will be responsible for funding the development programs for the key indications, which includes Adult and Pediatric GHD and Pediatric SGA. Pfizer will be responsible for all development costs for additional indications as well as all post-marketing studies. In addition, Pfizer will fund the commercialization activities for all indications and lead the manufacturing activities covered by the global development plan.

GHD occurs when the production of growth hormone, secreted by the pituitary gland, is disrupted. Since growth hormone plays a critical role in stimulating body growth and development, and is involved in the production of muscle protein and in the breakdown of fats, a decrease in the hormone affects numerous body processes. hGH is used for the long-term treatment of children and adults with inadequate secretion of endogenous growth hormone. The primary indications it treats in children are GHD, SGA, kidney disease, Prader-Willi Syndrome and Turner's Syndrome. In adults, the primary indications are replacement of endogenous growth hormone and the treatment of AIDS-induced weight loss. Patients using hGH receive daily injections six or seven times a week. This is particularly burdensome for pediatric patients. We believe a significant market opportunity exists for a longer-lasting version of hGH that would require fewer injections.

Our phase 3 trial of hGH-CTP in pediatric patients was initiated in December 2016 and patient enrollment was completed in August 2018. The global study is a 225-patient study in Pediatric GHD patients designed to evaluate weekly treatment with hGH-CTP versus daily injections of Genotropin. The hGH-CTP is delivered in a pen device in this multi-regional study in over 21 countries. The GHD subjects will be treated weekly for 12 months. We expect to perform topline data analysis from the study in the fourth quarter of 2019. In addition to the phase 3 pediatric study, we have continued without interruption our ongoing phase 2 pediatric open label extension study for hGH-CTP. The phase 2 pediatric patients have been treated with hGH-CTP for over four years, and some patients for over five years. We have switched all of the pediatric patients in this study to the disposable pen device. We have also initiated a 44-patient study in Pediatric GHD patients in Japan which is nearing completion of enrollment. hGH-CTP has orphan drug designation in the U.S. and Europe for both adults and children with GHD.

In December 2016, we announced preliminary topline data from our phase 3, double blind, placebo controlled study of hGH-CTP in adults with GHD. The multinational, multi-center study, which utilized a 2:1 randomization between hGH-CTP and placebo, enrolled 203 subjects, 198 of whom received at least one dose of study treatment. Treatment was administered through a weekly injection. The topline results showed:

- The active group had a mean change in trunk fat mass of -0.4kg and placebo group was 0;
- There was no statistically significant difference (≤ 0.05 (p value)) between the active and placebo group;
- 97% of hGH-CTP vs 6% of placebo group showed IGF-1 normalization; and
- The safety profile of hGH-CTP is consistent with that observed with those treated with daily growth hormone.

Although there was no statistically significant difference between hGH-CTP and placebo on the primary endpoint of change in trunk fat mass from baseline to 26 weeks, after unblinding the study, we identified an

exceptional value of trunk fat mass reduction in the placebo group that may have affected the primary outcome. We have completed post-hoc sensitivity analyses to evaluate the influence of outliers on the primary endpoint results using multiple statistical approaches. Analyses that excluded outliers showed a statistically significant difference between hGH-CTP and placebo on the change in trunk fat mass. Additional analyses that did not exclude outliers showed mixed results. Following completion of the analyses, OPKO and Pfizer have agreed that OPKO may communicate with the FDA regarding a potential biologics license application ("BLA") submission.

Factor VII

In addition to hGH-CTP, we are developing a product to extend the life span of Factor VIIa (hemophilia) using the CTP technology. In February 2013, the FDA granted orphan drug designation to our longer-acting version of clotting Factor VIIa, Factor VIIa-CTP, for the treatment of bleeding episodes in patients with hemophilia A or B with inhibitors to Factor VIII or Factor IX. Currently, Factor VIIa therapy is available only as an intravenous (IV) formulation which, due to Factor VIIa's short half-life, requires multiple infusions to treat a bleeding episode. In addition, frequent infusions are onerous when used as preventative prophylactic therapy, especially for children.

We have conducted a phase 1/2a dose escalation study and a phase 1 dose escalating subcutaneous study in healthy volunteers to determine safety of our long acting Factor VIIa-CTP for the treatment of bleeding episodes in hemophilia A or B patients with inhibitors to Factor VIII or Factor IX. These two studies are completed and data assessment is on-going. Further regulatory and development strategies will be planned.

We believe that the CTP technology may also be broadly applicable to other therapeutic proteins in the market and provide a reduction in the number of injections.

APIs

FineTech Pharmaceutical, Ltd. ("FineTech") is our Israeli-based subsidiary that develops and produces high value, high potency specialty APIs. Through its FDA registered facility in Nesher, Israel, FineTech currently manufactures commercial APIs for sale or license to pharmaceutical companies in the U.S., Canada, Europe and Israel. We believe that FineTech's significant know-how and experience with analytical chemistry and organic syntheses, together with its production capabilities, may play a valuable role in the development of our pipeline of proprietary molecules and compounds for diagnostic and therapeutic products, while providing revenues and profits from its existing API business.

Oligonucleotide Therapeutics

OPKO CURNA, LLC ("CURNA"), previously CURNA Inc., is engaged in the discovery of new drugs for the treatment of a wide variety of illnesses, including cancer, heart disease, metabolic disorders and a range of genetic anomalies. CURNA's platform technology utilizes a short, single strand oligonucleotide and is based on the up-regulation of protein production through interference with non-coding RNA's or natural antisense. This strategy contrasts with established approaches which down-regulate protein production. CURNA has designed a novel type of therapeutic modality, termed AntagoNAT, and has initially demonstrated this approach for up-regulation of several therapeutically relevant proteins in *in vitro* and animal models.

CURNA has identified and developed potential active compounds which increase the production of over 80 key proteins involved in a large number of individual diseases. We have ongoing pre-clinical studies for several of these compounds. A lead compound has been identified for the treatment of Dravet Syndrome. Orphan disease designations are granted by FDA and EMA.

NK-1 Program

We acquired rolapitant and other neurokinin-1 ("NK-1") assets from Merck & Co. In December 2010, we exclusively out-licensed the development, manufacture and commercialization of our lead NK-1 candidate, VARUBI™ (rolapitant), to TESARO, Inc. ("TESARO"). VARUBI™, a potent and selective competitive antagonist of the NK-1 receptor, had successfully completed clinical testing for prevention of chemotherapy induced nausea and vomiting ("CINV") and post-operative induced nausea and vomiting. TESARO's NDA for oral VARUBI™ was approved by the FDA in September 2015, and in November 2015, TESARO commenced the commercial launch of oral VARUBI™ in the U.S. TESARO's IV formulation of VARUBI™ was approved by the FDA in October 2017 and commercial sales commenced in November 2017. In January 2018, the package insert for VARUBI™ was updated to include mention of new adverse effects, including anaphylaxis, anaphylactic shock and other serious hypersensitivity reactions which were reported following its introduction to the market in November 2017. In late February 2018, TESARO announced it would suspend distribution of VARUBI™ IV, but would continue to support the oral product.

Under the terms of the license, we received a $6.0 million upfront payment from TESARO and we received $30.0 million of milestone payments upon achievement of certain regulatory and commercial sale milestones. We are eligible to receive additional commercial milestone payments of up to $85.0 million if specified levels of annual net sales are achieved. TESARO is also obligated to pay us tiered royalties on annual net sales achieved in the U.S. and Europe at percentage rates that range from the low double digits to the low twenties, and outside of the U.S. and Europe at low double-digit percentage rates. TESARO assumed responsibility for clinical development and commercialization of licensed products at its expense. Under the agreement, we will continue to receive royalties on a county-by-country and product-by-product basis until the later of the date that all of the patents rights licensed from us and covering rolapitant expire, are invalidated or are not enforceable, and 12 years from the date of the first commercial sale of the product.

If TESARO elects to develop and commercialize VARUBI™ in Japan through a third-party licensee, TESARO will share equally with us all amounts it receives in connection with such activities, subject to certain exceptions and deductions. The term of the license will remain in force until the expiration of the royalty term unless we terminate the license earlier for TESARO's material breach of the license or bankruptcy. TESARO has a right to terminate the license during the term for any reason on three month's written notice. TESARO assigned its rights and obligations under the agreement to TerSera Therapeutics LLC ("TerSera") in June 2018 pursuant to an asset purchase agreement. Under the asset purchase agreement, TerSera is responsible for VARUBI in the United States and Canada and TESARO can continue to commercialize VARUBY® in Europe and the rest of the world though a sublicense with TerSera.

Commercial Operations

We also intend to continue to leverage our global commercialization expertise to pursue acquisitions of commercial businesses that will both drive our growth and provide geographically diverse sales and distribution opportunities. During 2015, we acquired EirGen Pharma Ltd. ("EirGen"), a specialty pharmaceutical company based in Ireland. EirGen is focused on the development and commercial supply of high potency, high barrier to entry, pharmaceutical products. Through its facility in Waterford, Ireland, EirGen currently manufactures high potency pharmaceutical products and exports to over 50 countries. High potency drugs such as those used for cancer chemotherapy are typically unsuitable for manufacture in normal multi-product facilities due to cross contamination risks.

To date, EirGen and its commercial partners have filed several product applications with the FDA in Europe and in Japan. EirGen has a strong research and development portfolio of high barrier to entry drugs and we expect to rapidly expand its drug portfolio. We believe EirGen will play an important role in the development, manufacturing, distribution and approval of a wide variety of drugs in a variety of dosage forms with an emphasis on high potency products.

OPKO Health Europe (previously Farmadiet Group Holding, S.L.) operates primarily in Spain and has more than 20 years of experience in the development, manufacture, marketing and sale of pharmaceutical, nutraceutical and veterinary products in Europe.

OPKO Mexico (previously Pharmacos Exakta S.A. de C.V.), is engaged in the manufacture, marketing, sale and distribution of ophthalmic and other pharmaceutical products to private and public customers in Mexico. OPKO Mexico is commercializing food supplements and over the counter products, and manufactures and sells products primarily in the generics market in Mexico, although it also has some proprietary products as well.

OPKO Chile (previously Pharma Genexx, S.A.) markets, sells and distributes pharmaceutical products to the private, hospital, pharmacy and public institutional markets in Chile for a wide range of indications, including, cardiovascular products, vaccines, antibiotics, gastro- intestinal products and hormones, among others. ALS Distribuidora Limitada ("ALS") is engaged in the business of importation, commercialization and distribution of pharmaceutical products for private markets in Chile. ALS started operations in 2009 as the exclusive product distributor of Arama Laboratorios y Compañía Limitada ("Arama"), a company with more than 20 years of experience in the pharmaceutical products market. In connection with the acquisition of ALS, OPKO acquired all of the product registrations and trademarks previously owned by Arama, as well as the Arama name. We distribute food supplements and over the counter products through Arama.

Strategic Investments

We have and may continue to make investments in other early stage companies that we perceive to have valuable proprietary technology and significant potential to create value for OPKO as a shareholder.

The Offering	
Issuer	OPKO Health, Inc., a Delaware corporation.
Shares of our common stock outstanding as of December 31, 2018	586,331,543 shares.
Shares of our common stock offered	Up to 30,000,000 borrowed shares.
Shares of our common stock outstanding following this offering	616,331,543 shares (including 30,000,000 shares, the maximum number of shares of our common stock that may be offered hereby), but excluding any shares of our common stock that may be issuable upon conversion of the convertible notes).
Nasdaq symbol for our common stock	Our common stock is listed on the Nasdaq under the symbol "OPK."
Use of proceeds	The shares of our common stock offered hereby by the selling stockholders have been borrowed through a share lending arrangement from an affiliate of the underwriter in our concurrent offering of convertible notes, which is borrowing the shares from us. We refer to the entity that is borrowing shares from us as the Share Borrower. The borrowed shares are newly-issued shares issued in connection with this transaction and will be cancelled or held as treasury shares by us upon the expiration or the early termination of the share lending arrangement described herein. We expect that the selling stockholders will sell the borrowed shares and use the resulting short position to establish their initial hedge with respect to their investments in the convertible notes. The selling stockholders may effect such transactions by selling the borrowed shares at various prices from time to time through the Share Borrower or its affiliates. The selling stockholders will receive all of the net proceeds from the sale of the borrowed shares, and we will not receive any of those proceeds, but we will receive a one-time nominal fee of $0.01 per share for each newly-issued share from the Share Borrower for the use of the borrowed shares. See "Use of Proceeds", "Description of the Share Lending Agreement; Concurrent Offering of Convertible Notes" and "Plan of Distribution."
Risk factors	You should carefully consider the information set forth in the "Risk Factors" section of this prospectus supplement and accompanying prospectus as well as the other information included in or incorporated by reference into this prospectus supplement and the accompanying prospectus and similar sections in our filings with the SEC before deciding whether to invest in our common stock.

Description of Concurrent Offerings	Concurrently with this offering and by means of a separate prospectus supplement and accompanying prospectus, we are offering $200,000,000 aggregate principal amount of convertible notes, not including the underwriter's option to purchase up to an additional $30,000,000 principal amount of the convertible notes from us solely to cover overallotments, if any. See "Description of the Share Lending Agreement; Concurrent Offering of Convertible Notes."

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should carefully consider the risks described below, as well as the other risks and uncertainties described in our Annual Report on Form 10-K for the year ended December 31, 2017, the other documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed.

Risks Related to Our Business

We have a history of operating losses and may not become profitable in the near future.

We are not profitable and have incurred losses since our inception. We may not generate substantial revenue from the sale of proprietary pharmaceutical products or certain of our diagnostic products for some time and we have generated only limited revenue from our pharmaceutical operations in the U.S., Chile, Mexico, Israel, Spain and Ireland, and from sale of the *4Kscore* test. We may not successfully leverage the national marketing, sales and distribution resources of BioReference to enhance sales of, and reimbursement for, our *4Kscore* test and our other diagnostic products under development, which would adversely impact our ability to generate substantial revenue from the sale of these products for some time. *Rayaldee* is our only pharmaceutical product that has been approved for marketing, other than those products sold by our Chilean, Mexican, Israeli, Spanish and Irish subsidiaries. We continue to incur substantial research and development and general and administrative expenses related to our operations and, to date, we have devoted most of our financial resources to research and development, including our pre-clinical development activities and clinical trials. We may incur losses from our operations for the foreseeable future and these losses could increase as we continue our research activities and conduct development of, and seek regulatory approvals and clearances for, our product candidates, and prepare for and begin to commercialize any approved or cleared products, particularly if we are unable to generate profits and cash flow from BioReference and our other commercial businesses. If we are unable to generate profits and cash flow from BioReference and our other commercial businesses, our product candidates fail in clinical trials or do not gain regulatory approval or clearance, or if our approved products and product candidates do not achieve market acceptance, we may never become profitable. In particular, if we are unable to successfully commercialize *Rayaldee*, we may never generate substantial revenues from *Rayaldee* or achieve profitability. In addition, if we are required by the FDA to perform studies in addition to those we currently anticipate, our expenses will increase beyond current expectations and the timing of any potential product approval may be delayed. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods.

We will continue to require additional funding, which may not be available to us on acceptable terms, or at all.

As of September 30, 2018, we had cash and cash equivalents of approximately $43.7 million. We have not generated sustained positive cash flows sufficient to offset our operating and research and development expenses and our primary source of cash has been from the public and private placement of stock, our issuance on January 30, 2013 of $175.0 million in original principal amount of 3.00% Senior Convertible Notes (the "2033 Senior Notes") to qualified institutional buyers and accredited investors in a private placement in reliance on exemptions from registration under the Securities Act of 1933, as amended (the "Securities Act"), our issuance in February 2018 of a series of 5% Convertible Promissory Notes in the aggregate principal amount of $55.0 million and credit facilities available to us.

On November 8, 2018, we entered into stock purchase agreements with certain investors pursuant to which we agreed to sell to such investors in private placements (the "Private Placements") an aggregate of approximately 26.5 million shares of our common stock (the "Shares") at a purchase price of $3.49 per share, which was the closing bid price of our common stock on the Nasdaq Global Select Market on

such date, for an aggregate purchase price of $92.5 million. In addition, we entered into a credit agreement with an affiliate of our Chairman and Chief Executive Officer, Phillip Frost, M.D., pursuant to which the lender committed to provide us with an unsecured line of credit in the amount of $60 million. Borrowings under the line of credit will bear interest at a rate of 10% per annum and may be repaid and reborrowed at any time. The line of credit matures on November 8, 2023. On February 1, 2019, we borrowed $28.8 million under the line of credit; no amounts were previously outstanding under the line of credit. We intend to use the proceeds of the $28.8 million borrowing to repurchase the 2033 Senior Notes tendered by holders thereof pursuant to such holders' option to require us to repurchase such 2033 Senior Notes pursuant to the terms of the indenture governing the 2033 Senior Notes.

We believe that the cash and cash equivalents on hand or available to us from operations or through our lines of credit, together with the proceeds of this offering, are sufficient to meet our anticipated cash requirements for operations and debt service beyond the next 12 months. We have based this estimate on assumptions that may prove to be wrong or subject to change, and we may be required to use our available capital resources sooner than we currently expect or curtail aspects of our operations in order to preserve our capital.

Because of the numerous risks and uncertainties associated with the development and commercialization of our products and product candidates, the success of our relationships with Pfizer, VFMCRP and JT and the success of our integration of BioReference and other acquisitions, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials and our expanded commercial operations. Our future capital requirements will depend on a number of factors, including the successful commercialization of *Rayaldee*, our relationships with Pfizer, VFMCRP and JT, cash flow generated by BioReference and costs associated with the integration of the BioReference and other acquisitions, the continued progress of our research and development of product candidates, the timing and outcome of clinical trials and regulatory approvals, the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims and other intellectual property rights, the status of competitive products, the availability of financing and our success in developing markets for our products and product candidates. Until we can generate a sufficient amount of product and service revenue to finance our cash requirements for research, development and operations, we will need to finance future cash needs primarily through public or private equity offerings, debt financings or strategic collaborations.

Our ability to obtain additional capital may depend on prevailing economic conditions and financial, business and other factors beyond our control. Disruptions in the U.S. and global financial markets may adversely impact the availability and cost of credit, as well as our ability to raise money in the capital markets. Economic conditions have been, and continue to be, volatile. Continued instability in these market conditions may limit our ability to replace, in a timely manner, maturing liabilities and access the capital necessary to fund and grow our business. Additionally, our continuing operating losses and the recent lawsuits involving us and our Chief Executive Officer ("CEO") and Chairman of our Board of Directors ("Chairman") by the SEC and other parties increase the difficulty in obtaining additional capital.

There can be no assurance that additional capital will be available to us on acceptable terms, or at all, which could adversely impact our business, results of operations, liquidity, capital resources and financial condition. If we are not able to secure additional funding when needed, we may have to delay reduce the scope of, or eliminate one or more of our clinical trials or research and development programs or cease operations altogether. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience additional significant dilution, and debt financing, if available, may involve restrictive covenants and other onerous terms. To the extent that we raise additional funds through collaboration and licensing arrangements, it may be necessary to relinquish some rights to our technologies or our products and product candidates or grant licenses on terms that may not be favorable to us.

Our research and development activities may not result in commercially viable products.

Many of our product candidates are in the early stages of development and are prone to the risks of failure inherent in drug, diagnostic and medical device product development. These risks further include the possibility that such products would:

- be found to be ineffective, unreliable or otherwise inadequate or otherwise fail to receive regulatory approval;
- be difficult or impossible to manufacture on a commercial scale;
- be uneconomical to market or otherwise not be effectively marketed;
- fail to be successfully commercialized if adequate reimbursement from government health administration authorities, private health insurers and other organizations for the costs of these products is unavailable;
- be impossible to commercialize because they infringe on the proprietary rights of others or compete with products marketed by others that are superior; or
- fail to be commercialized prior to the successful marketing of similar products by competitors.

The results of pre-clinical trials and previous clinical trials for our products may not be predictive of future results, and our current and planned clinical trials may not satisfy the requirements of the FDA or other non-U.S. regulatory authorities.

Positive results from pre-clinical studies and early clinical trial experience should not be relied upon as evidence that later-stage or large-scale clinical trials will succeed. Likewise, there can be no assurance that the results of studies conducted by collaborators or other third parties will be viewed favorably or are indicative of our own future study results. We may be required to demonstrate with substantial evidence through well-controlled clinical trials that our product candidates are either (i) with respect to drugs or Class III devices, safe and effective for use in a diverse population of their intended uses or (ii) with respect to Class I or Class II devices, are substantially equivalent in terms of safety and effectiveness to devices that are already marketed under section 510(k) of the Food, Drug and Cosmetic Act. Success in early clinical trials does not mean that future clinical trials will be successful because product candidates in later-stage clinical trials may fail to demonstrate sufficient safety and efficacy to the satisfaction of the FDA and other non-U.S. regulatory authorities despite having progressed through initial clinical trials.

Further, our drug candidates may not be approved or cleared even if they achieve their primary endpoints in phase 3 clinical trials or registration trials. In addition, our diagnostic test candidates may not be approved or cleared, as the case may be, even though clinical or other data are, in our view, adequate to support an approval or clearance. The FDA or other non-regulatory authorities may disagree with our trial design and our interpretation of data from pre-clinical studies and clinical trials. In addition, any of these regulatory authorities may change requirements for the approval or clearance of a product candidate even after reviewing and providing comment on a protocol for a pivotal clinical trial that has the potential to result in FDA and other non-U.S. regulatory authorities' approval. Any of these regulatory authorities may also approve or clear a product candidate for fewer or more limited indications or uses than we request or may grant approval or clearance contingent on the performance of costly post-marketing clinical trials. The FDA or other non-U.S. regulatory authorities may not approve the labeling claims necessary or desirable for the successful commercialization of our product candidates.

The results of our clinical trials may show that our product candidates may cause undesirable side effects, which could interrupt, delay or halt clinical trials, resulting in the denial of regulatory approval by the FDA and other non-U.S. regulatory authorities.

Safety concerns with drug products over the years have resulted in the withdrawal of drug products, revisions to drug labeling that further limit use of the drug products, and establishment of risk management programs that may, for instance, restrict distribution of drug products. Attention to drug safety issues may result

in a more cautious approach by the FDA to clinical trials. Data from clinical trials may receive greater scrutiny with respect to safety, which may make the FDA or other regulatory authorities more likely to terminate clinical trials before completion, or require longer or additional clinical trials that may result in substantial additional expense and a delay or failure in obtaining approval or approval for a more limited indication than originally sought.

The failure to successfully commercialize Rayaldee would have a material adverse effect on our business.

In June 2016, the FDA approved our NDA for *Rayaldee* (calcifediol) extended release capsules for the treatment of SHPT in adults with stage 3 or 4 CKD and serum total 25-hydroxyvitamin D levels less than 30 ng/mL. The commercial launch for *Rayaldee* began in November 2016. *Rayaldee* is our only pharmaceutical product approved for marketing in the U.S. and our ability to generate revenue from product sales and achieve profitability is substantially dependent on our ability to effectively commercialize *Rayaldee*. Our failure to successfully commercialize *Rayaldee* would have a material adverse effect on our business, financial condition, cash flows and results of operations.

Additionally, the market perception and reputation of *Rayaldee* and its safety and efficacy are important to our business and the continued acceptance of our product candidates and products. Any negative publicity about *Rayaldee*, such as the discovery of safety issues, adverse events or even public rumors about such events, could have a material adverse effect on our business. Levels of market acceptance for *Rayaldee* could be impacted by several factors, some of which are not within our control, including but not limited to the:

- safety, efficacy, convenience and cost-effectiveness of our products compared to products of our competitors;
- scope of approved uses and marketing approval;
- availability of patent or regulatory exclusivity;
- timing of market approvals and market entry;
- ongoing regulatory obligations following approval;
- any restrictions or "black box" warnings required on the labeling of such products:
- availability of alternative products from our competitors;
- acceptance of the price of our products;
- effectiveness of our sales forces and promotional efforts;
- the level of reimbursement of our products;
- acceptance of our products on government and private formularies;
- ability to market our products effectively at the retail level or in the appropriate setting of care; and
- the reputation of our products.

If *Rayaldee* fails to gain, or loses, market acceptance, our revenues would be adversely impacted and we may be required to take material impairment charges, all of which could have a material adverse effect on our business, financial condition, cash flows and results of operations.

We rely on licensing agreements with VFMCRP and JT for the international development and marketing of Rayaldee. Failure to maintain these license agreements could prevent us from successfully developing and commercializing Rayaldee worldwide.

In May 2016, EirGen, our wholly-owned subsidiary, partnered with VFMCRP through a Development and License Agreement (the "VFMCRP Agreement") for the development and marketing of *Rayaldee* in Europe, Canada, Mexico, Australia, South Korea and certain other international markets. The license to VFMCRP potentially covers all therapeutic and prophylactic uses of the product in human patients, provided that initially the license is for the use of the product for the treatment or prevention of secondary hyperparathyroidism related

to patients with stage 3 or 4 chronic kidney disease and vitamin D insufficiency/deficiency. We received a non-refundable and non-creditable upfront payment of $50 million and a $2.0 million payment triggered by the approval of *Rayaldee* in Canada for the treatment of SHPT in adults with stage 3 or 4 CKD and vitamin D insufficiency. EirGen is also eligible to receive up to an additional $35 million in regulatory milestones and $195 million in launch and sales-based milestones. In addition, we are eligible to receive tiered, double digit royalty payments or a minimum royalty, whichever is greater, upon commencement of sales of the product. The success of the VFMCRP Agreement is dependent in part on, among other things, the skills, experience and efforts of VFMCRP's employees responsible for the project, VFMCRP's commitment to the arrangement and the financial condition of VFMCRP, all of which are beyond our control. In the event that VFMCRP, for any reason, including but not limited to early termination of the agreement, fails to devote sufficient resources to successfully develop and market *Rayaldee* internationally, our ability to earn milestone payments or receive royalty payments would be adversely affected, which would have a material adverse effect on our financial condition and prospects.

In October 2017, we entered into the JT Agreement under which JT was granted the exclusive rights for the development and commercialization of *Rayaldee* in Japan. The license grant to JT covers the therapeutic and preventative use of the product for (i) SHPT in non-dialysis and dialysis patients with CKD, (ii) rickets and (iii) osteomalacia, as well as such additional indications as may be added to the scope of the license subject to the terms of the JT Agreement. Under the terms of the JT Agreement, we received an initial upfront payment of $6 million and received another $6 million upon the initiation of our phase 2 study for *Rayaldee* in dialysis patients in the U.S. We are also eligible to receive up to an additional aggregate amount of $31 million upon the achievement of certain regulatory and development milestones by JT for *Rayaldee* in Japan, and $75 million upon the achievement of certain sales based milestones by JT. We will also receive tiered, double digit royalty payments at rates ranging from low double digits to mid-teens on net sales within Japan. JT will, at its sole cost and expense, be responsible for performing all development activities necessary to obtain all regulatory approvals for *Rayaldee* in Japan and for all commercial activities pertaining to *Rayaldee* in Japan, except for certain preclinical expenses for which we have agreed to reimburse JT up to a capped amount. If JT, for any reason, including but not limited to early termination of the JT Agreement, fails to devote sufficient resources to successfully develop and market *Rayaldee* in Japan, our ability to earn milestone payments or receive royalty payments would be adversely affected, which could have a material adverse effect on our financial condition and prospects.

Our exclusive worldwide agreement with Pfizer is important to our business. If we do not successfully develop hGH-CTP and/or Pfizer does not successfully commercialize hGH-CTP, our business could be adversely affected.

In December 2014, we entered into a development and commercialization agreement with Pfizer relating to our long-acting hGH-CTP for the treatment of Adult GHD and Pediatric GHD (the "Pfizer Agreement"). Under the terms of the Pfizer Agreement, we received non-refundable and non-creditable upfront payments of $295 million and are eligible to receive up to an additional $275 million upon the achievement of certain regulatory milestones. In addition, we are eligible to receive initial royalty payments associated with the commercialization of hGH-CTP for Adult GHD. Upon the launch of hGH-CTP for Pediatric GHD, the royalties will transition to a regional, tiered gross profit sharing for both hGH-CTP and Pfizer's Genotropin®. We are responsible for the development program and are obligated to pay for the development up to an agreed cap, which may be exceeded under certain circumstances. We will exceed the development cap and if we are unable to reach an agreement with Pfizer regarding cost sharing for the overruns, as well as other obligations, including development obligations, it could have a material adverse impact on the expected benefits to us from the Pfizer transaction and our overall financial condition. In the event that the parties are able to obtain regulatory approvals to market a product covered by the Pfizer Agreement, we will be substantially dependent on Pfizer for the successful commercialization of such product. The success of the collaboration arrangement with Pfizer is dependent in part on, among other things, the skills, experience and efforts of Pfizer's employees responsible for the project, Pfizer's commitment to the arrangement, and the financial condition of Pfizer, all of which are

beyond our control. In the event that Pfizer, for any reason, including but not limited to early termination of the Pfizer Agreement, fails to devote sufficient resources to successfully develop and commercialize any product resulting from the collaboration arrangement, our ability to earn milestone payments or receive royalty or profit sharing payments would be adversely affected, which would have a material adverse effect on our financial condition and prospects and the trading prices of our securities.

Our business is substantially dependent on the success of clinical trials for hGH-CTP and our ability to achieve regulatory approval for the marketing of this product.

There is no assurance that clinical trials for hGH-CTP will be successful or support marketing approval, or that we will be able to obtain marketing approval for the product, or any other product candidate we are developing. Before they can be marketed, our products in development must be approved by the FDA or similar foreign governmental agencies. The process for obtaining FDA approval is both time-consuming and costly, with no certainty of a successful outcome. Before obtaining regulatory approval for the sale of any drug candidate, we must conduct extensive preclinical tests and clinical trials to demonstrate the safety and efficacy in humans of our product candidates. Although the safety profile for hGH-CTP has been consistent with that observed with those treated with daily growth hormone, further testing or patient use may undermine those determinations or unexpected side effects may arise. A failure of any preclinical study or clinical trial can occur at any stage of testing. The results of preclinical and initial clinical testing of these products may not necessarily indicate the results that will be obtained from later or more extensive testing. It also is possible to suffer significant setbacks in advanced clinical trials, even after obtaining promising results in earlier trials. In December 2016, we announced preliminary topline data from our phase 3, double blind, placebo controlled study of hGH-CTP in adults with GHD. Although there was no statistically significant difference between hGH-CTP and placebo on the primary endpoint of change in trunk fat mass from baseline to 26 weeks, after unblinding the study, we identified an exceptional value of trunk fat mass reduction in the placebo group that may have affected the primary outcome. We completed post-hoc sensitivity analyses to evaluate the influence of outliers on the primary endpoint results using multiple statistical approaches. Analyses that excluded outliers showed a statistically significant difference between hGH-CTP and placebo on the change in trunk fat mass. Additional analyses that did not exclude outliers showed mixed results. There can be no assurance that a BLA will be submitted or that the FDA will consider the sensitivity analysis or consider the product for approval for adults with GHD. If phase 3 clinical trials for hGH-CTP are not successful or we are unable to achieve regulatory approval for this product, our business will be significantly adversely impacted, which could have a materially adverse effect on our business, financial condition and results of operations.

Our business is substantially dependent on our ability to develop, launch and generate revenue from our diagnostic products.

Our business is dependent on our ability to successfully commercialize the *4Kscore* test and other diagnostic products, including the *Claros 1*. We are committing significant resources to the development and commercialization of these products, and there is no guarantee that we will be able to successfully commercialize these tests. We have limited experience in developing, manufacturing, selling, marketing and distributing diagnostic tests. If we fail to leverage the national marketing, sales and distribution resources of BioReference to enhance sale of, and reimbursement for, the *4Kscore* test and other diagnostic products including the *Claros 1*, our ability to generate substantial revenue from the sale of these products will be adversely impacted. If we are not able to successfully develop, market or sell diagnostic tests we develop for any reason, including the failure to obtain any required regulatory approvals, obtain reimbursement for, or successfully integrate BioReference, we will not generate any meaningful revenue from the sale of such tests. Even if we are able to develop effective diagnostic tests for sale in the marketplace, a number of factors could impact our ability to sell such tests or generate any significant revenue from the sale of such tests, including without limitation:

- our ability to establish and maintain adequate infrastructure to support the commercial launch and sale of our diagnostic tests, including establishing adequate laboratory space, information technology infrastructure, sample collection and tracking systems, electronic ordering and reporting systems and other infrastructure and hiring adequate laboratory and other personnel;

- the success of the validation studies for our diagnostic tests under development and our ability to publish study results in peer-reviewed journals;
- the availability of alternative and competing tests or products and technological innovations or other advances in medicine that cause our technologies to be less competitive;
- the accuracy rates of such tests, including rates of false-negatives and/or false-positives;
- concerns regarding the safety or effectiveness or clinical utility of our diagnostic tests;
- changes in the regulatory environment affecting health care and health care providers, including changes in laws regulating laboratory testing and/or device manufacturers;
- the extent and success of our sales and marketing efforts and ability to drive adoption of our diagnostic tests;
- coverage and reimbursement levels by government payors and private insurers;
- pricing pressures and changes in third-party payor reimbursement policies; and
- intellectual property rights held by others or others infringing our intellectual property rights.

Our business is substantially dependent on our ability to generate profits and cash flow from our laboratory operations.

We have made a significant investment in our laboratory operations through the acquisition of BioReference. We compete in the clinical laboratory market primarily on the basis of the quality of testing, reporting and information systems, reputation in the medical community, the pricing of services and ability to employ qualified personnel. Our failure to successfully compete on any of these factors could result in the loss of clients and a reduction in our revenues and profits. To offset efforts by payors to reduce the cost and utilization of clinical laboratory services, we will need to obtain and retain new clients and business partners and grow the laboratory operations. A reduction in tests ordered, specimens submitted by existing clients or payment rates, without offsetting growth in our client base, could impact our ability to successfully grow our business and could have a material adverse impact on our ability to generate profits and cash flow from the laboratory operations.

Discontinuation or recalls of existing testing products, failure to develop, or acquire, licenses for new or improved testing technologies or our clients using new technologies to perform their own tests could adversely affect our business.

From time to time, manufacturers discontinue or recall reagents, test kits or instruments used by us to perform laboratory testing. Such discontinuations or recalls could adversely affect our costs, testing volume and revenue.

The clinical laboratory industry is subject to changing technology and new product introductions. Our success in maintaining a leadership position in genomic and other advanced testing technologies will depend, in part, on our ability to develop, acquire or license new and improved technologies on favorable terms and to obtain appropriate coverage and reimbursement for these technologies. We may not be able to negotiate acceptable licensing arrangements and it cannot be certain that such arrangements will yield commercially successful diagnostic tests. If we are unable to license these testing methods at competitive rates, our research and development costs may increase as a result. In addition, if we are unable to license or develop new or improved technologies to expand our esoteric testing operations, our testing methods may become outdated when compared with our competition and testing volume and revenue may be materially and adversely affected.

Currently, most clinical laboratory testing is categorized as “high” or “moderate” complexity, and thereby is subject to extensive and costly regulation under Clinical Laboratory Improvement Amendments (“CLIA”). The cost of compliance with CLIA makes it impractical for most physicians to operate clinical laboratories in their offices, and other laws limit the ability of physicians to have ownership in a laboratory and to refer tests to such a laboratory. Manufacturers of laboratory equipment and test kits could seek to increase their sales by marketing

point-of-care laboratory equipment to physicians and by selling test kits approved for home or physician office use to both physicians and patients. Diagnostic tests approved for home use are automatically deemed to be "waived" tests under CLIA and may be performed in physician office laboratories as well as by patients in their homes with minimal regulatory oversight. Other tests meeting certain FDA criteria also may be classified as "waived" for CLIA purposes. The FDA has regulatory responsibility over instruments, test kits, reagents and other devices used by clinical laboratories and has taken responsibility from the Centers for Disease Control for classifying the complexity of tests for CLIA purposes. Increased approval of "waived" test kits could lead to increased testing by physicians in their offices or by patients at home, which could affect our market for laboratory testing services and negatively impact our revenues. If our competitors develop and market products that are more effective, safer or less expensive than our products and product candidates, our net revenues, profitability and commercial opportunities will be negatively impacted.

If our competitors develop and market products or services that are more effective, safer or less expensive than our current and future products or services, our revenues, profitability and commercial opportunities will be negatively impacted.

The pharmaceutical, diagnostic and laboratory testing industries are highly competitive and require an ongoing, extensive search for technological innovation. The industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. They also require, among other things, the ability to effectively discover, develop, test and obtain regulatory approvals for products, as well as the ability to effectively commercialize, market and promote approved products.

Numerous companies, including major pharmaceutical companies, specialty pharmaceutical companies and specialized biotechnology companies, are engaged in the development, manufacture and marketing of pharmaceutical products competitive with those that we intend to commercialize ourselves and through our partners. Competitors to our diagnostics business include major diagnostic companies, reference laboratories, molecular diagnostic firms, universities and research institutions. Most of these companies have substantially greater financial and other resources, larger research and development staffs and more extensive marketing and manufacturing organizations than ours. This enables them, among other things, to make greater research and development investments and efficiently utilize their research and development costs, as well as their marketing and promotion costs, over a broader revenue base. This also provides our competitors with a competitive advantage in connection with the highly competitive product acquisition and product in-licensing process, which may include auctions in which the highest bidder wins. Our competitors may also have more experience and expertise in obtaining marketing approvals from the FDA and other regulatory authorities. We cannot predict with accuracy the timing or impact of the introduction of potentially competitive products or their possible effect on our sales. In addition to product development, testing, approval and promotion, other competitive factors in the pharmaceutical and diagnostics industry include industry consolidation, product quality and price, product technology, reputation, customer service and access to technical information.

In our clinical laboratory operations, we compete with three types of providers in a highly fragmented and competitive industry: hospital laboratories, physician-office laboratories and other independent clinical laboratories. Our major competitors in the New York metropolitan area are two of the largest national laboratories, Quest Diagnostics and Laboratory Corporation of America. We are much smaller than these national laboratories.

The clinical laboratory business is intensely competitive both in terms of price and service. Pricing of laboratory testing services is often one of the most significant factors used by health care providers and third-party payors in selecting a laboratory. As a result of the clinical laboratory industry undergoing significant consolidation, larger clinical laboratory providers are able to increase cost efficiencies afforded by large-scale automated testing. This consolidation results in greater price competition. We may be unable to increase cost efficiencies sufficiently, if at all, and as a result, our net earnings and cash flows could be negatively impacted by such price competition. Additionally, we may also face changes in contracting with third-party payors, fee

schedules, competitive bidding for laboratory services or other actions or pressures reducing payment schedules as a result of increased or additional competition.

If our competitors market products that are more effective, safer, easier to use or less expensive than our current products and product candidates, or that reach the market sooner than our products and product candidates, we may not achieve commercial success. In addition, the biopharmaceutical, diagnostic, medical device and laboratory industries are characterized by rapid technological change. Because our research approach integrates many technologies, it may be difficult for us to stay abreast of the rapid changes in each technology. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or products developed by our competitors may render our technologies, products or product candidates obsolete or less competitive.

Our product development activities could be delayed or stopped.

We do not know whether our current or planned pre-clinical and clinical studies will be completed on schedule, or at all. Furthermore, we cannot guarantee that our planned pre-clinical and clinical studies will begin on time or at all. The commencement of our planned clinical trials could be substantially delayed or prevented by several factors, including:

- a limited number of, and competition for, suitable patients with the particular types of disease required for enrollment in our clinical trials or that otherwise meet the protocol's inclusion criteria and do not meet any of the exclusion criteria;
- a limited number of, and competition for, suitable serum or other samples from patients with particular types of disease required for our validation studies;
- a limited number of, and competition for, suitable sites to conduct our clinical trials;
- delay or failure to obtain FDA or other non-U.S. regulatory authorities' approval or agreement to commence a clinical trial;
- delay or failure to obtain sufficient supplies of the product candidate for our clinical trials;
- requirements to provide the drugs, diagnostic tests or medical devices required in our clinical trial protocols or clinical trials at no cost or cost, which may require significant expenditures that we are unable or unwilling to make;
- delay or failure to reach agreement on acceptable clinical trial agreement terms or clinical trial protocols with prospective sites or investigators;
- delay or failure to obtain institutional review board ("IRB") approval to conduct or renew a clinical trial at a prospective site; and
- insufficient liquidity to fund our preclinical and clinical studies.

The completion of our clinical trials could also be substantially delayed or prevented by several factors, including:

- slower than expected rates of patient recruitment and enrollment;
- failure of patients to complete the clinical trial;
- unforeseen safety issues;
- lack of efficacy evidenced during clinical trials;
- termination of our clinical trials by one or more clinical trial sites;
- inability or unwillingness of patients or medical investigators to follow our clinical trial protocols;

- inability to monitor patients adequately during or after treatment; and
- insufficient liquidity to fund ongoing studies.

Our clinical trials may be suspended or terminated at any time by the FDA, other regulatory authorities, the IRB for any given site or us. Additionally, changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes with appropriate regulatory authorities. Amendments may require us to resubmit our clinical trial protocols to IRBs for re-examination, which may impact the costs, timing or successful completion of a clinical trial. Any failure or significant delay in commencing or completing clinical trials for our product candidates could materially harm our results of operations and financial condition, as well as the commercial prospects for our product candidates.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including in December 2018 and January 2019, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

We currently have a seventy-nine person specialized sales and marketing team for Rayaldee in the U.S. If we are unable to develop or maintain a strong sales, marketing and distribution capability on our own or through collaborations with marketing partners, we will not be successful in commercializing Rayaldee or our other pharmaceutical products or product candidates in the U.S.

Other than our 79-person specialized sales and marketing team dedicated to *Rayaldee*, we currently have no pharmaceutical marketing, sales or distribution capabilities in the U.S. Any failure or inability to maintain adequate sales, marketing and distribution capabilities would adversely impact the commercialization of *Rayaldee* or our other pharmaceutical products or candidates. If we are not successful in commercializing our existing and future pharmaceutical products and product candidates, either on our own or through collaborations with one or more third parties, our product revenue will suffer and we may incur significant additional losses.

Our approved products or product candidates may have undesirable side effects and cause our products to be taken off the market.

If we or others identify undesirable side effects caused by our products:

- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies;
- regulatory authorities may withdraw their approval of the product and require us to take our approved product off the market;
- we may be required to change the way the product is administered, conduct additional clinical trials or change the labeling of the product;
- we may have limitations on how we promote our products;
- sales of products may decrease significantly;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase our commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenues from its sale.

Our inability to meet regulatory quality standards applicable to our manufacturing and quality processes and to address quality control issues in a timely manner could delay the production and sale of our products or result in recalls of products.

Manufacturing or design defects, unanticipated use of our products or inadequate disclosure of risks relating to the use of our products could lead to injury or other adverse events. These events could lead to recalls or safety alerts relating to our products (either voluntary or required by governmental authorities) and could result, in certain cases, in the removal of a product from the market. Any recall could result in significant costs as well as negative publicity that could reduce demand for our products. Personal injuries relating to the use of our products can also result in product liability claims being brought against us. In some circumstances, such adverse events could also cause delays in new product approvals.

We are committed to providing high quality products to our customers, and we plan to meet this commitment by working diligently to continue implementing updated and improved quality systems and concepts throughout our organization. We cannot assure you that we will not have quality control issues in the future, which may result in warning letters and citations from the FDA. If we receive any warning letters from the FDA in the future, there can be no assurances regarding the length of time or cost it will take us to resolve such quality issues to our satisfaction and to the satisfaction of the FDA. If our remedial actions are not satisfactory to the FDA, we may have to devote additional financial and human resources to our efforts, and the FDA may take further regulatory actions against us including, but not limited to, assessing civil monetary penalties or imposing a consent decree on us, which could result in further regulatory constraints, including the governance of our quality system by a third party. Our inability to resolve these issues or the taking of further regulatory action by the FDA may weaken our competitive position and have a material adverse effect on our business, results of operations and financial condition.

We manufacture pharmaceutical products in Ireland, Mexico, Spain and Israel. We also prepare necessary test reagents and assemble and package the cassettes for our point-of-care diagnostic system at our facility in Woburn, Massachusetts. Any quality control issues at our facilities may weaken our competitive position and have a material adverse effect on our business results of operations and financial condition.

As a medical device manufacturer, we are required to register with the FDA and are subject to periodic inspection by the FDA for compliance with its Quality System Regulation ("QSR") requirements, which require manufacturers of medical devices to adhere to certain regulations, including testing, quality control and documentation procedures. Compliance with applicable regulatory requirements is subject to continual review and is monitored rigorously through periodic inspections by the FDA. In addition, most international jurisdictions have adopted regulatory approval and periodic renewal requirements for medical devices, and we must comply with these requirements in order to market our products in these jurisdictions. In the European Community, we are required to maintain certain ISO certifications in order to sell our products and must undergo periodic inspections by notified bodies to obtain and maintain these certifications. Further, some emerging markets rely on the FDA's Certificate for Foreign Government ("CFG") in lieu of their own regulatory approval requirements. Our failure, or our manufacturers' failure to meet QSR, ISO or any other regulatory requirements or industry standards could delay production of our products and lead to fines, difficulties in obtaining regulatory clearances, recalls or other consequences, which could, in turn, have a material adverse effect on our business, results of operations and our financial condition.

Failure to establish, and perform to, appropriate quality standards to assure that the highest level of quality is observed in the performance of our testing services could adversely affect the results of our operations and adversely impact our reputation.

The provision of clinical testing services, including anatomic pathology services and related services, and the design, manufacture and marketing of diagnostic products involve certain inherent risks. The services that we provide and the products that we design, manufacture and market are intended to provide information for healthcare providers in providing patient care. Therefore, users of our services and products may have a greater sensitivity to errors than the users of services or products that are intended for other purposes.

Similarly, negligence in performing our services can lead to injury or other adverse events. We may be sued under physician liability or other liability law for acts or omissions by our pathologists, laboratory personnel and other employees. We are subject to the attendant risk of substantial damages awards and risk to our reputation.

Even after we receive regulatory approval or clearance to market our product candidates, the market may not be receptive to our products.

Our products may not gain market acceptance among physicians, patients, health care payors and/or the medical community. We believe that the degree of market acceptance will depend on a number of factors, including:

- timing of market introduction of competitive products;
- safety and efficacy of our product compared to other products;
- prevalence and severity of any side effects;
- potential advantages or disadvantages over alternative treatments;
- strength of marketing and distribution support;
- price of our products, both in absolute terms and relative to alternative treatments;
- availability of coverage and reimbursement from government and other third-party payors;
- potential product liability claims;
- limitations or warnings contained in a product's regulatory authority-approved labeling; and
- changes in the standard of care for the targeted indications for any of our products or product candidates, which could reduce the marketing impact of any claims that we could make following applicable regulatory authority approval.

In addition, our efforts to educate the medical community and health care payors on the benefits of our products and product candidates may require significant resources and may never be successful. If our products do not gain market acceptance, it would have a material adverse effect on our business, results of operations and financial condition.

If our products are not covered and eligible for reimbursement from government and third-party payors, we may not be able to generate significant revenue or achieve or sustain profitability.

The coverage and reimbursement status of newly approved or cleared drugs, diagnostic and laboratory tests is uncertain, and failure of our pharmaceutical products, diagnostic tests or laboratory tests to be adequately covered by insurance and eligible for adequate reimbursement could limit our ability to market any future product candidates we may develop and decrease our ability to generate revenue from any of our existing and future product candidates that may be approved or cleared. The commercial success of our existing and future products in both domestic and international markets will depend in part on the availability of coverage and

adequate reimbursement from third-party payors, including government payors, such as the Medicare and Medicaid programs, managed care organizations and other third-party payors, as well as our ability to obtain in network status with such payors. The government and other third-party payors are increasingly attempting to contain health care costs by limiting both insurance coverage and the level of reimbursement for new drugs and diagnostic tests and restricting in-network status of laboratory providers. As a result, they may not cover or provide adequate payment for our product candidates. These payors may conclude that our products are less safe, less effective or less cost-effective than existing or later-introduced products. These payors may also conclude that the overall cost of the procedure using one of our devices exceeds the overall cost of the competing procedure using another type of device, and third-party payors may not approve our products for insurance coverage and adequate reimbursement or approve our laboratory for in network status.

The failure to obtain coverage and adequate or any reimbursement for our products, or health care cost containment initiatives that limit or restrict reimbursement for our products, may reduce any future product revenue. Even though a drug (not administered by a physician) may be approved by the FDA, this does not mean that a Prescription Drug Plan ("PDP"), a private insurer operating under Medicare Part D, will list that drug on its formulary or will set a reimbursement level. PDPs are not required to make every FDA-approved drug available on their formularies. If our drug products are not listed on sufficient number of PDP formularies or if the PDPs' levels of reimbursement are inadequate, our business, results of operations and financial condition could be materially adversely affected. Private health plans, such as managed care plans and pharmacy benefit management ("PBM") programs may also not include our products on formularies, use other techniques that may restrict access to our products or set a lower reimbursement rate than anticipated.

On May 18, 2018, Novitas, the MAC for a jurisdiction that includes the State of New Jersey, where our *4KScore* test samples are processed, issued a draft non-coverage determination ("LCD") that proposed no coverage for our *4KScore* test. We submitted comments to the draft LCD during the public comment period, which ended on July 5, 2018. In January 2019, Novitas issued a notice of future non-coverage determination for the *4KScore* test to be effective March 20, 2019. We are currently evaluating options to appeal the decision and undertake other steps with CMS in an effort to have this determination rescinded or reversed, however, there can be no assurance that we will be successful in doing so. If we are not able to successfully appeal Novitas' decision, we may not be able to obtain Medicare reimbursement for the *4KScore* test, which could result in a loss of revenues and could have a material adverse effect on our cash flows, results of operations, net income, financial conditions and the trading prices of our securities.

A significant portion of our revenues come from government subsidized healthcare programs such as Medicaid and Medicare. Our failure to comply with applicable Medicare, Medicaid and other governmental payor rules could result in our inability to participate in a governmental payor program, our returning funds already paid to us, civil monetary penalties, criminal penalties and/or limitations on the operational function of our laboratory. If we were unable to receive reimbursement under a governmental payor program, a substantial portion of our revenues would be lost, which would adversely affect our results of operations and financial condition. In addition, if a federal government shutdown were to occur for a prolonged period of time, federal government payment obligations, including its obligations under Medicaid and Medicare, may be delayed. Similarly, if state government shutdowns were to occur, state payment obligations may be delayed. If the federal or state governments fail to make payments under these programs on a timely basis, our business could suffer, and our financial position, results of operations or cash flows may be materially affected.

As we evolve from a company primarily involved in development to a company also involved in commercialization of our pharmaceutical and diagnostic products as well as our laboratory testing services, we may encounter difficulties in managing our growth and expanding our operations successfully.

As we advance our product candidates and expand our business, we will need to expand our development, regulatory and commercial infrastructure. As our operations expand, we expect that we will need to manage additional relationships with various third parties, collaborators and suppliers. Maintaining these relationships and managing our future growth will impose significant added responsibilities on members of our management. We must be able to: manage our development efforts and operations effectively; manage our clinical trials effectively; hire, train and integrate additional management, administrative and sales and marketing personnel;

improve our managerial, development, operational and finance systems; implement and manage an effective marketing strategy; and expand our facilities, all of which may impose a strain on our administrative and operational infrastructure.

Furthermore, we may acquire additional businesses, products or product candidates that complement or augment our existing business. Integrating any newly acquired business or product could be expensive and time-consuming. We may not be able to integrate any acquired business or product successfully or operate any acquired business profitably. Our future financial performance will depend, in part, on our ability to manage any future growth effectively and our ability to integrate any acquired businesses. We may not be able to accomplish these tasks, and our failure to accomplish any of them could prevent us from successfully growing our company, which would have a material adverse effect on our business, results of operations and financial condition.

Our success is dependent to a significant degree upon the involvement, efforts and reputation of our Chairman and Chief Executive Officer, Phillip Frost, M.D.

Our success is dependent to a significant degree upon the efforts of our Chairman and CEO, Phillip Frost, M.D., who is essential to our business. The departure of our CEO for whatever reason or the inability of our CEO to continue to serve in his present capacity could have a material adverse effect upon our business, financial condition and results of operations. Our CEO has a highly regarded reputation in the pharmaceutical and medical industry and attracts business opportunities and assists both in negotiations with acquisition targets, investment targets and potential joint venture partners. Our CEO has also provided financing to us, both in terms of a credit agreement and equity investments. If we lost his services or if his reputation was damaged for whatever reason, including, but not limited to, as a result of the allegations underlying various SEC and shareholder lawsuits against us and Dr. Frost, our relationships with acquisition and investment targets, joint ventures, customers and investors, as well as our ability to obtain additional funding on acceptable terms, or at all, may suffer and could cause a material adverse impact on our operations, financial condition and the value of our common stock.

If we fail to attract and retain key management and scientific personnel, we may be unable to successfully operate our business and develop or commercialize our products and product candidates.

We will need to expand and effectively manage our managerial, operational, sales, financial, development and other resources in order to successfully operate our business and pursue our research, development and commercialization efforts for our products and product candidates. Our success depends on our continued ability to attract, retain and motivate highly qualified management and pre-clinical and clinical personnel. The loss of the services or support of any of our senior management, particularly Dr. Phillip Frost, our Chairman and CEO, could delay or prevent the development and commercialization of our products and product candidates.

If the FDA or other applicable regulatory authorities approve generic products that compete with any of our products or product candidates, the sale of our products or product candidates may be adversely affected.

Once an NDA is approved, the product covered thereby becomes a “listed drug” which, in turn can be relied upon by potential competitors in support of an approval of an abbreviated new drug application (“ANDA”) or 505(b)(2) application. U.S. laws and other applicable policies provide incentives to manufacturers to create modified, non-infringing versions of a drug to facilitate the approval of an ANDA or other application for a generic substitute. These manufacturers might only be required to conduct a relatively inexpensive study to show that their product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use, or labeling, as our product or product candidate and that the generic product is bioequivalent to ours, meaning it is absorbed in the body at the same rate and to the same extent as our product or product candidate. These generic equivalents, which must meet the same quality standards as branded pharmaceuticals, would be significantly less costly than ours to bring to market and companies that produce generic equivalents are generally able to offer their products at lower prices. Thus, after the introduction of a generic competitor, a significant percentage of sales of any branded product is typically lost to the generic product. Accordingly,

competition from generic equivalents to our products or product candidates would materially adversely impact our revenues, profitability and cash flows and substantially limit our ability to obtain a return on the investments that we have made in our products and product candidates.

In 2017, Congress reauthorized the Generic Drug User Fee Act (the "GDUFA"). The generic drug user fee program, established in 2012, is designed to speed the approval of new generic drugs. In addition, over the past few months, the FDA has used its regulatory authority to enact other programs to streamline the path to market for generic drugs. In addition, a regulatory pathway for biosimilars was established in 2012 including a new user fee program to promote the development of these products that show no clinically meaningful differences from innovator biologics. Though they have their own statutory market pathway, like generic drugs, biosimilars can receive FDA approval by providing less clinical data than the innovator product. Biosimilars are expected to be less expensive competitors to innovator biologics reducing prices overall. We anticipate several new biosimilars reaching the market over the next year.

If we fail to acquire and develop other products or product candidates at all or on commercially reasonable terms, we may be unable to diversify or grow our business.

We intend to continue to rely on acquisitions and in-licensing as a source of our products and product candidates for development and commercialization. The success of this strategy depends upon our ability to identify, select and acquire pharmaceutical and diagnostic products, drug delivery technologies and medical device product candidates. Proposing, negotiating and implementing an economically viable product acquisition or license is a lengthy and complex process. We compete for partnering arrangements and license agreements with pharmaceutical, biotechnology and medical device companies and academic research institutions. Our competitors may have stronger relationships with third parties with whom we are interested in collaborating and/or may have more established histories of developing and commercializing products.

Most of our competitors also have substantially greater financial and other resources than us. As a result, our competitors may have a competitive advantage in entering into partnering arrangements with such third parties, as such partnering arrangements are often decided in an auction process in which the highest bidder wins. In addition, even if we find promising products and product candidates, and generate interest in a partnering or strategic arrangement to acquire such products or product candidates, we may not be able to acquire rights to additional product candidates or approved products on terms that we find acceptable, or at all.

We expect that any product candidate to which we acquire rights will require additional development efforts prior to commercial sale, including extensive clinical testing and approval or clearance by the FDA and other non-U.S. regulatory authorities. All product candidates are subject to the risks of failure inherent in pharmaceutical, diagnostic test or medical device product development, including the possibility that the product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. Even if the product candidates are approved or cleared for marketing, we cannot be sure that they would be capable of economically feasible production or commercial success. If we fail to acquire or develop other product candidates that are capable of economically feasible production and commercial success, our business, results of operations and financial condition and cash flows may be materially adversely affected.

We rely on third parties to manufacture and supply our pharmaceutical and diagnostic products and product candidates.

If our manufacturing partners are unable to produce our products in the amounts that we require, we may not be able to establish a contract and obtain a sufficient alternative supply from another supplier on a timely basis and in the quantities we require. We expect to continue to depend on third-party contract manufacturers for the foreseeable future.

Our products and product candidates require precise, high quality manufacturing. Any of our contract manufacturers will be subject to ongoing periodic unannounced inspection by the FDA and other non-U.S.

regulatory authorities to ensure strict compliance with QSR regulations for devices or current Good Manufacturing Practices ("cGMPs") for drugs, and other applicable government regulations and corresponding standards relating to matters such as testing, quality control and documentation procedures. If our contract manufacturers fail to achieve and maintain high manufacturing standards in compliance with QSR or cGMPs, we may experience manufacturing errors resulting in patient injury or death, product recalls or withdrawals, delays or interruptions of production or failures in product testing or delivery, delay or prevention of filing or approval of marketing applications for our products, cost overruns or other problems that could seriously harm our business.

Any performance failure on the part of our contract manufacturers could delay clinical development or regulatory approval or clearance of our product candidates or commercialization of our products and product candidates, depriving us of potential product revenue and resulting in additional losses. In addition, our dependence on a third party for manufacturing may adversely affect our future profit margins. Our ability to replace an existing manufacturer may be difficult because the number of potential manufacturers is limited and the FDA must approve any replacement manufacturer before it can begin manufacturing our products or product candidates. Such approval would result in additional non-clinical testing and compliance inspections. It may be difficult or impossible for us to identify and engage a replacement manufacturer on acceptable terms in a timely manner, or at all.

Independent clinical investigators and contract research organizations that we engage to conduct our clinical trials may not be diligent, careful or timely.

We depend on independent clinical investigators to conduct our clinical trials. Contract research organizations may also assist us in the collection and analysis of data. These investigators and contract research organizations will not be our employees, and we will not be able to control, other than by contract, the amount of resources, including time, that they devote to products that we develop. If independent investigators fail to devote sufficient resources to the development of product candidates or clinical trials, or if their performance is substandard, it will delay the marketing approval or clearance and commercialization of any products that we develop. Further, the FDA requires that we comply with standards, commonly referred to as good clinical practice, for conducting, recording and reporting clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of trial subjects are protected. If our independent clinical investigators and contract research organizations fail to comply with good clinical practice, the results of our clinical trials could be called into question and the clinical development of our product candidates could be delayed.

Failure of clinical investigators or contract research organizations to meet their obligations to us or comply with federal regulations and good clinical practice procedures could adversely affect the clinical development of our product candidates and harm our business, results of operations and financial condition.

If the validity of an informed consent from a subject was to be challenged, it may negatively impact our product development efforts.

We take steps to ensure that all clinical data and genetic and other biological samples are collected from subjects who provide informed consent for the data and samples as required by applicable laws and we work to ensure that the subjects from whom our data and samples are collected do not retain any proprietary or commercial rights to the data or samples or any discoveries derived from them. However, because we may collect data and samples from countries that are governed by a number of different regulatory regimes, there are many complex legal questions relating to the adequacy of informed consent that we must continually address. The adequacy of any given subject's informed consent may be challenged in the future, and any given informed consent may prove unlawful or otherwise inadequate for our purposes. Any findings against us, or our clinical collaborators, could obligate us to stop using some of our clinical samples, which in turn may hinder our product development efforts. Such a result would also likely involve legal challenges that may consume our management and financial resources.

Failure to timely or accurately bill and collect for our services could have a material adverse effect on our revenues and our business.

Billing for laboratory testing services is extremely complicated and is subject to extensive and non-uniform rules and administrative requirements. Depending on the billing arrangement and applicable law, we bill various payors, such as patients, insurance companies, Medicare, Medicaid, physicians, hospitals and employer groups. Changes in laws and regulations and payor practices increase the complexity and cost of our billing process. Additionally, in the U.S., third-party payors generally require billing codes on claims for reimbursement that describe the services provided. For laboratory services, the American Medical Association establishes most of the billing codes using a data code set called Current Procedural Terminology ("CPT") codes and the World Health Organization establishes diagnostic codes using a data set called International Statistical Classification of Diseases ("ICD-10") codes. Each third-party payor generally develops payment amounts and coverage policies for their beneficiaries or members that ties to the CPT code established for the laboratory test and the ICD-10 code selected by the ordering or performing physician. Therefore, coverage and reimbursement may differ by payor even if the same billing code is reported for claims filing purposes. For laboratory tests without a specific billing code, payors often review claims on a claim-by-claim basis and there are increased uncertainties as to coverage and eligibility for reimbursement.

In addition to the items described above, third-party payors, including government programs, may decide to deny payment or recoup payments for testing that they contend was improperly billed or not medically necessary, against their coverage determinations, or for which they believe they have otherwise overpaid (including as a result of their own error), and we may be required to refund payments already received. Our revenues may be subject to retroactive adjustment as a result of these factors among others, including without limitation, differing interpretations of billing and coding guidance and changes by government agencies and payors in interpretations, requirements and "conditions of participation" in various programs.

We implemented a new billing system for our laboratory business in the third quarter of 2016. The adoption of the new billing system, which replaced the old billing system, poses several challenges relating to, among other things, training of personnel, communication of new rules and procedures, changes in corporate culture, migration of data and the potential instability of the new system. As an integral part of our billing compliance program, we assess our billing and coding practices in the ordinary course of business, respond to payor audits on a routine basis and investigate reported failures or suspected failures to comply with federal and state healthcare reimbursement requirements as well as overpayment claims which may arise from time to time without fault on the part of us. We have in the ordinary course of business been the subject of recoupments by payors and have from time to time identified and reimbursed payors for overpayments.

Incorrect or incomplete documentation and billing information, as well as the other items described above, among other factors, could result in non-payment for services rendered or having to pay back amounts incorrectly billed and collected. Further, the failure to timely or correctly bill could lead to various penalties, including: (1) exclusion from participation in the CMS and other government programs; (2) asset forfeitures; (3) civil and criminal fines and penalties; and (4) the loss of various licenses, certificates and authorizations necessary to operate our business, any of which could have a material adverse effect on our results of operations or cash flows.

Failure in our information technology systems, including by cybersecurity attacks or other data security incidents, could significantly increase testing turn-around time or billing processes and otherwise disrupt our operations.

Our operations depend, in part, on the continued performance of our information technology systems. Our information technology systems are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptions. In addition, we are in the process of integrating the information technology systems of our subsidiaries, and we may experience system failures or interruptions as a result of this process. Sustained

system failures or interruption of our systems in one or more of our laboratory operations could disrupt our ability to process laboratory requisitions, perform testing, provide test results in a timely manner and/or bill the appropriate party. Failure of our information technology systems could adversely affect our business, profitability and financial condition.

A successful cybersecurity attack or other data security incident could result in the misappropriation and/or loss of confidential or personal information, create system interruptions, or deploy malicious software that attacks our systems. It is possible that a cybersecurity attack might not be noticed for some period of time. The occurrence of a cybersecurity attack or incident could result in business interruptions from the disruption of our information technology systems, or negative publicity resulting in reputational damage with our customers, shareholders and other stakeholders and/or increased costs to prevent, respond to or mitigate cybersecurity events. In addition, the unauthorized dissemination of sensitive personal information or proprietary or confidential information could expose us or other third parties to regulatory fines or penalties, litigation and potential liability, or otherwise harm our business.

Healthcare plans have taken steps to control the utilization and reimbursement of healthcare services, including clinical test services.

We also face efforts by non-governmental third-party payors, including healthcare plans, to reduce utilization and reimbursement for clinical testing services.

The healthcare industry has experienced a trend of consolidation among healthcare insurance plans, resulting in fewer but larger insurance plans with significant bargaining power to negotiate fee arrangements with healthcare providers, including clinical testing providers. These healthcare plans, and independent physician associations, may demand that clinical testing providers accept discounted fee structures or assume all or a portion of the financial risk associated with providing testing services to their members through capped payment arrangements. In addition, some healthcare plans limit the laboratory network to only a single national or regional laboratory to obtain improved fee-for-service pricing. There is also an increasing number of patients enrolling in consumer driven products and high deductible plans that involve greater patient cost-sharing.

The increased consolidation among healthcare plans also has increased the potential adverse impact of ceasing to be a contracted provider with any such insurer.

We expect continuing efforts to limit the number of participating laboratories in payor networks, reduce reimbursements, impose more stringent cost controls and reduce utilization of clinical test services. These efforts, including future changes in third-party payor rules, practices and policies, or failing to become a contracted provider or ceasing to be a contracted provider to a healthcare plan, may have a material adverse effect on our business.

The success of our business may be dependent on the actions of our collaborative partners.

We have entered into and expect in the future to enter into collaborative arrangements with established multi-national pharmaceutical, diagnostic and medical device companies, which will finance or otherwise assist in the development, manufacture and marketing of products incorporating our technology. We anticipate deriving some revenues from research and development fees, license fees, milestone payments and royalties from collaborative partners. Our prospects, therefore, may depend to some extent upon our ability to attract and retain collaborative partners and to develop technologies and products that meet the requirements of prospective collaborative partners. In addition, our collaborative partners may have the right to abandon research projects, guide strategy regarding prosecution of relevant patent applications and terminate applicable agreements, including funding obligations, prior to or upon the expiration of the agreed-upon research terms. There can be no assurance that we will be successful in establishing collaborative arrangements on acceptable terms or at all, that collaborative partners will not terminate funding before completion of projects, that our collaborative

arrangements will result in successful product commercialization or that we will derive any revenues from such arrangements. To the extent that we are unable to develop and maintain collaborative arrangements, we would need substantial additional capital to undertake research, development and commercialization activities on our own.

If we are unable to obtain and enforce patent protection for our products, our business could be materially harmed.

Our success depends, in part, on our ability to protect proprietary methods and technologies that we develop or license under the patent and other intellectual property laws of the U.S. and other countries, so that we can prevent others from unlawfully using our inventions and proprietary information. However, we may not hold proprietary rights to some patents required for us to commercialize our products and product candidates. Because certain U.S. patent applications are confidential, third parties may have filed patent applications for technology covered by our pending patent applications without our being aware of those applications, and our patent applications may not have priority over those applications. For this and other reasons, we or our third-party collaborators may be unable to secure desired patent rights, thereby losing desired exclusivity. If licenses are not available to us on acceptable terms, we may not be able to market the affected products or conduct the desired activities, unless we challenge the validity, enforceability or infringement of the third-party patent or otherwise circumvent the third-party patent.

Our strategy depends on our ability to rapidly identify and seek patent protection for our discoveries. In addition, we will rely on third-party collaborators to file patent applications relating to proprietary technology that we develop jointly during certain collaborations. The process of obtaining patent protection is expensive and time-consuming. If our present or future collaborators fail to file and prosecute all necessary and desirable patent applications at a reasonable cost and in a timely manner, our business will be adversely affected. Unauthorized parties may be able to obtain and use information that we regard as proprietary.

The issuance of a patent does not guarantee that it is valid or enforceable. Any patents we have obtained, or obtain in the future, may be challenged, invalidated, unenforceable or circumvented. Moreover, the U.S. Patent and Trademark Office (the "USPTO") may commence interference proceedings involving our patents or patent applications. In addition, court decisions may introduce uncertainty in the enforceability or scope of patents owned by biotechnology, pharmaceutical and medical device companies. Any challenge to, finding of unenforceability or invalidation or circumvention of, our patents or patent applications would be costly, would require significant time and attention of our management, and could have a material adverse effect on our business, results of operations and financial condition.

Our pending patent applications may not result in issued patents. The patent position of pharmaceutical, biotechnology, diagnostic and medical device companies, including ours, is generally uncertain and involves complex legal and factual considerations. The standards that the USPTO and its foreign counterparts use to grant patents are not always applied predictably or uniformly and can change. There is also no uniform, worldwide policy regarding the subject matter and scope of claims granted or allowable in pharmaceutical, biotechnology, diagnostic or medical device patents. Accordingly, we do not know the degree of future protection for our proprietary rights or the breadth of claims that will be allowed in any patents issued to us or to others. The legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of foreign countries may not protect our rights to the same extent as the laws of the U.S. Therefore, the enforceability or scope of our owned or licensed patents in the U.S. or in foreign countries cannot be predicted with certainty, and, as a result, any patents that we own or license may not provide sufficient protection against competitors. We may not be able to obtain or maintain patent protection for our pending patent applications, those we may file in the future or those we may license from third parties.

We cannot assure you that any patents that have issued, that may issue, or that may be licensed to us will be enforceable or valid, or will not expire prior to the commercialization of our products and product candidates,

thus allowing others to more effectively compete with us. Therefore, any patents that we own or license may not adequately protect our products and product candidates or our future products, which could have a material adverse effect on our business, results of operations and financial condition.

If we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology and products could be adversely affected.

In addition to patent protection, we also rely on other proprietary rights, including protection of trade secrets, know-how and confidential and proprietary information. To maintain the confidentiality of trade secrets and proprietary information, we will seek to enter into confidentiality agreements with our employees, consultants and collaborators upon the commencement of their relationships with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees also generally provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property.

However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions.

Adequate remedies may not exist in the event of unauthorized use or disclosure of our confidential information. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations.

We will rely heavily on licenses from third parties. Failure to comply with the provisions of these licenses could result in the loss of our rights under the license agreements.

Many of the patents and patent applications in our patent portfolio are not owned by us, but are licensed from third parties. Such license agreements give us rights for the commercial exploitation of the patents resulting from the respective patent applications, subject to certain provisions of the license agreements. Failure to comply with these provisions could result in the loss of our rights under these license agreements. Our inability to rely on these patents and patent applications, which are the basis of our technology, would have a material adverse effect on our business, results of operations and financial condition.

We license patent rights to certain of our technology from third-party owners. If such owners do not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects will be harmed.

We have obtained licenses from, among others, INEOS Healthcare, the President and Fellows of Harvard College, The Scripps Research Institute, Arctic Partners, TESARO and Academia Sinica, that are necessary or useful for our business. In addition, we intend to enter into additional licenses of third-party intellectual property in the future. We cannot guarantee that no third parties will step forward and assert inventorship or ownership in our in-licensed patents. In some cases, we may rely on the assurances of our licensors that all ownership rights have been secured and that all necessary agreements are intact or forthcoming.

Our success will depend in part on our ability or the ability of our licensors to obtain, maintain and enforce patent protection for our licensed intellectual property and, in particular, those patents to which we have secured exclusive rights in our field. We or our licensors may not successfully prosecute the patent applications which are licensed to us. Even if patents issue in respect of these patent applications, we or our licensors may fail to

maintain these patents or may determine not to pursue litigation against other companies that are infringing these patents. Without protection for the intellectual property we have licensed, other companies might be able to offer substantially identical products for sale, which could adversely affect our competitive business position and harm our business, results of operations and financial condition.

Our commercial success depends significantly on our ability to operate without infringing the patents and other proprietary rights of third parties.

Other entities may have or obtain patents or proprietary rights that could limit our ability to develop, manufacture, use, sell, offer for sale or import products or impair our competitive position. In addition, other entities may have or obtain patents or proprietary rights that cover our current research and preclinical studies. The U.S. case law pertaining to statutory exemptions to patent infringement for those who are using third-party patented technology in the process of pursuing FDA regulatory approval changes over time. Lawsuits involving such exemptions are very fact intensive and it is currently unclear under U.S. case law whether preclinical studies would always qualify for such an exemption, and whether such exemptions would apply to research tools. To the extent that our current research and preclinical studies may be covered by the patent rights of others, the risk of suit may continue after such patents expire because the statute of limitations for patent infringement runs for six years. To the extent that a third party develops and patents technology that covers our products, we may be required to obtain licenses to that technology, which licenses may not be available or may not be available on commercially reasonable terms, if at all. If licenses are not available to us on acceptable terms, we will not be able to market the affected products or conduct the desired activities, unless we challenge the validity, enforceability or infringement of the third-party patent, or circumvent the third-party patent, which would be costly and would require significant time and attention of our management. Third parties may have or obtain by license or assignment valid and enforceable patents or proprietary rights that could block us from developing products using our technology. Our failure to obtain a license to any technology that we require may materially harm our business, financial condition and results of operations.

If we become involved in patent litigation or other proceedings related to a determination of rights, we could incur substantial costs and expenses, substantial liability for damages or be required to stop our product development and commercialization efforts.

Third parties may sue us for infringing their patent rights. Likewise, we may need to resort to litigation to enforce a patent issued or licensed to us or to determine the scope and validity of proprietary rights of others. In addition, a third party may claim that we have improperly obtained or used its confidential or proprietary information. Furthermore, in connection with our third-party license agreements, we generally have agreed to indemnify the licensor for costs incurred in connection with litigation relating to intellectual property rights. The cost to us of any litigation or other proceeding relating to intellectual property rights, even if resolved in our favor, could be substantial, and the litigation would divert our management's efforts. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of any litigation could limit our ability to continue our operations. Our involvement in patent litigation and other proceedings could have a material adverse effect on our business, results of operations and financial condition.

If any parties successfully claim that our creation or use of proprietary technologies infringes upon their intellectual property rights, we might be forced to pay damages, potentially including treble damages, if we are found to have willfully infringed on such parties' patent rights. In addition to any damages we might have to pay, a court could require us to stop the infringing activity or obtain a license. Any license required under any patent may not be made available on commercially acceptable terms, if at all. In addition, such licenses are likely to be non-exclusive and, therefore, our competitors may have access to the same technology licensed to us. If we fail to obtain a required license and are unable to design around a patent, we may be unable to effectively market some of our technology and products, which could limit our ability to generate revenues or achieve profitability and possibly prevent us from generating revenue sufficient to sustain our operations.

We have faced, and may in the future face, intellectual property infringement claims that could be time-consuming and costly to defend, and could result in our loss of significant rights and the assessment of treble damages.

We may from time to time receive notices of claims of infringement and misappropriation or misuse of other parties' proprietary rights. Some of these additional claims may also lead to litigation. We cannot assure you that we will prevail in such actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, infringement by us of third-party patents and trademarks or the validity of our patents, will not be asserted or prosecuted against us.

We may also initiate claims to defend our intellectual property or to seek relief on allegations that we use, sell or offer to sell technology that incorporates third-party intellectual property. Intellectual property litigation, regardless of outcome, is expensive and time-consuming, could divert management's attention from our business and have a material negative effect on our business, operating results or financial condition. If there is a successful claim of infringement against us, we may be required to pay substantial damages (including treble damages if we were to be found to have willfully infringed a third party's patent) to the party claiming infringement, develop non-infringing technology, stop selling our tests or using technology that contains the allegedly infringing intellectual property or enter into royalty or license agreements that may not be available on acceptable or commercially practical terms, if at all. Our failure to develop non-infringing technologies or license the proprietary rights on a timely basis could harm our business.

It is possible that a third party or patent office might take the position that one or more patents or patent applications constitute prior art in the field of genomic-based diagnostics. In such a case, we might be required to pay royalties, damages and costs to firms who own the rights to these patents, or we might be restricted from using any of the inventions claimed in those patents.

We may become subject to product liability for our diagnostic tests, clinical trials, pharmaceutical products and medical device products.

Our success depends on the market's confidence that we can provide reliable, high-quality pharmaceuticals, medical devices and diagnostics tests. Our reputation and the public image of our products or technologies may be impaired if our products fail to perform as expected or our products are perceived as difficult to use. Our products are complex and may develop or contain undetected defects or errors. Furthermore, if a product or a future product candidate harms people, or is alleged to be harmful, we may be subject to costly and damaging product liability claims brought against us by clinical trial participants, consumers, health care providers, corporate partners or others. We have product liability insurance covering commercial sales of current products and our ongoing clinical trials. Any defects or errors could lead to the filing of product liability claims, which could be costly and time-consuming to defend and result in substantial damages. If we experience a sustained material defect or error, this could result in loss or delay of revenues, delayed market acceptance, damaged reputation, diversion of development resources, legal claims, increased insurance costs or increased service and warranty costs, any of which could materially harm our business. We cannot assure you that our product liability insurance would protect our assets from the financial impact of defending a product liability claim. A product liability claim could have a serious adverse effect on our business, financial condition and results of operations.

We are the subject of pending civil litigation which could require us to pay substantial damages or could otherwise have a material adverse effect on us.

On September 7, 2018, the SEC filed a lawsuit in the Southern District of New York (the "Complaint"), against a number of individuals and entities (each a "Defendant" and, collectively, the "Defendants") including us and our CEO and Chairman, Dr. Phillip Frost. The SEC alleged that we (i) aided and abetted a purported "pump and dump" scheme in connection with one company perpetrated by a number of the Defendants, and (ii) failed to file required Schedules 13D or 13G with the SEC. The Complaint also alleged that Dr. Frost

(i) participated in the alleged market manipulation in connection with two companies, (ii) failed to file required Schedule 13Ds with the SEC, and (iii) sold unregistered securities without an applicable exemption. Following the SEC's announcement of the Complaint, a number of class action and derivative suits were filed against us and our directors and officers concerning the allegations in the Complaint and related matters.

In December 2018, we and Dr. Frost entered into settlements with the SEC, which, upon approval by the court in January 2019, resolved the claims against us and Dr. Frost raised in the Complaint. Pursuant to the settlement between us and the SEC, and without admitting or denying any of the allegations of the Complaint, we agreed to an injunction from violations of Section 13(d) of the Securities Exchange Act of 1934 (the "Exchange Act"), a strict liability claim, and to pay a $100,000 penalty, which has been paid. We also agreed to, within certain stipulated time periods: (i) establish a Management Investment Committee ("MIC") that will make recommendations to an Independent Investment Committee ("IIC") of our Board of Directors in connection with existing and future strategic minority investments; and (ii) retain an Independent Compliance Consultant ("ICC") to (a) advise us on whether filings pursuant to Section 13(d) of the Exchange Act for previous strategic investments made at the suggestion of or in tandem with Dr. Frost should be amended or made to reflect group membership with Dr. Frost and his related entities; (b) review our existing policies and procedures relating to compliance with Section 13(d) of the Exchange Act; and (c) review the independence of the MIC and IIC of our Board of Directors solely for purposes of the handling of strategic minority investments. The ICC is required to report its findings (including recommendations as to filings, amendments, improvements to policies and procedures, and improvement to the composition of the MIC and the IIC to our Board of Directors) to the SEC within 15 days of completion of its work, and we are required to implement the ICC's recommendations, and to certify our compliance with these undertakings in writing.

Under the terms of the settlement between the SEC and Dr. Frost, and without admitting or denying any of the allegations in the Complaint, Dr. Frost agreed to injunctions from violations of Sections 5(a) and (c) and 17(a)(2) of the Securities Act, claims which may be satisfied by strict liability and negligence, respectively, and Section 13(d) of the Exchange Act, also a strict liability claim; to pay approximately $5.5 million in penalty, disgorgement and pre-judgment interest, which has been paid; and to be prohibited, with certain exceptions, from trading in penny stocks.

The settlements include no restriction on Dr. Frost's ability to continue to serve as our CEO and Chairman.

We are separately evaluating our strategic minority investments and reporting under Section 13(d) of the Exchange Act. In connection with this evaluation, we may make additional or amended filings pursuant to Section 13(d) of the Exchange Act reflecting group membership.

Although the SEC matter against us and Dr. Frost is resolved, there can be no assurance that additional charges from other governmental authorities will not be brought against one or more parties named in the Complaint.

We also continue to face a number of class actions and derivative suits concerning the allegations in the SEC Complaint. We cannot predict with certainty the outcome or effect of the class actions or derivative suits, which could require us to pay substantial damages or could otherwise have a material adverse effect on us.

Our primary and side A directors and officers liability insurance carrier has denied coverage for the class action and derivative suits filed against us and our directors and officers concerning the allegations in the Complaint. We believe that this denial is in error and are in the process of appealing this coverage determination. If we are unsuccessful in this appeal, or if other third-party insurers deny, cancel, or refuse coverage, which we are not able to successfully appeal, or are otherwise unable to provide us with adequate insurance coverage for all or any of the aforementioned lawsuits, then our overall risk exposure and operational expenses could increase and the management of our business operations could be disrupted, which could cause a material adverse impact on our business, operations and financial condition. Further, an unusually large liability claim or a string of

claims, like these lawsuits, could potentially exceed our available insurance coverage. In addition, the availability of, and our ability to collect on, insurance coverage can be subject to factors beyond our control.

As our current insurance policies expire, increased premiums for renewed or new coverage, if such coverage can be secured at all, may increase our insurance expense and/or require us to increase our self-insured retention or deductibles. If the number of claims or the dollar amounts of any such claims rise in any policy year, we could suffer additional costs associated with accessing excess coverage policies. Also, an increase in the loss amounts attributable to such claims could expose us to uninsured damages if we are unable or elect not to insure against certain claims because of increased premiums or other reasons. These lawsuits or the resolution of such lawsuits may affect the availability or cost of some of our insurance coverage, which could materially adversely impact our business, results of operations and cash flows and potentially expose us to increased risks that would be uninsured.

Adverse results in material litigation matters or governmental inquiries could have a material adverse effect upon our business and financial condition.

We may from time to time become subject in the ordinary course of business to material legal action related to, among other things, intellectual property disputes, professional liability, contractual and employee-related matters, as well as inquiries from governmental agencies and Medicare or Medicaid carriers requesting comment and information on allegations of billing irregularities and other matters that are brought to their attention through billing audits, third parties or other sources. The health care industry is subject to substantial federal and state government regulation and audit. Additionally, we are subject to pending legal proceedings with respect to alleged violations of securities laws. See "Adverse results in material litigation matters or governmental inquiries could have a material adverse effect upon our business and financial condition" above.

Legal actions could result in substantial monetary damages, negatively impact our ability to obtain additional funding on acceptable terms, or at all, and damage to our reputation with customers, business partners and other third parties, all of which could have a material adverse effect upon our results of operations and financial position. Further, the legal actions could damage our reputation with investors and adversely affect the trading prices of our securities.

Risks Related to Regulatory Compliance

Our ability to successfully operate our laboratories and develop and commercialize certain of our diagnostic tests and laboratory developed tests ("LDTs") will depend on our ability to maintain required regulatory licensures and comply with all the CLIA requirements.

In order to successfully operate our laboratory business and offer certain of our diagnostic tests and LDTs, we must maintain our CLIA certification and comply with all the CLIA requirements. CLIA is designed to ensure the quality and reliability of clinical laboratories by mandating specific standards in the areas of personnel qualifications, administration and participation in proficiency testing, patient test management, quality control, quality assurance and inspections. The sanction for failure to comply with CLIA requirements may be suspension, revocation or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, as well as significant fines and/or criminal penalties. Laboratories must undergo on-site surveys at least every two years, which may be conducted by the Federal CLIA program or by a private CMS-approved accrediting agency such as CAP, among others. Our laboratories are also subject to regulation of laboratory operations under state clinical laboratory laws as will be any new CLIA-certified laboratory that we establish or acquire. State clinical laboratory laws may require that laboratories and/or laboratory personnel meet certain qualifications, specify certain quality controls or require maintenance of certain records. Certain states, such as California, Florida, Maryland, New York, Pennsylvania and Rhode Island, require that laboratories obtain licenses to test specimens from patients residing in those states and additional states may require similar licenses in the future. If we are

unable to obtain and maintain licenses from states where required, we will not be able to process any samples from patients located in those states. Only Washington and New York States are exempt under CLIA, as these states have established laboratory quality standards at least as stringent as CLIA's. Potential sanctions for violation of these statutes and regulations include significant fines and the suspension or loss of various licenses, certificates and authorizations, which could adversely affect our business and results of operations.

If we fail to comply with CLIA requirements, the U.S. Department of Health and Human Services ("HHS") or state agencies could require us to cease diagnostic testing. Even if it were possible for us to bring our laboratories back into compliance after failure to comply with such requirements, we could incur significant expenses and potentially lose revenues in doing so. Moreover, new interpretations of current regulations or future changes in regulations under CLIA may make it difficult or impossible for us to comply with the CLIA classification, which would significantly harm our business and materially adversely affect our financial condition.

The regulatory approval process is expensive, time consuming and uncertain and may prevent us or our collaboration partners from obtaining approvals for the commercialization of some or all of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug products, diagnostic products or medical devices are subject to extensive regulation by the FDA and other non-U.S. regulatory authorities, which regulations differ from country to country. In general, we are not permitted to market our product candidates in the U.S. until we receive approval of a BLA, an approval of a NDA, a clearance letter under the premarket notification process or 510(k) process, or an approval of a PMA from the FDA. To date, we have only submitted one NDA which was approved in June 2016. We have received FDA approval of the PMA for our Sangia Total PSA Test using the Claros Analyzer and a CE Mark for our *4KScore* test, but we have not received marketing approval or clearance for any of our other diagnostic product candidates. Obtaining approval of a NDA or PMA can be a lengthy, expensive and uncertain process. With respect to medical devices, while the FDA reviews and clears a premarket notification in as little as three months, there is no guarantee that our products will qualify for this more expeditious regulatory process, which is reserved for Class I and II devices, nor is there any assurance that even if a device is reviewed under the 510(k) process that the FDA will review it expeditiously or determine that the device is substantially equivalent to a lawfully marketed non-PMA device. If the FDA fails to make this finding, then we cannot market the device. In lieu of acting on a premarket notification, the FDA may seek additional information or additional data which would further delay our ability to market the product. Furthermore, we are not permitted to make changes to a device approved through the PMA or 510(k) which affects the safety or efficacy of the device without first submitting a supplement application to the PMA and obtaining FDA approval or cleared premarket notification for that supplement. In some cases, the FDA may require clinical trials to support a supplement application. In addition, failure to comply with FDA, non-U.S. regulatory authorities or other applicable U.S. and non-U.S. regulatory requirements may, either before or after product approval or clearance, if any, subject our company to administrative or judicially imposed sanctions, including, but not limited to the following:

- restrictions on the products, manufacturers or manufacturing process;
- adverse inspectional observations (Form 483), warning letters or non-warning letters incorporating inspectional observations;
- civil and criminal penalties;
- injunctions;
- suspension or withdrawal of regulatory approvals or clearances;
- product seizures, detentions or import bans;
- voluntary or mandatory product recalls and publicity requirements;

- total or partial suspension of production;
- imposition of restrictions on operations, including costly new manufacturing requirements; and
- refusal to approve or clear pending NDAs or supplements to approved NDAs, applications or pre-market notifications.

Regulatory approval of an NDA or NDA supplement, BLA, PMA, PMA supplement or clearance pursuant to a pre-market notification is not guaranteed, and the approval or clearance process, as the case may be, is expensive and may, especially in the case of an NDA or PMA application, take several years. The FDA also has substantial discretion in the drug and medical device approval and clearance process. Failure can occur at any stage, and we could encounter problems that cause us to abandon clinical trials or to repeat or perform additional pre-clinical studies and clinical trials. The number of pre-clinical studies and clinical trials that will be required for FDA approval or clearance varies depending on the drug or medical device candidate, the disease or condition that the drug or medical device candidate is designed to address, and the regulations applicable to any particular drug or medical device candidate. The FDA can delay, limit or deny approval or clearance of a drug or medical device candidate for many reasons, including:

- a drug candidate may not be deemed safe or effective;
- a medical device candidate may not be deemed to be substantially equivalent to a lawfully marketed non-PMA device, in the case of a premarket notification;
- the FDA may not find the data from pre-clinical studies and clinical trials sufficient;
- the FDA may not approve our or our third-party manufacturer's processes or facilities; or
- the FDA may change its approval or clearance policies or adopt new regulations.

Beyond these risks, there is also a possibility that our licensees or collaborators could decide to discontinue a study at any time for commercial, scientific or other reasons.

Regulation by governmental authorities in the U.S. and other countries may be a significant factor in how we develop, test, produce and market our diagnostic test products. Diagnostic tests like ours may not fall squarely within the regulatory approval process for pharmaceutical or device products as described above, and the regulatory pathway is not as clear. It is possible that the diagnostic products developed by us or our collaborators will be regulated as medical devices by the FDA and comparable agencies of other countries and require either PMA or 510(k) clearance from the FDA prior to marketing. Some companies that have successfully commercialized diagnostic tests for various conditions and disease states have not sought clearance or approval for such tests through the traditional 510(k) or PMA processes, and have instead utilized a process involving LDTs through a CLIA- certified laboratory. CLIA is a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for diagnostic, preventative or treatment purpose. In such instances, the CLIA lab is solely responsible for the development, validation and commercialization of the assay.

Such LDT testing is currently under the purview of CMS and state agencies that provide oversight of the safe and effective use of LDTs. However, the FDA has consistently asserted that it has the regulatory authority to regulate LDTs despite historically exercising enforcement discretion. In furtherance of that position, the FDA issued two draft guidance documents in October 2014: (1) Framework for Regulatory Oversight of Laboratory Developed Tests (the "Framework Guidance"); and (2) FDA Notification and Medical Device Reporting for Laboratory Developed Tests (the "Notification Guidance"). The Framework Guidance outlines the FDA's plan to adopt over time a risk-based approach to regulating LDTs whereby different classifications of LDTs would be subject to different levels of FDA oversight and enforcement, including, for example, prohibitions on adulteration and misbranding, establishment registration and device listing, premarket notification, banned devices, records and reports, good manufacturing practices, adverse event reporting, premarket review of safety,

effectiveness and clinical validity and quality system requirements. The Notification Guidance is intended to explain how clinical laboratories should notify the FDA of the LDTs they develop and how to satisfy Medical Device Reporting requirements. On January 13, 2017, the FDA published a synthesis of feedback on the Framework Guidance and Notification Guidance titled, Discussion Paper on Laboratory Developed Tests (the "Discussion Paper"). The Discussion Paper provided notice that the FDA would not issue a final guidance on the oversight of LDTs to allow for further public discussion on appropriate oversight approach, and to give congressional authorizing committees the opportunity to develop a legislative solution. The outcome and ultimate impact of such proposals on the business is difficult to predict at this time. However, the FDA's authority to regulate LDTs continues to be challenged and the regulatory situation is fluid. The timeline and process for finalizing the draft guidance documents is unknown. We will continue to monitor changes to all domestic and international LDT regulatory policy so as to ensure compliance with the current regulatory scheme.

The terms of approvals and ongoing regulation of our products may limit how we manufacture and market our products and product candidates, which could materially impair our ability to generate anticipated revenues.

We, our approved or cleared products, and the manufacturers of our products are subject to continual review. Our approved or cleared products may only be promoted for their indicated uses. Marketing, labeling, packaging, adverse event reporting, storage, advertising and promotion for our approved products will be subject to extensive regulatory requirements. We train our marketing and sales force against promoting our products for uses outside of the cleared or approved indications for use, known as "off-label uses." If the FDA determines that our promotional materials or training constitute promotion of unsupported claims or an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, injunction, seizure, civil fine or criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil and/or administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs and the curtailment of our operations.

We and the manufacturers of our products are also required to comply with cGMPs, regulations or the FDA's QSR regulations, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Moreover, device manufacturers are required to report adverse events by filing Medical Device Reports with the FDA, which reports are publicly available.

Further, regulatory agencies must approve manufacturing facilities before they can be used to manufacture our products, and these facilities are subject to ongoing regulatory inspection. If we fail to comply with the regulatory requirements of the FDA and other non-U.S. regulatory authorities, or if previously unknown problems with our products, manufacturers or manufacturing processes are discovered, we could be subject to administrative or judicially imposed sanctions. Furthermore, any limitation on indicated uses for a product or product candidate or our ability to manufacture and promote a product or product candidate could significantly and adversely affect our business, results of operations and financial condition.

In addition, the FDA and other non-U.S. regulatory authorities may change their policies and additional regulations may be enacted that could prevent or delay marketing approval or clearance of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. If we are not able to maintain regulatory compliance, we would likely not be permitted to market our products or product candidates and we may not achieve or sustain profitability, which would materially impair our ability to generate anticipated revenues.

If we fail to comply with complex and rapidly evolving laws and regulations, we could suffer penalties, be required to pay substantial damages or make significant changes to our operations.

We are subject to numerous federal and state regulations, including, but not limited to:

- federal and state laws applicable to billing and claims payment;
- federal and state laboratory anti-mark-up laws;
- federal and state anti-kickback laws;
- physician self-referral law;
- federal and state false claims laws;
- federal self-referral and financial inducement prohibition laws, commonly known as the Stark Law, and the state equivalents;
- federal and state laws governing laboratory licensing and testing, including CLIA;
- federal and state laws governing the development, use and distribution of LDTs;
- HIPAA, along with the revisions to HIPAA as a result of the HITECH Act, and analogous state laws and non-US laws, including the General Data Protection Regulation;
- federal, state and foreign regulation of privacy, security, electronic transactions and identity theft;
- federal, state and local laws governing the handling, transportation and disposal of medical and hazardous waste;
- Occupational Safety and Health Administration rules and regulations;
- changes to laws, regulations and rules as a result of the implementation and/or repeal of part or all of 2010 Health Care Reform Legislation; and
- changes to other federal, state and local laws, regulations and rules, including tax laws.

If we fail to comply with existing or future applicable laws and regulations, we could suffer civil or criminal penalties, including the loss of our licenses to operate our laboratories and our ability to participate in federal and state healthcare programs. Different interpretations and enforcement policies of existing statutes and regulations applicable to our business could subject our current practices to allegations of impropriety or illegality, or could require us to make significant changes to our operations. Under the federal False Claims Act ("FCA"), whistleblower or qui tam provisions allow a private individual to bring actions on behalf of the federal government alleging that the defendant has submitted a false claim to the federal government, and to share in any monetary recovery. In recent years, the number of suits brought by private individuals has increased dramatically and we may be subject to such suits. Violations of the FCA could result in enormous economic liability and could have a material impact on us. As a result of political, economic and regulatory influences, the healthcare delivery industry in the U.S. is under intense scrutiny and subject to fundamental changes. We cannot predict which reform proposals will be adopted, when they may be adopted or what impact they may have on us. The costs associated with complying with federal and state regulations could be significant and the failure to comply with any such legal requirements could have a material adverse effect on our financial condition, results of operations and liquidity.

Tax reform may significantly affect us and our stockholders.

On December 22, 2017, President Trump signed into law the Tax Cuts and Jobs Act (the "Tax Act") that significantly reforms the Internal Revenue Code of 1986, as amended. The Tax Act, among other things, includes changes to U.S. federal tax rates, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitations of the tax deduction for interest expense to 30% of adjusted earnings (except for

certain small businesses), limitations of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, elimination of U.S. tax on foreign earnings (subject to certain important exceptions), immediate deductions for certain new investments instead of deductions for depreciation expense over time, modifying or repealing many business deductions and credits and putting into effect the migration from a "worldwide" system of taxation to a territorial system.

Failure to maintain the security of patient-related information or compliance with security requirements could damage our reputation with customers, cause us to incur substantial additional costs and become subject to litigation.

Pursuant to HIPAA, and certain similar state laws, we must comply with comprehensive privacy and security standards with respect to the use and disclosure of protected health information. If we do not comply with existing or new laws and regulations related to protecting privacy and security of personal or health information, it could be subject to monetary fines, civil penalties or criminal sanctions. Under the HITECH amendments to HIPAA, HIPAA was expanded to require certain data breach notification, to extend certain HIPAA privacy and security standards directly to business associates, to heighten penalties for noncompliance and enhance enforcement efforts.

We may also be required to comply with the data privacy and security laws of other countries in which it operates or from which it receives data transfers. The European Union ("EU") enacted the General Data Protection Regulation ("GDPR") to replace the current data protection directive, Directive 95/46/EC, which took effect May 25, 2018, and which has a broader application and enhanced penalties for noncompliance. The GDPR, which is wide-ranging in scope, governs the collection and use of personal data in the EU and imposes operational requirements for companies that receive or process personal data of residents of the EU that are different than those currently in place in the EU. The GDPR will apply to our European operations and possibly to our laboratory and clinical development operations. We have implemented policies and procedures required to comply with the new EU regulations and will continue to evaluate compliance.

In March 2014, CareEvolve, BioReference's wholly-owned connectivity subsidiary, became aware that there had been a HIPAA breach with regard to one of its servers managed at an internet service provider site called XAND, where the server was inadvertently configured so that it was accessible to the Internet for a brief period. Upon becoming aware of the matter, CareEvolve immediately took the server offline and removed all indexed files that could be located on the internet. In the meantime, an Internet data collection "robot" operated by Google, Inc. had briefly acquired data from a server and made it available to Internet searches. To the best of our knowledge, there were no known disclosures of this Patient Health Information ("PHI") to unauthorized parties. BioReference self-reported this incident to the appropriate government agency, the Office of Civil Rights ("OCR"). OCR notified BioReference that it has initiated an investigation of the breach report, and we are awaiting further discussion, investigation and action by OCR. Since March 2014, BioReference has taken meaningful steps to further improve its HIPAA and cybersecurity platform, including engaging independent and specialized IT consultants to conduct HIPAA and cybersecurity assessments, reviewing data security and internal safeguards and continuously implementing enhanced security measures to minimize the risk of similar occurrences in the future. We have had other data and security breaches in the ordinary course and such breaches may continue to happen from time to time despite our best efforts to prevent such breaches and safeguard private information. Some of these other data and security breaches have been reported to OCR and we are awaiting discussion, investigation or action by OCR. Any action by OCR may require us to pay fines or take remedial actions that may be expensive and require the attention of management, any of which may have a material adverse effect on us and our results of operations.

We have and will continue to receive certain personal and financial information about our clients and their patients. In addition, we depend upon the secure transmission of confidential information over public networks. While we take reasonable and prudent steps to protect this protected information, a compromise in our security

systems that results in client or patient personal information being obtained by unauthorized persons or our failure to comply with security requirements for financial transactions could adversely affect our reputation with our clients and result in litigation against us or the imposition of penalties, all of which may adversely impact our results of operations, financial condition and liquidity.

Failure to comply with environmental, health and safety laws and regulations, including the Federal Occupational Safety and Health Administration Act, the Needlestick Safety and Prevention Act and the Comprehensive Medical Waste Management Act, could result in fines and penalties and loss of licensure, and have a material adverse effect upon our business.

We are subject to licensing and regulation under federal, state and local laws and regulations relating to the protection of the environment and human health and safety, including laws and regulations relating to the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials, as well as regulations relating to the safety and health of laboratory employees. The Federal Occupational Safety and Health Administration has established extensive requirements relating to workplace safety for health care employers, including clinical laboratories, whose workers may be exposed to blood-borne pathogens such as HIV and the hepatitis B virus. These requirements, among other things, require work practice controls, protective clothing and equipment, training, medical follow-up, vaccinations and other measures designed to minimize exposure to, and transmission of, blood-borne pathogens. In addition, the Needlestick Safety and Prevention Act requires, among other things, that we include in our safety programs the evaluation and use of engineering controls such as safety needles if found to be effective at reducing the risk of needlestick injuries in the workplace.

Waste management is subject to federal and state regulations governing the transportation and disposal of medical waste including bodily fluids. Federal regulations require licensure of interstate transporters of medical waste. In New Jersey, we are subject to the Comprehensive Medical Waste Management Act which requires us to register as a generator of special medical waste. All of our medical waste is disposed of by a licensed interstate hauler. The hauler provides a manifest of the disposition of the waste products as well as a certificate of incineration, which is retained by us. These records are audited by the State of New Jersey on a yearly basis. We are also subject to the Federal Hazardous Materials Transportation Act, 49 U.S.C. 5101 et seq., and the Hazardous Materials Regulations ("HMR"), 49 CFR parts 171-180. The federal government has classified hazardous medical waste as hazardous materials for the purpose of regulation. These regulations preempt state regulation, which must be "substantively the same," meaning that "the non-federal requirement must conform in every significant respect to the federal requirement. Editorial and other similar de minimis changes are permitted," 49 CFR 107.202(d).

Failure to comply with such federal, state and local laws and regulations could subject us to denial of the right to conduct business, fines, criminal penalties and/or other enforcement actions, any of which could have a material adverse effect on our business. In addition, compliance with future legislation could impose additional requirements us, which may be costly.

Our failure or the failure of third-party payors or physicians to comply with ICD-10-CM Code Set, and our failure to comply with other emerging electronic transaction standards could adversely impact our business.

Compliance with the ICD-10-CM Code Set was required to be in place by October 1, 2015. We will continue our assessment of information systems, applications and processes for compliance with these requirements. Clinical laboratories are typically required to submit health care claims with diagnosis codes to third-party payors. The diagnosis codes must be obtained from the ordering physician for clinical laboratory testing and from the interpreting pathologist for anatomic pathology services. Our failure or the failure of third-party payors or physicians to comply with these requirements could have an adverse impact on reimbursement, days sales and cash collections.

Also, the failure of our IT systems to keep pace with technological advances may significantly reduce our revenues or increase our expenses. Public and private initiatives to create healthcare information technology ("HCIT") standards and to mandate standardized clinical coding systems for the electronic exchange of clinical information, including test orders and test results, could require costly modifications to our existing HCIT systems. If we fail to adopt or delay in implementing HCIT standards, we could lose customers and business opportunities.

Failure to comply with complex federal and state laws and regulations related to submission of claims for clinical laboratory services could result in significant monetary damages and penalties and exclusion from the Medicare and Medicaid programs.

We are subject to extensive federal and state laws and regulations relating to the submission of claims for payment for clinical laboratory services, including those that relate to coverage of our services under Medicare, Medicaid and other governmental health care programs, the amounts that may be billed for our services and to whom claims for services may be submitted. These rules may also affect us in light of the practice management products that we market, to the extent that these products are considered to affect the manner in which our customers submit their own claims for services. Submission of our claims is particularly complex because we provide both anatomic pathology services and clinical laboratory tests, which generally are paid using different reimbursement principles. The clinical laboratory tests are often paid under a clinical laboratory fee schedule, and the anatomic pathology services are often paid under a physician fee schedule.

Our failure to comply with applicable laws and regulations could result in our inability to receive payment for our services or result in attempts by third-party payors, such as Medicare and Medicaid, to recover payments from us that have already been made. Submission of claims in violation of certain statutory or regulatory requirements can result in penalties, including substantial civil money penalties for each item or service billed to Medicare in violation of the legal requirement, and exclusion from participation in Medicare and Medicaid. Government authorities may also assert that violations of laws and regulations related to submission or causing the submission of claims violate the FCA or other laws related to fraud and abuse, including submission of claims for services that were not medically necessary. Under the FCA, whistleblower or qui tam provisions allow a private individual to bring actions on behalf of the federal government alleging that the defendant has submitted a false claim to the federal government, and to share in any monetary recovery. In recent years, the number of suits brought by private individuals has increased dramatically and we may be subject to such suits. Violations of the FCA could result in enormous economic liability. The FCA provides that all damages are trebled, and each false claim submitted is subject to a penalty of up to $21,916. For example, we could be subject to FCA liability if it was determined that the services we provided were not medically necessary and not reimbursable, particularly if it were asserted that we contributed to the physician's referrals of unnecessary services to us. It is also possible that the government could attempt to hold us liable under fraud and abuse laws for improper claims submitted by an entity for services that we performed if we were found to have knowingly participated in the arrangement that resulted in submission of the improper claims.

Changes in regulation and policies, including increasing downward pressure on health care reimbursement, may adversely affect reimbursement for diagnostic services and could have a material adverse impact on our business.

Reimbursement levels for health care services are subject to continuous and often unexpected changes in policies, and we face a variety of efforts by government payors to reduce utilization and reimbursement for diagnostic testing services. Changes in governmental reimbursement may result from statutory and regulatory changes, retroactive rate adjustments, administrative rulings, competitive bidding initiatives and other policy changes.

The U.S. Congress has considered, at least yearly in conjunction with budgetary legislation, changes to one or both of the Medicare fee schedules under which we receive reimbursement, which include the physician fee

schedule for anatomical pathology services, and the clinical laboratory fee schedule for our clinical laboratory services. For example, currently there is no copayment or coinsurance required for clinical laboratory services, although there is for our services that are paid under the physician fee schedule. However, Congress has periodically considered imposing a 20 percent coinsurance on laboratory services. If enacted, this would require us to attempt to collect this amount from patients, although in many cases the costs of collection would exceed the amount actually received. In April 2015, changes to the physician fee schedule were enacted under the Medicare Access and CHIP Reauthorization Act of 2015 ("MACRA").

Our reimbursement for our pathology services is paid primarily under the physician fee schedule of Medicare and Medicaid. Historically, the physician fee schedule was governed by a complex formula, referred to as the Sustainable Growth Rate ("SGR"). However, in April 2015, MACRA was passed, which permanently replaces the SGR formula with a value-based payment system. The passage of MACRA also repealed the 21.1% reduction of the physician fee schedule that was scheduled for April 1, 2015. Under MACRA, the physician fee schedule conversion factor increases of 0.5% from July 1, 2015 to December 31, 2015, and 0.5% in each of years 2016-2019, followed by 0.0% updates for 2020-2025. Subsequent years will vary based on participation in alternative payment models. Beginning in 2019, rates were adjusted under the new Merit-based Incentive Payment System.

CMS pays laboratories on the basis of a fee schedule that is reviewed and re-calculated on an annual basis. CMS may change the fee schedule upward or downward on billing codes that we submit for reimbursement on a regular basis. Our revenue and business may be adversely affected if the reimbursement rates associated with such codes are reduced. Even when reimbursement rates are not reduced, policy changes add to our costs by increasing the complexity and volume of administrative requirements. Medicaid reimbursement, which varies by state, is also subject to administrative and billing requirements and budget pressures. Recently, state budget pressures have caused states to consider several policy changes that may impact our financial condition and results of operations, such as delaying payments, reducing reimbursement, restricting coverage eligibility and service coverage and imposing taxes on our services.

CMS has changed or discussed making changes to certain types of reimbursement which could affect our rate of reimbursement. Certain cases are comprised of both a technical component and a professional component. In certain specified areas of testing, primarily in the area of anatomic pathology, CMS has determined that some providers have over-utilized these testing procedures and CMS has introduced changes in reimbursement policies to discourage over-utilization. We are always subject to review by CMS and cannot be certain that CMS won't interpret our practices differently than we do.

Third-party payors are increasingly challenging established prices, and new products that are more expensive than existing treatments may have difficulty finding ready acceptance unless there is a clear therapeutic benefit. On April 1, 2014, the Protecting Access to Medicare Act of 2014 ("PAMA") was enacted into law. Under PAMA, Medicare payment for clinical diagnostic laboratory tests is established by calculating a weighted mean of private payor rates. Effective January 1, 2018, clinical laboratory fee schedule rates will be based on weighted median private payor rates as required by PAMA. We cannot assure you that any of our products will be considered cost effective, or that reimbursement will be available or sufficient to allow us to sell them competitively and profitably.

The federal government is faced with significant economic decisions in the coming years. Some solutions being offered in the government could substantially change the way laboratory testing is reimbursed by government entities. We cannot be certain what or how any such government changes may affect our business.

Medicare legislation and future legislative or regulatory reform of the health care system may affect our ability to sell our products profitably.

In the U.S., there have been a number of legislative and regulatory initiatives, at both the federal and state government levels, to change the healthcare system in ways that, if approved, could affect our ability to sell our

products and provide our laboratory services profitably. As such, we cannot assure you that reimbursement payments under governmental and private third-party payor programs will remain at levels comparable to present levels or will be sufficient to cover the costs allocable to patients eligible for reimbursement under these programs. Any changes that lower reimbursement rates under Medicare, Medicaid or private payor programs could negatively affect our business.

Most significantly, on March 23, 2010, President Obama signed into law both the Affordable Care Act (the "ACA") and the reconciliation law known as Health Care and Education Affordability Reconciliation Act (the "Reconciliation Act" and, collectively with the ACA, the "2010 Health Care Reform Legislation"). The constitutionality of the 2010 Health Care Reform Legislation was confirmed on June 28, 2012 by the Supreme Court of the United States. However, as discussed in further detail below, the current Presidential administration has attempted to repeal and replace the 2010 Health Care Reform Legislation.

Beyond coverage and reimbursement changes, the 2010 Health Care Reform Legislation subjects manufacturers of medical devices to an excise tax of 2.3% on certain U.S. sales of medical devices beginning in January 2013. However, a two-year moratorium on the tax was issued on December 18, 2015. The moratorium was extended for an additional two-year period on January 22, 2018. As such, the excise tax does not apply to sales in 2016 through 2019. The return of the tax in January 2020 will likely increase our expense in the future.

Additionally, the 2010 Health Care Reform Legislation included significant fraud and abuse measures, including (i) required disclosures under the Open Payments Program (which implements the requirements of the Physician Payments Sunshine Act), which in conjunction with its implementing regulations, requires certain manufacturers of certain drugs, biologics and devices that are reimbursed by Medicare and Medicaid to report annually certain payments or "transfers of value" provided to physicians and teaching hospitals and to report annually ownership and investment interests held by physicians and their immediate family members during the preceding calendar year, (ii) lower thresholds for violations and (iii) increasing potential penalties for such violations. Federal funding available for combating health care fraud and abuse generally has increased. Many of the laws and regulations applicable to our business, particularly those relating to billing and reimbursement of tests and those relating to relationships with physicians, hospitals and patients, contain language that has not been interpreted by courts. We must rely on our interpretation of these laws and regulations based on the advice of our counsel and regulatory or law enforcement authorities may not agree with our interpretation of these laws and regulations and may seek to enforce legal remedies or penalties against us for violations. From time to time we may need to change our operations, particularly pricing or billing practices, in response to changing interpretations of these laws and regulations or regulatory or judicial determinations with respect to these laws and regulations. These occurrences, regardless of their outcome, could damage our reputation and harm important business relationships that we have with healthcare providers, payors and others. Furthermore, if a regulatory or judicial authority finds that we have not complied with applicable laws and regulations, we could be required to refund amounts that were billed and collected in violation of such laws and regulations. In addition, we may voluntarily refund amounts that were alleged to have been billed and collected in violation of applicable laws and regulations. In either case, we could suffer civil and criminal damages, fines and penalties, exclusion from participation in governmental healthcare programs and the loss of licenses, certificates and authorizations necessary to operate our business, as well as incur liabilities from third-party claims, all of which could harm our operating results and financial condition. Moreover, regardless of the outcome, if we or physicians or other third parties with whom we do business are investigated by a regulatory or law enforcement authority we could incur substantial costs, including legal fees, and our management may be required to divert a substantial amount of time to an investigation.

Prior to the 2016 U.S. elections (including the current Presidential administration), regulations under the 2010 Health Care Reform Legislation were expected to continue being drafted, released and finalized throughout the next several years. In 2017, the President and members of Congress sought to repeal and replace the 2010 Health Care Reform Legislation. It is uncertain whether such repeal and replacement legislation will be enacted into law, and if enacted, what the impact might be on our business. It is also uncertain whether regulatory

changes to the implementation of the 2010 Health Care Reform Legislation will restrict patient access to affordable insurance and impact their access to novel, biosimilar and complex generic products. The full effects of any repeal and replacement of the 2010 Health Care Reform Legislation, or regulatory changes to its implementation, cannot be known until a new law is enacted or existing law is implemented through regulations or guidance issued by the CMS and other federal and state health care agencies. Because of the continued uncertainty about the implementation of the 2010 Health Care Reform Legislation, including the potential for further legal challenges or repeal of that legislation, we cannot quantify or predict with any certainty the likely impact of the 2010 Health Care Reform Legislation or its repeal on our business model, prospects, financial condition or results of operations. We also anticipate that Congress, state legislatures and third-party payors may continue to review and assess alternative healthcare delivery and payment systems and may in the future propose and adopt legislation or policy changes or implementations effecting additional fundamental changes in the healthcare delivery system. In addition, litigation may prevent some or all of the legislation from taking effect. We cannot assure you as to the ultimate content, timing or effect of changes, nor is it possible at this time to estimate the impact of any such potential legislation.

To enhance compliance with applicable health care laws, and mitigate potential liability in the event of noncompliance, regulatory authorities, such as the United States Health and Human Services Department Office of Inspector General (the "OIG") have recommended the adoption and implementation of a comprehensive health care compliance program that generally contains the elements of an effective compliance and ethics program described in Section 8B2.1 of the United States Sentencing Commission Guidelines Manual, and for many years the OIG has made available a model compliance program targeted to the clinical laboratory industry (the "Model Compliance Program"). In addition, certain states, such as New York, require that health care providers, such as clinical laboratories, that engage in substantial business under the state Medicaid program have a compliance program that generally adheres to the standards set forth in the Model Compliance Program. Also, under the 2010 Health Care Reform Legislation, HHS requires suppliers, such as us, to adopt, as a condition of Medicare participation, compliance programs that meet a core set of requirements. While we have adopted U.S. healthcare compliance and ethics programs that generally incorporate the OIG's recommendations and train our employees in such compliance, having such a program can be no assurance that we will avoid any compliance issues.

Risks Related to International Operations

Failure to obtain regulatory approval outside the U.S. will prevent us from marketing our products and product candidates abroad.

We intend to market certain of our products and product candidates in non-U.S. markets. In order to market our products and product candidates in the EU and many other non-U.S. jurisdictions, we must obtain separate regulatory approvals. We have had limited interactions with non-U.S. regulatory authorities, the approval procedures vary among countries and can involve additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval or clearance. Approval or clearance by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more non-U.S. regulatory authority does not ensure approval by other regulatory authorities in other countries or by the FDA. The non-U.S. regulatory approval process may include all of the risks associated with obtaining FDA approval or clearance. We may not obtain non-U.S. regulatory approvals on a timely basis, if at all. We may not be able to file for non-U.S. regulatory approvals and may not receive necessary approvals to commercialize our products and product candidates in any market, which would have a material adverse effect on our business, results of operations and financial condition.

Non-U.S. governments often impose strict price controls, which may adversely affect our future profitability.

We intend to seek approval to market certain of our products and product candidates in both the U.S. and in non-'U.S. jurisdictions. If we obtain approval in one or more non-U.S. jurisdictions, we will be subject to rules

and regulations in those jurisdictions relating to our product. In some countries, particularly countries of the EU, each of which has developed its own rules and regulations, pricing is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug or medical device candidate. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product and product candidates to other available products. If reimbursement of our products and product candidates is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, we may be unable to generate revenues and achieve or sustain profitability, which would have a material adverse effect on our business, results of operations and financial condition.

Potential political, economic and military instability in the State of Israel, where we have office, laboratory and manufacturing operations, may adversely affect our results of operations.

We maintain office, laboratory and manufacturing facilities in the State of Israel. Political, economic and military conditions in Israel may directly affect our ability to conduct business. Since the State of Israel was established in 1948, a number of armed conflicts have occurred between Israel and its neighbors. Any hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners, or a significant downturn in the economic or financial condition of Israel, could affect adversely our operations. Ongoing and revived hostilities or other Israeli political or economic factors could harm our operations and product development and cause our revenues to decrease.

Due to the international scope of our business activities, our results of operations may be significantly affected by currency fluctuations.

We derive a significant portion of our consolidated net revenues from international sales, subjecting us to risks relating to fluctuations in currency exchange rates. Currency variations can adversely affect margins on sales of our products in countries outside of the U.S. and margins on sales of products that include components obtained from suppliers located outside of the U.S. Through our subsidiaries, we operate in a wide variety of jurisdictions. Certain countries in which we operate or may operate have experienced geopolitical instability, economic problems and other uncertainties from time to time. To the extent that world events or economic conditions negatively affect our future sales to customers in these and other regions of the world, or the collectability of receivables, our future results of operations, liquidity and financial condition may be adversely affected. We may manage exposures arising in the normal course of business related to fluctuations in foreign currency exchange rates by entering into offsetting positions through the use of foreign exchange forward contracts. Certain firmly committed transactions are hedged with foreign exchange forward contracts whereby exchange rates change, gains and losses on the exposed transactions are partially offset by gains and losses related to the hedging contracts. However, our subsidiaries receive their income and pay their expenses primarily in their local currencies. To the extent that transactions of these subsidiaries are settled in their local currencies, a devaluation of those currencies versus the U.S. dollar could reduce the contribution from these subsidiaries to our consolidated results of operations as reported in U.S. dollars. For financial reporting purposes, such depreciation will negatively affect our reported results of operations since earnings denominated in foreign currencies would be converted to U.S. dollars at a decreased value. While we have employed economic cash flow and fair value hedges to minimize the risks associated with these exchange rate fluctuations, the hedging activities may be ineffective or may not offset more than a portion of the adverse financial impact resulting from currency variations. Accordingly, we cannot assure you that fluctuations in the values of the currencies of countries in which we operate will not materially adversely affect our future results of operations.

We may be exposed to liabilities under the Foreign Corrupt Practices Act (the "FCPA"), and any determination that we violated the FCPA could have a material adverse effect on our business.

We are subject to the FCPA and other laws that prohibit U.S. companies or their agents and employees from providing anything of value to a foreign official or political party for the purposes of influencing any act or

decision of these individuals in their official capacity to help obtain or retain business, direct business to any person or corporate entity or obtain any unfair advantage. We have operations and agreements with third parties and we generate sales internationally. Our international activities create the risk of unauthorized and illegal payments or offers of payments by our employees, consultants, sales agents or distributors, even though they may not always be subject to our control. We discourage these practices by our employees and agents. However, our existing safeguards and any future improvements may prove to be less than effective, and our employees, consultants, sales agents or distributors may engage in conduct for which we might be held responsible. Any failure by us to adopt appropriate compliance procedures and ensure that our employees and agents comply with the FCPA and applicable laws and regulations in foreign jurisdictions could result in substantial penalties or restrictions on our ability to conduct business in certain foreign jurisdictions.

Violations of the FCPA may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition. In addition, the U.S. government may seek to hold our Company liable for successor liability FCPA violations committed by companies in which we invest or that we acquire.

We are subject to risks associated with doing business globally.

Our operations, both within and outside the U.S., are subject to risks inherent in conducting business globally and under the laws, regulations and customs of various jurisdictions and geographies. These risks differ in some respects from those associated with our U.S. business and our exposure to such risks may increase if our international business continues to grow. These risks include fluctuations in currency exchange rates, changes in exchange controls, loss of business in government tenders that are held annually in many cases, nationalization, increasingly complex labor environments, expropriation and other governmental actions, changes in taxation, including legislative changes in U.S. and international taxation of income earned outside of the U.S., importation limitations, export control restrictions, violations of U.S. or local laws, including the FCPA, dependence on a few government entities as customers, pricing restrictions, economic destabilization, political and economic instability and disruption or destruction in a significant geographic region due to the location of manufacturing facilities, distribution facilities or customers, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest or natural or man-made disasters, including famine, flood, fire, earthquake, storm or disease.

Our international business is subject to both U.S. and foreign laws and regulations, including, without limitation, regulations relating to import-export controls, technology transfer restrictions, repatriation of earnings, data privacy and protection, investment, exchange rates and controls, the FCPA and other anti-corruption laws, the anti-boycott provisions of the U.S. Export Administration Act, labor and employment, works councils and other labor groups, taxes, environment, security restrictions, intellectual property, changes in taxation, including legislative changes in U.S. and international taxation of income earned outside of the U.S., handling of regulated substances and other commercial activities. Failure by us, our employees, affiliates, partners or others with whom we work to comply with these laws and regulations could result in administrative, civil or criminal liabilities. New regulations and requirements, or changes to existing ones in the various countries in which we operate can significantly increase our costs and risks of doing business internationally. Failure to comply with the laws and regulations that affect our global operations, could have an adverse effect on our business, financial condition or results of operations.

Changes in regulations, political leadership and environment or security risks may dramatically affect our ability to conduct or continue to conduct business in international markets. Our international business may also be impacted by changes in foreign national policies and priorities, which may be influenced by changes in the environment, geopolitical uncertainties, government budgets and economic and political factors more generally, any of which could impact funding for programs or delay purchasing decisions or customer payments. We also could be affected by the legal, regulatory and economic impacts of Britain's exit from the EU, the impact of which is not known at this time. The occurrence and impact of these factors is difficult to predict, but one or more of them could have a material adverse effect on our financial position, results of operations and/or cash flows.

Risks Related to Acquisitions and Investments

Acquisitions, investments and strategic alliances that we have made or may make in the future may use significant resources, result in disruptions to our business or distractions of our management, may not proceed as planned and could expose us to unforeseen liabilities. We intend to continue to expand our business through the acquisition of, investments in and strategic alliances with companies, technologies, products and services. Acquisitions, investments and strategic alliances involve a number of special problems and risks, including, but not limited to:

- difficulty integrating acquired technologies, products, services, operations and personnel with the existing businesses;
- diversion of management's attention in connection with both negotiating the acquisitions and integrating the businesses;
- strain on managerial and operational resources as management tries to oversee larger operations and investments;
- difficulty implementing and maintaining effective internal control over financial reporting at businesses that we acquire or invest in, particularly if they are not located near our existing operations;
- exposure to unforeseen liabilities of acquired companies or companies in which we invest;
- potential costly and time-consuming litigation, including stockholder lawsuits;
- potential issuance of securities to equity holders of the company being acquired with rights that are superior to the rights of holders of our common stock, or which may have a dilutive effect on our stockholders;
- the need to incur additional debt or use cash; and
- the requirement to record potentially significant additional future operating costs for the amortization of intangible assets.

As a result of these or other problems and risks, businesses we acquire or invest in may not produce the revenues, earnings or business synergies that we anticipated, and acquired products, services or technologies might not perform as we expected. As a result, we may incur higher costs and realize lower revenues than we had anticipated. We may not be able to successfully address these problems and we cannot assure you that the acquisitions or investments will be successfully identified and completed or that, if completed, the acquired businesses, investments, products, services or technologies will generate sufficient revenue to offset the associated costs or other negative effects on our business.

Any of these risks can be greater if an acquisition or investment is large relative to our size. Failure to manage effectively our growth through acquisitions could adversely affect our growth prospects, business, results of operations, financial condition and cash flows.

We may fail to realize the anticipated benefits of the mergers with BioReference, Transition and other acquisitions.

The success of the mergers will depend on, among other things, our ability to combine our business with that of BioReference and Transition in a manner that facilitates growth opportunities and realizes synergies and cost savings. We believe that the mergers will provide an opportunity for revenue growth. However, we must successfully combine our business with that of BioReference and Transition in a manner that permits these benefits to be realized. In addition, we must achieve the anticipated growth and cost savings without adversely affecting current revenues and investments in future growth. If we are not able to successfully achieve these objectives, the anticipated benefits of the mergers may not be realized fully, or at all, or may take longer to realize than expected.

The failure to integrate successfully the business and operations of BioReference in the expected time frame may adversely affect our future results.

Historically, we and BioReference have operated as independent companies. There can be no assurances that our and BioReference's businesses can be integrated successfully. It is possible that the integration process could result in the loss of our or BioReference's key employees, the loss of customers, the disruption of either company's or both companies' ongoing businesses or in unexpected integration issues, higher than expected integration costs and an overall post-completion integration process that takes longer than originally anticipated. Specifically, the following issues, among others, must be addressed in integrating our operations with BioReference's operations in order to realize the anticipated benefits of the merger so we perform as expected:

- combining the companies' operations and corporate functions, as well as obtaining anticipated synergies;
- combining our business with BioReference's business and meeting the capital requirements of the combined company, in a manner that permits us to achieve the cost savings or revenue synergies anticipated to result from the merger, the failure of which would result in the anticipated benefits of the merger not being realized in the time frame currently anticipated or at all;
- integrating the companies' technologies;
- integrating and unifying the offerings and services available to customers;
- identifying and eliminating redundant and underperforming functions and assets;
- harmonizing and/or addressing differences in the companies' operating practices, employee development and compensation programs, internal controls and other policies, procedures and processes;
- maintaining existing agreements with customers, distributors, providers and vendors and avoiding delays in entering into new agreements with prospective customers, distributors, providers and vendors;
- addressing possible differences in business backgrounds, corporate cultures and management philosophies;
- consolidating the companies' administrative and information technology infrastructure;
- coordinating distribution and marketing efforts;
- managing the movement of certain positions to different locations;
- coordinating geographically dispersed organizations; and
- effecting actions that may be required in connection with obtaining regulatory approvals.

In addition, at times the attention of our management and resources may be focused on the integration of the businesses of the two companies and diverted from day-to-day business operations, which may disrupt our ongoing business.

Funding may not be available for us to continue to make acquisitions, investments and strategic alliances in order to grow our business.

We have made and anticipate that we may continue to make acquisitions, investments and strategic alliances with complementary businesses, technologies, products and services to expand our business. Our growth plans rely, in part, on the successful completion of future acquisitions. At any particular time, we may need to raise substantial additional capital or to issue additional equity to finance such acquisitions, investments and strategic alliances. There is no assurance that we will be able to secure additional funding on acceptable terms, or at all, or obtain the stockholder approvals necessary to issue additional equity to finance such acquisitions, investments and strategic alliances. If we are unsuccessful in obtaining the financing, our business would be adversely impacted.

We have a large amount of goodwill and other intangible assets as a result of acquisitions and have not yet tested goodwill for impairment as of October 1, 2018 or December 31, 2018. A significant write-down of goodwill and/or other intangible assets could have a material adverse effect on our reported results of operations and net worth and the trading prices of our securities.

We have a large amount of goodwill and other intangible assets. At September 30, 2018, we have goodwill and other intangible assets of $2.0 billion, or approximately 80% of our total assets, which exceeded our market cap on such date. Goodwill is tested at least annually for impairment or when events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable, by assessing qualitative factors or performing a quantitative analysis in determining whether it is more likely than not that its fair value exceeds the carrying value. Examples of qualitative factors include our share price, our financial performance compared to budgets, long-term financial plans, macroeconomic, industry and market conditions as well as the substantial excess of fair value over the carrying value of net assets from the annual impairment test previously performed. The estimated fair value of a reporting unit is highly sensitive to changes in projections and assumptions; therefore, in some instances, changes in these assumptions could potentially lead to impairment. We perform sensitivity analyses around our assumptions in order to assess the reasonableness of the assumptions and the results of our testing. Ultimately, future potential changes in these assumptions may impact the estimated fair value of a reporting unit and cause the fair value of the reporting unit to be below its carrying value. We believe that our estimates are consistent with assumptions that marketplace participants would use in their estimates of fair value. However, if actual results are not consistent with our estimates and assumptions, we may be exposed to a non-cash impairment charge that could be material. We have not yet tested goodwill for impairment as of October 1, 2018 or December 31, 2018 and any goodwill impairment recorded as a result of such testing or any impairment charges in the future will adversely affect our results of operations. A significant write down of goodwill and/or other intangible assets could have a material adverse effect on our reported results of operations and net worth and the trading prices of our securities.

Risks Related to Ownership of Our Common Stock

The trading prices of our securities may fluctuate significantly.

The trading prices of our securities may fluctuate significantly in response to numerous factors, some of which are beyond our control, such as:

- the announcement of new products or product enhancements by us or our competitors;
- results of our clinical trials and other development efforts;
- developments concerning intellectual property rights and regulatory approvals;
- variations in our and our competitors' results of operations;
- changes in earnings estimates or recommendations by securities analysts, if our common stock is covered by analysts;
- developments in the biotechnology, pharmaceutical, diagnostic and medical device industry;
- the announcement and/or commencement and/or settlement of lawsuits or similar claims against us or any of our officers, directors and affiliates;
- the results of product liability or intellectual property lawsuits;
- future issuances of our common stock or other securities, including debt;
- purchases and sales of our common stock by our officers, directors or affiliates;
- the addition or departure of key personnel;
- announcements by us or our competitors of acquisitions, investments or strategic alliances; and
- general market conditions and other factors, including factors unrelated to our operating performance.

Further, the securities market in general, and the market for biotechnology, pharmaceutical, diagnostic and medical device companies in particular, has experienced extreme price and volume fluctuations in recent years. Continued market fluctuations could result in extreme volatility in the trading prices of our securities, which could cause a decline in the value of our securities.

Directors, executive officers, principal stockholders and affiliated entities own a substantial amount of our capital stock, and they may make decisions that you do not consider to be in the best interests of our stockholders.

As of January 28, 2019, our directors, executive officers, principal stockholders and affiliated entities beneficially owned, in the aggregate, approximately 44.2% of our outstanding voting securities. Phillip Frost, M.D., our Chairman and CEO, is deemed to beneficially own, in the aggregate, approximately 36.9% of our common stock as of January 28, 2019. As a result, Dr. Frost, acting with other members of management, would have the ability to significantly impact the election of our Board of Directors, the adoption or amendment of provisions in our Certificate of Incorporation, the approval of mergers and other significant corporate transactions and the outcome of issues requiring approval by our stockholders. This concentration of ownership may also have the effect of delaying or preventing a change in control of our company that may be favored by other stockholders. This could prevent transactions in which holders of our securities might otherwise recover a premium for their securities over current market prices.

A significant short position in our stock could have a substantial impact on the trading price of our stock.

Historically, there has been a significant "short" position in our common stock. As of December 31, 2018, investors held a short position of approximately 56,212,686 shares of our common stock which represented approximately 9.6% of our outstanding common stock. The anticipated downward pressure on our stock price due to actual or anticipated sales of our stock by some institutions or individuals who engage in short sales of our common stock could cause our stock price to decline. Such stock price decrease could encourage further short-sales that could place additional downward pressure on our stock price. This could lead to further increases in the already large short position in our common stock and cause volatility in our stock price.

The volatility of our stock may cause the value of a stockholder's investment to decline rapidly. Additionally, if our stock price declines, it may be more difficult for us to raise capital and may have other adverse effects on our business.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act, including with respect to companies we acquire, could have a material adverse effect on our business and operating results. In addition, current and potential holders of our securities could lose confidence in our financial reporting, which could have a material adverse effect on the trading prices of our securities.

Section 404 of the Sarbanes-Oxley Act of 2002 requires annual management assessments of the effectiveness of our internal control over financial reporting and a report by our independent registered public accounting firm on the effectiveness of internal control over financial reporting as of year-end. We are required to report, among other things, control deficiencies that constitute material weaknesses or changes in internal control that, or that are reasonably likely to, materially affect internal control over financial reporting. A "material weakness" is a significant deficiency or combination of significant deficiencies that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected.

We have identified and remediated control deficiencies in the past, and we cannot assure you that we will at all times in the future be able to report that our internal controls are effective. In addition, material weaknesses in the design and operation of the internal control over financial reporting of companies that we acquire could have

a material adverse effect on our business and operating results. Our acquisition of BioReference and Transition and possible future acquisitions may increase this risk by expanding the scope and nature of operations over which we must develop and maintain internal control over financial reporting. If we cannot provide reliable financial reports or prevent fraud, our results of operation could be harmed. Our failure to maintain the effective internal control over financial reporting could cause the cost related to remediation to increase and could cause the trading prices of our securities to decline. In addition, we may not be able to accurately report our financial results, may be subject to regulatory sanction and investors may lose confidence in our financial statements.

Compliance with changing regulations concerning corporate governance and public disclosure may result in additional expenses.

There have been changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, the Dodd-Frank Act, regulations promulgated by the SEC and rules promulgated by the Nasdaq Global Select Market and the other national securities exchanges. These new or changed laws, regulations and standards are subject to varying interpretations in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies, which could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. As a result, our efforts to comply with evolving laws, regulations and standards are likely to continue to result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. Our board members, CEO, Chief Financial Officer and Principal Accounting Officer could face an increased risk of personal liability in connection with the performance of their duties. As a result, we may have difficulty attracting and retaining qualified board members and executive officers, which could harm our business. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies, we could be subject to liability under applicable laws or our reputation may be harmed, which could materially adversely affect our business, results of operations and financial condition.

Additional Risks Related to Our Common Stock and the Offering

The effect of the sale of the borrowed shares in this offering, which sale may be made to facilitate transactions by which investors in our convertible notes may hedge their investments, may be to lower the market price of our common stock.

We have been advised that the selling stockholders intend to sell the borrowed shares and use the resulting short position to establish their initial hedge with respect to their investments in the notes or our other convertible notes. The existence of the Share Lending Agreement (as defined below) and the short sales of shares of our common stock effected in connection with the sale of our convertible notes could cause the market price of our common stock to be lower over the term of the Share Lending Agreement than it would have been had we not entered into that agreement, due to the effect of the increase in the number of shares of our outstanding common stock being traded in the market or otherwise. The market price of our common stock could be further negatively affected by other short sales of shares of our common stock, including other sales by the purchasers of the convertible notes hedging their investment therein.

Future sales, or availability for sale, of shares of our common stock by stockholders could depress the market price of our common stock.

Sales of a substantial number of shares of our common stock in the public market, including sales by any selling stockholder or the perception that large sales could occur, could depress the market price of our common stock. Such future sales, or perception thereof, could also impact our ability to raise capital through future offerings of equity or equity-linked securities.

To the extent we issue shares of our common stock upon conversion of the convertible notes being offered concurrently or our other outstanding convertible debt, the conversion of some or all of such convertible debt will dilute the ownership interests of our existing stockholders. Any sales in the public market of common stock so issued 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 depress the price of our common stock.

The adjustments by convertible note investors of their hedging positions in our common stock and the expectation thereof may have a negative effect on the market price of our common stock.

The short positions in our common stock resulting from the share lending arrangement and the sale of borrowed shares in this offering are expected to be used by the Share Borrower to facilitate hedging, including through short sales of shares of our common stock, by investors in the convertible notes. The borrowed shares sold in this offering may be more or less than the number of shares that will be needed from time to time by the convertible notes investors to hedge their exposure under the notes. Any buying or selling of shares of our common stock by the investors in the concurrent note offering to adjust their hedging positions may affect the market price of our common stock.

Changes in the accounting guidelines relating to the borrowed shares could decrease our reported net loss or earnings per share and potentially affect the market price of our common stock.

Because the amount of borrowed shares sold in this offering (or in certain circumstances, the cash value thereof) must be returned to us upon the expiration or early termination of the share lending arrangement pursuant to its terms, we believe that under U.S. GAAP, as presently in effect, the borrowed shares will not be considered outstanding for the purpose of computing and reporting our earnings or loss per share. If accounting guidelines were to change in the future, we may become required to treat the borrowed shares as outstanding for purposes of computing earnings or loss per share, and our reported earnings or loss per share would be reduced, which could affect the market price of our common stock.

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING INFORMATION

This prospectus supplement, the accompanying prospectus and the documents and information incorporated by reference herein and therein may contain "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Forward-looking statements may include, but are not limited to, statements relating to our objectives, plans and strategies as well as statements, other than historical facts, that address activities, events or developments that we intend, expect, project, believe or anticipate will or may occur in the future. These statements are often characterized by terminology such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of these terms or other similar expressions.

Forward-looking statements are based on assumptions and assessments made in light of our experience and perception of historical trends, current conditions, expected future developments and other factors believed to be appropriate. Forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties, many of which are outside of our control. You should not place undue reliance on these forward-looking statements, which reflect our view only as of the date of this prospectus supplement, and we undertake no obligation to update these forward-looking statements in the future, except as required by applicable law.

A number of important factors could cause actual results to differ materially from those indicated by the forward-looking statements, including, without limitation, those factors described under the caption "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which is incorporated by reference in this prospectus supplement and the accompanying prospectus, and under similar headings in our subsequently filed quarterly reports on Form 10-Q, as well as the other risks and uncertainties described herein and in the other documents incorporated by reference in this prospectus supplement. Some of the key factors that could cause actual results to differ from our expectations include the following:

- we have a history of losses and may not generate sustained positive cash flow sufficient to fund our operations and research and development programs;
- our need for, and ability to obtain, additional financing when needed on favorable terms, or at all;
- adverse results in material litigation matters or governmental inquiries, including, without limitation, recent lawsuits against us and our Chairman and CEO by the SEC, as well as related class action and derivative lawsuits;
- the risks inherent in developing, obtaining regulatory approvals for, and commercializing new, commercially viable and competitive products and treatments;
- our research and development activities may not result in commercially viable products;
- that earlier clinical results of effectiveness and safety may not be reproducible or indicative of future results;
- the success of our relationship with Pfizer;
- that we may fail to obtain regulatory approval for hGH-CTP or successfully commercialize *Rayaldee* and hGH-CTP;
- that we may not generate profits or cash flow from our laboratory operations or substantial revenue from *Rayaldee* and our pharmaceutical and diagnostic products;
- that currently available over-the-counter and prescription products, as well as products under development by others, may prove to be as or more effective than our products for the indications being studied;
- our ability to build a successful pharmaceutical sales and marketing infrastructure;

- our ability and our distribution and marketing partners' ability to comply with regulatory requirements regarding the sales, marketing and manufacturing of our products and product candidates and the operation of our laboratories;
- the performance of our third-party distribution partners, licensees and manufacturers over which we have limited control;
- our success is dependent on the involvement and continued efforts of our Chairman and CEO;
- integration challenges for Transition, BioReference Laboratories or BioReference, EirGen and other acquired businesses;
- availability of insurance coverage with respect to material litigation matters;
- changes in regulation and policies in the U.S. and other countries, including increasing downward pressure on healthcare reimbursement;
- our ability to manage our growth and our expanded operations;
- increased competition, including price competition;
- changing relationships with payors, including the various state and multi-state Blues programs, suppliers and strategic partners;
- efforts by third-party payors to reduce utilization and reimbursement for clinical testing services;
- our ability to maintain reimbursement coverage for our products and services, including the *4Kscore* test;
- failure to timely or accurately bill and collect for our services;
- failure in our information technology systems, including cybersecurity attacks or other data security or privacy incidents;
- failure to obtain and retain new clients and business partners, or a reduction in tests ordered or specimens submitted by existing clients;
- failure to establish, and perform to, appropriate quality standards to assure that the highest level of quality is observed in the performance of our testing services;
- failure to maintain the security of patient-related information;
- our ability to obtain and maintain intellectual property protection for our products;
- our ability to defend our intellectual property rights with respect to our products;
- our ability to operate our business without infringing the intellectual property rights of others;
- our ability to attract and retain key scientific and management personnel;
- failure to obtain and maintain regulatory approval outside the U.S.;
- legal, economic, political, regulatory, currency exchange and other risks associated with international operations; and
- our ability to finance and successfully complete construction of a research, development and manufacturing center in Waterford, Ireland.

USE OF PROCEEDS

The shares offered hereby by the selling stockholders have been borrowed through a share lending arrangement from an affiliate of the underwriter in our concurrent offering of convertible notes, which affiliate is borrowing the shares from us. We refer to the entity that is borrowing shares from us as the Share Borrower. The borrowed shares are newly-issued shares issued in connection with this transaction and will be cancelled or held as treasury shares by us upon the expiration or the early termination of the share lending arrangement described herein.

We expect that the selling stockholders will sell the borrowed shares and use the resulting short position to establish their initial hedge with respect to their investments in the convertible notes. The selling stockholders may effect such transactions by selling the borrowed shares at various prices from time to time through the Share Borrower or its affiliates. The selling stockholders will receive all of the net proceeds from the sale of the borrowed shares and we will not receive any of those proceeds, but we will receive a one-time nominal fee of $0.01 per share for each newly-issued share from the Share Borrower for the use of the borrowed shares.

DIVIDEND POLICY

We have not declared or paid any cash dividends on our common stock and do not intend to pay cash dividends on our common stock in the near future.

SELECTED FINANCIAL DATA

The following selected historical consolidated statement of operations data for the years ended December 31, 2017, 2016, 2015, 2014 and 2013 and the consolidated balance sheet data as of December 31, 2017, 2016, 2015, 2014 and 2013, below are derived from our audited consolidated financial statements and related notes thereto. The following selected historical consolidated statement of operations data for the period January 1, 2018 through September 30, 2018, and the consolidated balance sheet data as of September 30, 2018, are derived from our unaudited condensed consolidated financial statements and related notes thereto. This data should be read in conjunction with our "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the related notes contained in our Form 8-K filed with the SEC on January 28, 2019 and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2018.

Effective January 1, 2018, we adopted Accounting Standards Codification Topic 606, Revenue from Contracts with Customers, using the full retrospective transition method. The information contained in the table below for the nine months ended September 30, 2017, and the years ended December 31, 2017, 2016 and 2015 has been adjusted to reflect our retrospective adoption of Topic 606. The information for the years ended December 31, 2014 and 2013 has not been adjusted to reflect the impact of the adoption of ASC 606.

(In thousands, except share and per share information)	For the periods January 1 through September 30,		For the years ended December 31,				
	2018	2017	2017	2016	2015	2014	2013
Statement of operations data:							
Revenues	$ 768,412	$ 805,022	$ 966,006	$ 1,117,494	$ 447,517	$ 91,125	$ 96,530
Costs and expenses:							
Cost of revenue	455,105	463,511	620,130	611,482	235,239	48,009	48,860
Operating expenses	394,491	460,322	622,318	602,563	332,858	188,931	127,302
Total costs and expenses	849,596	923,833	1,242,448	1,214,045	568,097	236,940	176,162
Operating loss	(81,184)	(118,811)	(276,442)	(96,551)	(120,580)	(145,815)	(79,632)
Other income and (expense), net	5,320	937	4,518	(271)	(39,517)	(25,212)	(24,586)
Income tax benefit (provision)	10,437	42,309	(18,855)	56,115	113,675	(24)	(1,672)
Net loss	(76,969)	(87,336)	(305,250)	(48,359)	(53,527)	(174,638)	(117,346)
Net loss attributable to common shareholders	$ (76,969)	$ (87,336)	$ (305,250)	$ (48,359)	$ (52,127)	$ (171,666)	$ (114,827)
Loss per share, basic and undiluted:							
Net loss per share, basic	$ (0.14)	$ (0.16)	$ (0.55)	$ (0.09)	$ (0.11)	$ (0.41)	$ (0.32)
Net loss per share, diluted	$ (0.14)	$ (0.16)	$ (0.55)	$ (0.10)	$ (0.11)	$ (0.41)	$ (0.32)
Weighted average number of common shares outstanding basic:	559,601,097	559,065,232	559,160,565	550,846,553	488,065,908	422,014,039	355,095,701
Weighted average number of common shares outstanding diluted:	559,601,097	559,065,232	559,160,565	555,605,448	488,065,908	422,014,039	355,095,701
Balance sheet data:							
Total assets	$ 2,480,994	$ 2,721,990	$ 2,589,956	$ 2,766,619	$ 2,799,188	$ 1,267,664	$ 1,391,516
Long-term liabilities	$ 374,521	$ 390,008	$ 434,304	$ 480,166	$ 614,423	$ 348,812	$ 426,687
Total shareholders' equity	$ 1,788,643	$ 2,057,882	$ 1,843,623	$ 2,046,433	$ 1,957,695	$ 835,741	$ 872,979

DESCRIPTION OF THE SHARE LENDING AGREEMENT; CONCURRENT OFFERING OF CONVERTIBLE NOTES

Concurrently with this offering, we are offering, by means of a separate prospectus supplement and accompanying prospectus, $200,000,000 aggregate principal amount of our 4.50% convertible senior notes due 2025 in an offering registered under the Securities Act of 1933, as amended (the "Securities Act"). We have granted to the underwriter in the concurrent offering of the convertible notes an option, exercisable for 30 days from the date of the prospectus supplement related to the offering of the convertible notes, to purchase up to $30,000,000 aggregate principal amount of additional notes at the public offering price less the underwriting discount, solely to cover over-allotments, if any. The delivery of the borrowed shares being offered hereby is conditioned upon the closing of the concurrent offering of the convertible notes.

We intend to use the net proceeds of the concurrent offering of the convertible notes to fund research and development to further develop and commercialize our portfolio of proprietary pharmaceutical and diagnostic products and for working capital, capital expenditures, acquisitions and other general corporate purposes, which will include the repayment or repurchase of indebtedness or debt securities outstanding from time to time, including $28.8 million principal amount and accrued but unpaid interest currently outstanding under the line of credit with an affiliate of Dr. Frost.

To facilitate transactions by which investors in our convertible notes may establish their initial hedge with respect to their convertible notes investments, we have entered into a share lending agreement (the "Share Lending Agreement") with the Share Borrower (Jefferies Capital Services, LLC, which is an affiliate of the underwriter in the offering of our convertible notes), under which we have agreed to loan to the Share Borrower a total of up to 30,000,000 shares of our common stock. The share lending arrangement with the Share Borrower will be available during a period beginning on the date of the closing of the offering of the convertible notes and ending on or about the maturity date of the notes, or, if earlier, on or about the date as of which all of the notes cease to be outstanding as a result of redemption, repurchase, conversion or other acquisition for value (or earlier in certain circumstances), which we refer to as the "loan availability period."

Share loans under the Share Lending Agreement will terminate, and the borrowed shares thereunder must be returned to us, if the concurrent offering of the notes is not consummated or upon the termination of the loan availability period, as well as under the following circumstances:

- the Share Borrower may terminate all or any portion of a loan under the Share Lending Agreement at any time;
- after the date on which all of the notes are repurchased, converted or otherwise acquired for value; and
- either we or the Share Borrower may terminate any or all of the applicable outstanding loans upon a default by the other party under the Share Lending Agreement, including certain breaches of representations, warranties, covenants or agreements under the Share Lending Agreement, or the bankruptcy of the Share Borrower or us.

The holders of the borrowed shares will have the right to vote the shares on all matters submitted to a vote of our stockholders and the right to receive any dividends or other distributions that we may pay or make on our outstanding shares of common stock. However, under the Share Lending Agreement, the Share Borrower has agreed:

- to pay to us an amount equal to cash dividends, if any, that we pay on the borrowed shares;
- to pay or deliver, as the case may be, to us any other distribution, other than in a liquidation or a reorganization in bankruptcy, that we make on the borrowed shares; and
- not to vote on the borrowed shares on any matter submitted to a vote of our stockholders, except in certain circumstances where such vote is required for quorum purposes.

We expect that the selling stockholders (which include Jefferies LLC, the underwriter in the concurrent convertible notes offering) will sell the borrowed shares and use the resulting short position to establish their initial hedge with respect to their respective investments in the notes. The total number of shares that the selling stockholders can borrow under the Share Lending Agreement is limited to a maximum of 30,000,000 shares. The selling stockholders may effect such transactions by selling the borrowed shares at various prices from time to time through the underwriter of the convertible notes offering (or its affiliates), which may receive compensation in the form of discounts, concessions or commissions from the selling stockholders and/or from purchasers of borrowed shares for whom the underwriter (or its affiliates) may act as agent or to whom it may sell as principal. In addition, the Share Borrower has agreed to pay to us a nominal fee of $0.01 for each newly issued share.

The existence of the Share Lending Agreement and the short sales of shares of our common stock effected in connection with the sale of the convertible notes being offered concurrently could cause the market price of our common stock to be lower over the term of the Share Lending Agreement than it would have been if there was no such agreement. See "Risk Factors—Risks Related to Our Common Stock and the Offering—The effect of the sale of the borrowed shares in this offering, which sale may be made to facilitate transactions by which investors in our convertible notes may hedge their investments, may be to lower the market price of our common stock." However, we have determined that our entry into the Share Lending Agreement is in our best interests as a means to facilitate the offer and sale of the notes pursuant to the related prospectus supplement and accompanying prospectus on terms more favorable to us than we could have otherwise obtained.

SELLING STOCKHOLDERS

Based solely upon information furnished to us by the selling stockholders, the following table sets forth information with respect to the beneficial ownership of shares of our common stock held as of the date of this prospectus by the selling stockholders. The selling stockholders are offering an aggregate of up to 30,000,000 shares of our common stock. The selling stockholders will borrow such shares through a lending arrangement from an affiliate of the underwriter in our concurrent offering of convertible notes, which affiliate is borrowing the shares from us. The borrowed shares are newly-issued shares issued in connection with this transaction issued by us and will be cancelled or held as treasury shares by us upon the expiration or the early termination of the share lending arrangement described herein. The table below assumes that all the shares being offered by the selling stockholders pursuant to this prospectus supplement are ultimately sold pursuant to this prospectus supplement. The selling shareholders may sell some, all or none of their shares covered by this prospectus supplement.

Selling Shareholder	Common Shares Owned Before the Offering	Percentage of Class Owned Prior to the Offering *	Total Common Shares Offered Hereby	Common Shares Owned Following the Offering	Percentage of Class Owned Following the Offering *
Myriad Opportunities Master Fund Limited[1]	1,988,636	0.34%	1,988,636	0	0.00%
DLD Asset Management, LP[2]	497,159	0.08%	497,159	0	0.00%
DCIG Capital Master Fund LP[3]	528,893	0.09%	528,893	0	0.00%
Verition Multi-Strategy Master Fund Ltd.[3]	474,779	0.08%	465,425	9,354	0.00%
Westwood Market Neutral Income Fund[4]	82,859	0.01%	82,859	0	0.00%
Aviva Investors Global Convertibles Absolute Return Fund[5]	1,657,196	0.28%	1,657,196	0	0.00%
Context Partners Master Fund, LP[6]	828,598	0.14%	828,598	0	0.00%
1992 MSF International Ltd.[7]	1,789,793	0.31%	1,789,793	0	0.00%
1992 Tactical Credit Master Fund, L.P.[8]	1,524,600	0.26%	1,524,600	0	0.00%
Arrowgrass Master Fund Ltd.[9]	1,988,636	0.34%	1,988,636	0	0.00%
Daiwa America Strategic Advisors Corporation[10]	3,314,394	0.57%	3,314,394	0	0.00%
MAN GLG Credit Multi-Strategy Master Fund[11]	497,159	0.08%	497,159	0	0.00%
Tenor Opportunity Master Fund, Ltd.[12]	165,720	0.03%	165,720	0	0.00%
Opti Opportunity Master Fund, LP[13]	414,299	0.07%	414,299	0	0.00%
Aristeia Capital, LLC[14]	1,325,757	0.23%	1,325,757	0	0.00%
Whitebox Relative Value Partners, LP[15]	497,159	0.08%	497,159	0	0.00%
Whitebox Multi-Strategy Partners, LP[16]	331,439	0.06%	331,439	0	0.00%
BSMA Ltd.[17]	165,720	0.03%	165,720	0	0.00%
Linden Capital L.P.[18]	3,314,394	0.57%	3,314,394	0	0.00%
Citadel Equity Fund Ltd.[19]	994,318	0.17%	994,318	0	0.00%
AQR Multi-Strategy Fund VI, L.P.[20]	136,719	0.02%	136,719	0	0.00%
AQR Global Alternative Premia Master Account, L.P.[21]	41,430	0.01%	41,430	0	0.00%
AQR DELTA Master Account, L.P.[22]	397,727	0.07%	397,727	0	0.00%
CNH CA Master Account, L.P.[23]	323,153	0.06%	323,153	0	0.00%
Principal Funds Inc. – Global Multi-Strategy Fund[24]	20,715	0.00%	20,715	0	0.00%
AQR Absolute Return Master Account, L.P.[25]	962,913	0.16%	886,600	76,313	0.01%
Geode Diversified Fund (as a segregated account of Geode Capital Master Fund Ltd.)[26]	1,325,757	0.23%	1,325,757	0	0.00%
Jefferies LLC[27]	1,899,385	0.32%	1,827,659	71,726	0.00%
AQR Funds – AQR Diversified Arbitrage Fund[28]	841,027	0.14%	841,027	0	0.00%
AQR DELTA Sapphire Fund, L.P.[29]	29,001	0.00%	29,001	0	0.00%
AQR DELTA XN Master Account, L.P.[30]	493,016	0.08%	493,016	0	0.00%
AQR Funds – Multi-Strategy Alternative Fund[31]	145,005	0.02%	145,005	0	0.00%
Brookdale Global Opportunity Fund[32]	99,432	0.02%	99,432	0	0.00%
Brookdale International Partners LP[33]	232,007	0.04%	232,007	0	0.00%
CSS LLC[34]	858,742	0.15%	828,598	30,144	0.00%

* Based on 586,331,543 shares of common stock outstanding as of December 31, 2018 and 30,000,000 shares of common stock issuable in the offering.

1 Myriad Asset Management (Cayman) Limited, as the Cayman manager of Myriad Opportunities Master Fund, has voting and investment control over the shares held by Myriad Opportunities Master Fund. The address of Myriad Opportunities Master Fund Limited is Ugland House, PO Box 309, George Town, Grand Cayman KY1-1104, Cayman Islands.

2 DLD Asset GP, LLC is the general partner of DLD Asset Management, LP. Mark Friedman is the controlling member of DLD Asset Management, LLC and may be deemed to have voting and investment control over the shares. The address of DLD Asset Management, LP is 80 Broad Street, Suite 1600, New York, NY 10004.

3 DCIG GP LLC is the general partner of DCIG Capital Master Fund LP ("DCMF"); and DeepCurrents Investment Group LLC ("DCIG") is the investment manager of DCMF and an investment manager of Verition Multi-Strategy Master Fund Ltd. ("VMLTD"). Kai (Steve) Zheng is the managing member and sole owner of both DCIG GP LLC and DCIG and may be deemed to have voting and investment control over the shares held by DCMF and VMLTD. Mr. Zheng disclaims beneficial ownership over the shares, except to the extent of his pecuniary interest therein. The address of DCIG Capital Master Fund LP is c/o Walkers Corporate Ltd, Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9001, Cayman Islands. The address of Verition Multi-Strategy Master Fund Ltd. is c/o Maples Corporate Services Limited, Ugland House, PO Box 309, George Town, Grand Cayman KY1-1104, Cayman Islands.

4 Westwood Market Neutral Income Fund is an investment company under the Investment Company Act of 1940 traded on the Westwood Mutual Fund Platform. The address of Westwood Market Neutral Income Fund is c/o David Clott, 144 Turnpike Road, Southborough, MA 01772.

5 Aviva Investors Global Convertibles Absolute Return Fund is a Luxembourg UCITS fund traded on the Aviva Investors Fund Platform. The address of Aviva Investors Global Convertibles Absolute Return Fund is c/o David Clott, 144 Turnpike Road, Southborough, MA 01772.

6 Context Capital Management, LLC is the general partner of Context Partners Master Fund, LP. Context Capital Management, LLC is controlled by Michael S. Rosen, William D. Fertig and Charles E. Carnegie. The address of Context Partners Master Fund, LP is c/o Walkers, Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9008, Cayman Islands.

7 Highbridge Capital Management, LLC ("HCM"), the trading manager of 1992 MSF International Ltd. (the "Highbridge Fund"), may be deemed to be the beneficial owner of convertible bonds, held by the Highbridge Fund, and issued by the Company and convertible into up to 2,556,818 shares of common stock. The Highbridge Fund disclaims any beneficial ownership of these convertibles bonds and shares. The business address of HCM is 40 West 57th Street, 32nd Floor, New York, NY 10019 and the business address of the Highbridge Fund is c/o HedgeServ (Cayman) Ltd., Willow House, Cricket Square Floor 3, George Town, Grand Cayman KY1-1104, Cayman Islands.

8 Highbridge Capital Management, LLC ("HCM"), the trading manager of 1992 Tactical Credit Master Fund, L.P. (the "Highbridge Fund"), may be deemed to be the beneficial owner of convertible bonds, held by the Highbridge Fund, and issued by the Company and convertible into up to 2,178,030 shares of common stock. The Highbridge Fund disclaims any beneficial ownership of these convertible bonds and shares. The business address of HCM is 40 West 57th Street, 32nd Floor, New York, NY 10019 and the business address of the Highbridge Fund is c/o HedgeServ (Cayman) Ltd., Willow House, Cricket Square Floor 3, George Town, Grand Cayman KY1-1104, Cayman Islands.

9 Voting and investment control over the shares is shared by Arrowgrass Capital Partners (US) LP, as the investment manager to Arrowgrass Master Fund Ltd., and Arrowgrass Capital Services (US) Inc., as the general partner of Arrowgrass Capital Partners (US) LP. Arrowgrass Capital Partners (US) LP and Arrowgrass Capital Services (US) Inc. are majority owned by Mr. Nicholas Graham Niell through Arrowgrass Capital Partners II LLP and Arrowgrass Investment Management Ltd. The address of Arrowgrass Master Fund Ltd. is PO Box 242, Gardenia Court, 45 Market Street, Camana Bay KY1-1104, Cayman Islands.

10 Daiwa America Strategic Advisors Corporation is ultimately controlled by Daiwa Securities Group Inc., a Japanese corporation listed on the Tokyo Stock Exchange which ultimately has sole voting and dispositive rights over Daiwa America Strategic Advisors Corporation. The address of Daiwa America Strategic Advisors Corporation is 32 Old Slip, 14th Floor, New York, NY 10005.

11 GLG Partners LP is the controlling entity of Man GLG Credit Multi-Strategy Master Fund, and GLG Partners Limited, as the controlling partner of GLG Partners LP, has voting and investment control over the shares. GLG Partners Limited is a wholly-owned subsidiary of Man Group PLC. The address of Man GLG Credit Multi-Strategy Master Fund is Riverbank House, 2 Swan Lane, London, EC4R 3AD, United Kingdom.

12 Tenor Capital Management Company, L.P., as the controlling entity of Tenor Opportunity Master Fund, Ltd., has voting and investment control over the shares. Tenor Opportunity Associates, LLC is the general partner of Tenor Capital Management Company, L.P. and Robin R. Shah is the sole managing member of Tenor Opportunity Associates, LLC. The address of Tenor Opportunity Master Fund, Ltd. is 89 Nexus Way, Camana Bay, Grand Cayman KY1-9007, Cayman Islands.

13 The general partner of Opti Opportunity Master Fund, LP is Opti Opportunity Associates, LLC. Opti Opportunity Associates, LLC is controlled by Xiuping Li. The address of Opti Opportunity Master Fund, LP is c/o Opti Capital Management, LP, 120 West 45th Street, Suite 3005, New York, NY 10036.

14 Aristeia Capital, LLC and Aristeia Advisors, LLC (collectively, "Aristeia") may be deemed the beneficial owners of the shares in their capacity as the investment manager, trading manager, and/or general partner, as the case may be, of Aristeia Master, L.P., ASIG International Limited, and Windermere Ireland Fund PLC (each a "Fund" and, collectively, the "Funds"), which will be the holders of the shares. As investment manager, trading advisor and/or general partner of each Fund, Aristeia has voting and investment control with respect to the shares held by each Fund. Anthony M. Frascella is the Chief Investment Officer of Aristeia. Each of Aristeia and such individual disclaims beneficial ownership of the shares except to the extent of its or his direct or indirect economic interest in the Funds. The address of Aristeia Capital, LLC is One Greenwich Plaza, 3rd Floor, Greenwich, CT 06830.

15 Robert Vogel, Andrew Redleaf, Paul Twitchell, Dyal Capital Partners II (B) LP, Jacob Mercer, Paul Roos, Mark Strefling and Richard Vigilante are the general partners of Whitebox Relative Value Partners, LP. Dyal Capital Partners II (B) LP is controlled by Whitebox Relative Value Fund, LP and Whitebox Relative Value Fund, Ltd. The address of Whitebox Relative Value Partners, LP is 3033 Excelsior Blvd., Suite 300, Minneapolis, MN 55416.

16 Robert Vogel, Andrew Redleaf, Paul Twitchell, Dyal Capital Partners II (B) LP, Jacob Mercer, Paul Roos, Mark Strefling and Richard Vigilante are the general partners of Whitebox Multi-Strategy Partners, LP. Dyal Capital Partners II (B) LP is controlled by Whitebox Relative Value Fund, LP and Whitebox Relative Value Fund, Ltd. The address of Whitebox Multi-Strategy Partners, LP is 3033 Excelsior Blvd., Suite 300, Minneapolis, MN 55416.

17 Michael Platt has voting and investment control over the shares held by BSMA Ltd. The address of BSMA Ltd. is c/o Blue Crest Capital Management (New York) LP, 767 5th Avenue, 9th Floor, New York, NY 10153.

18 The shares directly held by Linden Capital L.P. are indirectly held by Linden Advisors LP (the investment manager of Linden Capital L.P.), Linden GP LLC (the general partner of Linden Capital L.P.), and Mr. Siu Min (Joe) Wong (the principle owner and the controlling person of Linden Advisors LP and Linden GP LLC). Linden Capital L.P., Linden Advisors LP, Linden GP LLC and Mr. Wong share voting and dispositive power with respect to the shares held by Linden Capital L.P. The address of Linden Capital L.P. is c/o Linden Advisors LP, 590 Madison Avenue, 15th Floor, New York, NY 10022.

19 Pursuant to a portfolio management agreement, Citadel Advisors LLC, an investment advisor registered under the U.S. Investment Advisers Act of 1940 ("CAL"), holds the voting and dispositive power with respect to the shares held by Citadel Equity Fund Ltd. Citadel Advisors Holdings LP ("CAH") is the sole member of CAL. Citadel GP LLC is the general partner of CAH. Kenneth Griffin ("Griffin") is the President, Chief Executive Officer and sole member of Citadel GP LLC. Citadel GP LLC and Griffin may be deemed to be the beneficial owners of the shares through their control of CAL and/or certain other affiliated entities. The address of Citadel Equity Fund Ltd. is c/o Citadel Enterprise Americas LLC, 131 South Dearborn St., Chicago, IL 60603.

20 AQR Capital Management II, LLC ("AQR II") is the general partner of AQR Multi-Strategy Fund VI, L.P. AQR II is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by

three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR Multi-Strategy Fund VI, L.P., has discretionary voting and investment authority over the shares owned by AQR Multi-Strategy Fund VI, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR Multi-Strategy Fund VI, L.P. The address of AQR Multi-Strategy Fund VI, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

21 AQR Capital Management GP II Ltd. ("GP II") is the general partner of AQR Global Alternative Premia Master Account, L.P. The sole shareholder of GP II is AQR Capital Management, LLC ("AQR"). AQR is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR Global Alternative Premia Master Account, L.P., has discretionary voting and investment authority over the shares owned by AQR Global Alternative Premia Master Account, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR Global Alternative Premia Master Account, L.P. The address of AQR Global Alternative Premia Master Account, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

22 AQR Capital Management III, LLC ("AQR III") is the general partner of AQR DELTA Master Account, L.P. AQR III is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR DELTA Master Account, L.P., has discretionary voting and investment authority over the shares owned by AQR DELTA Master Account, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR DELTA Master Account, L.P. The address of AQR DELTA Master Account, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

23 CNH Principal Partners I, LLC, the general partner of CNH CA Master Account, L.P., is a single member LLC of which CNH Partners, LLC is the sole member. CNH Partners, LLC is owned 50% by AQR Capital Management, LLC ("AQR") and 50% by CNH Capital Management, LLC ("CCM"). CCM is controlled by Todd Pulvino and Mark Mitchell. AQR is a single member LLC, AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew, and David Kabiller. CNH Partners, LLC, as the advisor of CNH CA Master Account, L.P., has discretionary voting and investment authority over the shares owned by CNH CA Master Account, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by CNH CA Master Account, L.P.The address of CNH CA Master Account, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

24 The address of Principal Funds Inc. – Global Multi-Strategy Fund is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

25 AQR Principal Global Asset Allocation, LLC ("PGAA") is the general partner of AQR Absolute Return Master Account, L.P. PGAA is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR Absolute Return Master Account, L.P., has discretionary voting and investment authority over the shares owned by AQR Absolute Return Master Account, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR Absolute Return Master Account, L.P. The address of AQR Absolute Return Master Account, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

26 Geode Capital Management LP serves as investment manager to Geode Diversified Fund, a segregated account of Geode Capital Master Fund Ltd. (the "Fund"). Mitch Livstone and Ted Blake, portfolio managers of the Fund, may be deemed to exercise ultimate investment power of the shares held by the Fund. Geode Capital Management LP and each of Mr. Livstone and Mr. Blake disclaim beneficial ownership of the shares except to the extent of their pecuniary interest therein.

27 Jefferies LLC, an affiliate of Jefferies Capital Services, LLC, is acting as the underwriter in the concurrent offering of the Company's convertible notes.

28 The address of AQR Funds – AQR Diversified Arbitrage Fund is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

29 AQR Capital Management II, LLC ("AQR II") is the general partner of AQR DELTA Sapphire Fund, L.P. AQR II is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR DELTA Sapphire Fund, L.P., has discretionary voting and investment authority over the shares owned by AQR DELTA Sapphire Fund, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR DELTA Sapphire Fund, L.P. The address of AQR DELTA Sapphire Fund, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

30 AQR Capital Management GP II Ltd. ("GPII") is the general partner of AQR DELTA XN Master Account, L.P. The sole shareholder of GPII is AQR Capital Management, LLC ("AQR"). AQR is a single member LLC of which AQR Capital Management Holdings, LLC ("Holdings") is the sole member. Holdings is majority owned by AQR Capital Management Group, L.P. which is controlled by AQR Capital Management Group GP, LLC ("Group GP"), its general partner. Group GP is controlled by three voting members: Clifford Asness, John Liew and David Kabiller. CNH Partners, LLC, as the sub-advisor of AQR DELTA XN Master Account, L.P., has discretionary voting and investment authority over the shares owned by AQR DELTA XN Master Account, L.P. CNH Partners, LLC is controlled indirectly by Todd Pulvino and Mark Mitchell. Accordingly, Todd Pulvino and Mark Mitchell may be deemed to share voting and investment authority over the shares owned by AQR DELTA XN Master Account, L.P.The address of AQR DELTA XN Master Account, L.P. is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

31 The address of AQR Funds – Multi-Strategy Alternative Fund is Two Greenwich Plaza, 4th Floor, Greenwich, CT 06830.

32 The address of Brookdale Global Opportunity Fund is c/o Weiss Asset Management LP, 222 Berkeley Street, 16th Floor, Boston, MA 02116.

33 BIP GP LLC is the general partner of Brookdale International Partners LP. Andrew Weiss, Bonnie Weiss, Paul Sherman and Eitan Milgram are the members of BIP GP LLC. The address of Brookdale International Partners LP is c/o Weiss Asset Management LP, 222 Berkeley Street, 16th Floor, Boston, MA 02116.

34 The address of CSS, LLC is 175 W. Jackson Blvd., Suite 440, Chicago, IL 60604.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following is a summary of certain material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the ownership and disposition of our common stock as of the date hereof.

The following summary is based on current provisions of the Internal Revenue Code of 1986, as amended, (the "Code"), Treasury Regulations and judicial and administrative authority, all of which are subject to change or differing interpretation, possibly with retroactive effect. No ruling has been or will be sought from the Internal Revenue Service, (the "IRS"), with respect to the matters discussed below, and there can be no assurance that the IRS will not take a contrary position regarding the tax consequences of the ownership or disposition of shares of our common stock, or that any such contrary position would not be sustained by a court. This discussion does not address all aspects of U.S. federal income tax that may be relevant to non-U.S. holders in light of their personal circumstances or to non-U.S. holders who are subject to special rules, including, without limitation, banks, thrifts or other financial institutions; insurance companies; partnerships, or other pass-through entities; real estate investment trusts; regulated investment companies; certain former U.S. citizens or residents; "expatriated entities" subject to Section 7874 of the Code; "controlled foreign corporations" or "passive foreign investment companies"; corporations that accumulate earnings to avoid U.S. federal income tax; brokers, dealers or traders in securities, commodities or currencies; tax-exempt organizations; tax-qualified retirement plans and tax-deferred or other retirement accounts; persons subject to the alternative minimum tax; persons that hold or receive shares of our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; persons that own, or are deemed to own, more than 5% of our outstanding common stock (except to the extent specifically set forth below); persons holding shares of our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment; persons holding or disposing of shares of our common stock in connection with any share lending or similar transaction; non-U.S. holders that are estates or trusts and that have one or more U.S. beneficiaries; and persons deemed to sell shares of our common stock under the constructive sale provisions of the Code. In addition, this discussion does not address any estate or gift taxes or state, local or foreign tax consequences, nor does this discussion address the alternative minimum tax or the Medicare tax on net investment income.

For purposes of this summary, the term "non-U.S. holder" means a beneficial owner of our common stock (other than a partnership or other pass-through entity) who or that is not a citizen or individual resident of the United States, a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) organized in the United States or under the laws of the United States, any state thereof or the District of Columbia, an estate the income of which is subject to U.S. federal income taxation regardless of its source, or a trust if (i) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (ii) the trust has a valid election in effect to be treated as a U.S. person.

If an entity (or other arrangement) treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will generally depend on the status of the partner and upon the activities of the partner and the partnership. Accordingly, if you are an entity (or other arrangement) treated as a partnership holding our common stock, or a partner in such an entity, you should consult your tax advisors regarding the specific U.S. federal income tax consequences applicable to you.

If you are considering the purchase of our common stock, you should consult your own tax advisors concerning the particular U.S. federal tax consequences to you of the ownership and disposition of the common stock, as well as the consequences to you arising under the laws of any other taxing jurisdiction, including any state, local or foreign income tax consequences.

Distributions

Distributions with respect to our common stock generally will be treated as dividends to the extent paid from our current or accumulated earnings and profits as determined for U.S. federal income tax purposes. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated first as a return of capital to the extent of a holder's adjusted tax basis in our common stock and thereafter as capital gain from the sale or exchange of such common stock, subject to the tax treatment described below in "—Gain on disposition of common stock."

Generally, distributions treated as dividends paid to a non-U.S. holder with respect to our common stock will be subject to a 30% U.S. withholding tax, or such lower rate as may be specified by an applicable income tax treaty. Distributions treated as dividends that are effectively connected with such non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable tax treaty, are attributable to a U.S. permanent establishment of such non-U.S. holder) are generally subject to U.S. federal income tax on a net income basis in the same manner as if the non-U.S. holder were a U.S. person and are exempt from the 30% withholding tax (assuming compliance with certain certification requirements). Any such effectively connected dividends received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a rate of 30% (or lower applicable treaty rate).

To claim the benefit of an applicable tax treaty or an exemption from withholding because the income is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States, a non-U.S. holder generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (if the holder is claiming the benefits of an income tax treaty) or Form W-8ECI (for income effectively connected with a trade or business in the United States) or other suitable form. A non-U.S. holder eligible for a reduced rate of withholding tax pursuant to an income tax treaty may be able to obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the IRS. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under a relevant tax treaty and the specific manner of claiming the benefits of the treaty.

Gain on disposition of common stock

A non-U.S. holder generally will not be subject to U.S. federal income or withholding tax with respect to gain realized on the sale, exchange or other disposition of our common stock unless (i) the gain is effectively connected with such non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable tax treaty, is attributable to a U.S. permanent establishment of such non-U.S. holder), (ii) in the case of a non-U.S. holder that is a non-resident alien individual, such non-U.S. holder is present in the United States for 183 or more days in the taxable year of disposition and certain other requirements are met or (iii) we are or have been a "U.S. real property holding corporation" ("USRPHC") for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the non-U.S. holder held the common stock.

If gain or loss on the disposition of our common stock is effectively connected with a non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable tax treaty, is attributable to a U.S. permanent establishment of such non-U.S. holder), such gain or loss will be recognized in an amount equal to the difference between (i) the amount of cash and the fair market value of any other property received for the common stock and (ii) the non-U.S. holder's basis in the common stock. Such gain or loss generally will be capital gain or loss and will be long-term capital gain or loss if the common stock has been held for more than one year. Any such gain generally will be subject to U.S. federal income tax on a net income basis in the same manner as if the non-U.S. holder were a U.S. person, and in the case of a non-U.S. holder that is a foreign corporation, such gain may also be subject to an additional branch profits tax at a rate of 30% (or a lower applicable treaty rate). If a non-U.S. holder is an individual that is present in the United States for 183 or more days in the taxable year of disposition and certain other requirements are met, the non-U.S. holder generally will

be subject to a flat income tax at a rate of 30% (or a lower applicable treaty rate) on any capital gain recognized on the disposition of our common stock, which may be offset by certain U.S. source capital losses.

Generally, a corporation is a USRPHC if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. We believe that we currently are not, and we do not anticipate becoming, a USRPHC for U.S. federal income tax purposes. If we are or become a USRPHC, and if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market at any time during the calendar year, only a non-U.S. holder who holds or held, actually and constructively, (at any time during the shorter of the five-year period preceding the date of disposition or the holder's holding period) more than 5% of our common stock will be subject to U.S. federal income tax on the disposition of the common stock. Such holder would be subject to regular U.S. federal income tax with respect to any gain recognized in generally the same manner as a U.S. person. In addition, a buyer of our common stock from such holder may be required to withhold U.S. federal income tax at a rate of 15% of the amount realized upon such disposition.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Foreign account tax compliance act

Sections 1471 to 1474 of the Code and the Treasury Regulations promulgated thereunder ("FATCA"), may require withholding at a rate of 30% on dividends in respect of, or gross proceeds from the disposition of, our common stock held by or through certain foreign financial institutions (including investment funds), unless such institution (i) enters into, and complies with, an agreement with the Treasury to report, on an annual basis, information with respect to interests in, and accounts maintained by, the institution to the extent such interests or accounts are held by certain U.S. persons and by certain non-U.S. entities that are wholly or partially owned by U.S. persons and to withhold on certain payments or (ii) if required under an intergovernmental agreement between the United States and an applicable foreign country, reports such information to its local tax authority, which will exchange such information with the U.S. authorities. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Accordingly, the entity through which our common stock is held may affect the determination of whether such withholding is required. Similarly, dividends in respect of, and gross proceeds from the disposition of, our common stock held by an investor that is a non-financial non-U.S. entity that does not qualify under certain exemptions may be subject to withholding at a rate of 30%, unless such entity either (i) certifies that such entity does not have any "substantial United States owners" or (ii) provides certain information regarding the entity's "substantial United States owners," which we or the applicable withholding agent will in turn provide to the IRS. Regulations recently proposed by the IRS and the U.S. Treasury indicate an intention to eliminate the requirement of FATCA withholding on gross proceeds, and the U.S. Treasury has indicated that taxpayers may rely on those proposed regulations, notwithstanding the statutory requirement for such withholding set forth in the Code. We will not pay any additional amounts to stockholders in respect of any amounts withheld. Stockholders are urged to consult their tax advisors regarding the possible implications of FATCA on their investment in our common stock.

Backup withholding and information reporting

We or a financial intermediary must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. A non-U.S. holder generally will have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Generally, a holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or W-BEN-E (or other applicable Form W-8), and the payor does not have actual knowledge or reason to know that such holder is a U.S. person as defined under the Code, or otherwise meets documentary evidence requirements for establishing that it is a non-U.S.

holder, or otherwise establishes an exemption. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above under "Distributions," will generally be exempt from U.S. backup withholding.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or non-U.S., unless the holder certifies that it is not a "United States person" (as defined in the Code) and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-United States person where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

THE PRECEDING DISCUSSION OF MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR U.S. FEDERAL, STATE, LOCAL AND FOREIGN TAX CONSEQUENCES OF OWNING AND DISPOSING OF OUR COMMON STOCK.

PLAN OF DISTRIBUTION

The borrowed shares being offered pursuant to this prospectus supplement and the accompanying prospectus will be borrowed by the selling stockholders named herein pursuant to a lending arrangement from an affiliate of Jefferies LLC, the underwriter in our concurrent offering of convertible notes and one of the selling stockholders named in this prospectus supplement, which is borrowing the shares from us. We expect that the selling stockholders will sell the borrowed shares and use the resulting short position to hedge their respective investments in the convertible notes. There can be no assurance that any selling stockholder will sell any or all of the common stock offered pursuant to this prospectus supplement, or the timing of any such sales.

The selling stockholders may sell shares of our common stock included in this prospectus through Jefferies LLC or its affiliates, in privately negotiated transactions, at market prices prevailing at the time of sale, at prices related to the prevailing market prices or at negotiated prices.

In addition, the selling stockholders may sell, through Jefferies LLC or its affiliates, shares of our common stock included in this prospectus through:

- block trades in which a broker-dealer may resell a portion of the block, as principal, in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account; or
- ordinary brokerage transactions and transactions in which a broker solicits purchasers.

None of Jefferies LLC, its affiliates or we will receive any proceeds of the offering or sale of the borrowed shares except as otherwise disclosed under the caption “Selling Stockholders” in this prospectus supplement. However, the affiliate of Jefferies LLC that is borrowing the shares has agreed to pay us a one-time nominal fee of $0.01 per share for each newly-issued share for the use of the borrowed shares. In addition, Jefferies LLC or its affiliates may receive compensation in the form of discounts, concessions or commissions from the selling stockholders and/or from purchasers of borrowed shares for whom the affiliate of Jefferies LLC may act as agent or to whom it may sell as principal and may receive a fee in exchange for lending the borrowed shares.

The selling stockholders and any broker-dealers or other persons acting on our behalf or on the behalf of the selling stockholders that participate with the selling stockholders in the distribution of the securities may be deemed to be underwriters, and any commissions received or profit realized by them on the resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. As a result, we have informed the selling stockholders that Regulation M, promulgated under the Exchange Act, may apply to sales by the selling stockholders in the market. The selling stockholders may agree to indemnify any broker, dealer or agent that participates in transactions involving the sale of our common stock against certain liabilities, including liabilities arising under the Securities Act.

We will bear the registration costs relating to the securities offered and sold by the selling stockholders under this registration statement.

LEGAL MATTERS

The validity of the borrowed shares offered hereby will be passed upon for us by Greenberg Traurig, LLP. Certain legal matters relating to this offering will be passed upon for the Share Borrower by Skadden, Arps, Slate, Meagher & Flom LLP, New York, New York.

EXPERTS

The consolidated financial statements of OPKO Health, Inc. and subsidiaries as of December 31, 2017 and 2016, and for each of the three years in the period ended December 31, 2017, and the effectiveness of internal control over financial reporting as of December 31, 2017, included in the OPKO Health, Inc. Current Report on Form 8-K dated January 28, 2019, and incorporated by reference in this prospectus and registration statement, have been audited by Ernst & Young LLP, independent registered certified public accounting firm, as set forth in their reports thereon (which contain an explanatory paragraph describing the adoption of Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606), as described in Note 1 to the consolidated financial statements), and are incorporated herein by reference. Such consolidated financial statements are incorporated by reference herein in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Through our website at *www.opko.com*, you may access, free of charge, our filings, as soon as reasonably practical after we electronically file them with or furnish them to the SEC. The information contained in, or available through, our website is not incorporated by reference in, and should not be considered a part of, this prospectus supplement or the accompanying prospectus. Our SEC filings are also available to the public at the SEC's website at *www.sec.gov*.

The accompanying prospectus is part of a registration statement on Form S-3 that we filed with the SEC to register the securities offered hereby under the Securities Act. The accompanying prospectus does not contain all of the information included in the registration statement, including certain exhibits and schedules. You may obtain the registration statement and exhibits to the registration statement from the SEC at the address listed above or from the SEC's website listed above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information that we incorporate by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information that we file with the SEC in the future and incorporate by reference in this prospectus supplement and the accompanying prospectus automatically updates and supersedes previously filed information as applicable.

We incorporate by reference into this prospectus supplement and the accompanying prospectus the following documents filed by us with the SEC, other than any portion of any such documents that is not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the SEC on March 1, 2018;

- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, filed with the SEC on May 8, 2018, August 7, 2018 and November 9, 2018;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 30, 2018; and
- our Current Reports on Form 8-K filed with the SEC on March 1, 2018, April 4, 2018, April 9, 2018, April 27, 2018, June 22, 2018, September 10, 2018, September 11, 2018, September 14, 2018, November 9, 2018, December 27, 2018, January 8, 2019 and January 28, 2019.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (not including any information furnished under Item 2.02, 7.01 or 9.01 of Form 8-K and any other information that is identified as "furnished" rather than filed, which information is not incorporated by reference herein) prior to the termination of this offering, will be deemed to be incorporated herein by reference and to be a part of this prospectus supplement and the accompanying prospectus from the date of filing of such documents. Any statement contained in a document incorporated herein by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained herein, or in a subsequently filed document incorporated herein by reference, modifies or supersedes the statement. Any statement modified or superseded will not be deemed, except as modified or superseded, to constitute a part of this prospectus supplement and the accompanying prospectus.

We will provide without charge to each person, including any beneficial owner, to whom a prospectus supplement is delivered, upon written or oral request of that person, a copy of any and all of the information that has been incorporated by reference in this prospectus supplement and the accompanying prospectus but not delivered with this prospectus supplement (excluding exhibits unless specifically incorporated by reference into those documents). Please direct requests to us at the following address:

Opko Health, Inc.
Attention: Secretary
4400 Biscayne Boulevard
Miami, Florida 33137
(305) 575-4100

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PROSPECTUS

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We or any selling stockholder may offer and sell from time to time, in one or more series or issuances and on terms that we will determine at the time of the offering, any combination of the securities described in this prospectus.

This prospectus provides you with a general description of the securities we or any selling stockholder may offer and sell. We will provide specific terms of any offering in a supplement to this prospectus. Any prospectus supplement may also add, update, or change information contained in this prospectus. You should carefully read this prospectus and the applicable prospectus supplement as well as the documents incorporated or deemed to be incorporated by reference in this prospectus before you invest in any of our securities.

We or any selling stockholder may offer and sell in the same offering or in separate offerings; to or through underwriters, dealers and agents; or directly to purchasers. The names of any underwriters, dealers, or agents involved in the sale of our securities and any applicable fees, commissions, or discounts will be described in the applicable prospectus supplement. Our net proceeds from the sale of securities will also be set forth in the applicable prospectus supplement. We will not receive any proceeds from the sale of securities by selling stockholders.

This prospectus may not be used to consummate a sale of our securities unless accompanied by the applicable prospectus supplement.

Our common stock is listed on the Nasdaq Global Select Market of The Nasdaq Stock Market LLC under the symbol “OPK.”

Investing in our securities involves a high degree of risk. See the “Risk Factors” section beginning on page 1 of this prospectus for a discussion of information that should be considered in connection with an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 28, 2019.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, utilizing a "shelf" registration process. Under this shelf registration process, we and/or selling stockholders may sell, from time to time, any combination of the securities described in this prospectus in one or more offerings. This prospectus provides you with general information regarding the securities we and/or selling stockholders may offer. We will provide a prospectus supplement that contains specific information about any offering by us and/or selling stockholders.

The prospectus supplement also may add, update, or change information contained in the prospectus. You should read both this prospectus and the prospectus supplement related to any offering as well as additional information described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

Neither we nor any selling stockholder has authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus or any accompanying prospectus supplement or any "free writing prospectus." We and/or selling stockholders are offering to sell, and seeking offers to buy, securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus and in any accompanying prospectus supplement is accurate only as of the dates of their covers, regardless of the time of delivery of this prospectus or any prospectus supplement or of any sale of our securities. Our business, financial condition, results of operations, and prospects may have changed since those dates. You should rely only on the information contained or incorporated by reference in this prospectus or any accompanying prospectus supplement. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement, provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference into this prospectus or any prospectus supplement — the statement in the document having the later date modifies or supersedes the earlier statement.

Unless the context otherwise requires, the terms "OPKO," "Company," "we," "us,", "our", or "ours" refer to OPKO Health, Inc., a Delaware corporation, including its wholly-owned subsidiaries.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making an investment decision, you should carefully consider the discussion of risks and uncertainties under the heading "Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which is incorporated by reference in this prospectus, and under similar headings in our subsequently filed Quarterly Reports on Form 10-Q, any Current Reports on Form 8-K that are filed with the SEC and Annual Reports on Form 10-K, as well as the other risks and uncertainties described in any applicable prospectus supplement or free writing prospectus and in the other documents incorporated by reference in this prospectus. See the sections entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus. The risks and uncertainties we discuss in this prospectus, in any applicable prospectus supplement or free writing prospectus and in the other documents incorporated by reference in this prospectus are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial also may materially and adversely affect our business, financial condition and results of operations. Please also refer to the section of this prospectus titled "Cautionary Statement About Forward Looking Statements."

CAUTIONARY STATEMENT ABOUT FORWARD-LOOKING STATEMENTS

This prospectus, any applicable prospectus supplement and the documents and information incorporated by reference herein and therein may contain "forward-looking statements" within the meaning of Section 27A of the

Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Forward-looking statements may include, but are not limited to, statements relating to our objectives, plans and strategies as well as statements, other than historical facts, that address activities, events, or developments that we intend, expect, project, believe or anticipate will or may occur in the future. These statements are often characterized by terminology such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of these terms or other similar expressions.

Forward-looking statements are based on assumptions and assessments made in light of our experience and perception of historical trends, current conditions, expected future developments and other factors believed to be appropriate. Forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties, many of which are outside of our control. You should not place undue reliance on these forward-looking statements, which reflect our view only as of the date of this prospectus, and we undertake no obligation to update these forward-looking statements in the future, except as required by applicable law.

A number of important factors could cause actual results to differ materially from those indicated by the forward-looking statements, including, without limitation, those factors described under the heading "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which is incorporated by reference in this prospectus, and under similar headings in our subsequently filed Quarterly Reports on Form 10-Q, any Current Reports on Form 8-K that are filed with the SEC and Annual Reports on Form 10-K, as well as the other risks and uncertainties described in any applicable prospectus supplement or free writing prospectus and in the other documents incorporated by reference in this prospectus. Some of the key factors that could cause actual results to differ from our expectations include the following:

- we have a history of losses and may not generate sustained positive cash flow sufficient to fund our operations and research and development programs;
- our need for, and ability to obtain, additional financing when needed on favorable terms, or at all;
- adverse results in material litigation matters or governmental inquiries, including, without limitation, recent lawsuits against us and our Chairman of the Board and Chief Executive Officer by the SEC, as well as related class action and derivative lawsuits;
- the risks inherent in developing, obtaining regulatory approvals for and commercializing new, commercially viable and competitive products and treatments;
- our research and development activities may not result in commercially viable products;
- that earlier clinical results of effectiveness and safety may not be reproducible or indicative of future results;
- the success of our relationship with Pfizer;
- that we may fail to obtain regulatory approval for hGH-CTP or successfully commercialize *Rayaldee* and hGH-CTP;
- that we may not generate profits or cash flow from our laboratory operations or substantial revenue from *Rayaldee* and our pharmaceutical and diagnostic products;
- that currently available over-the-counter and prescription products, as well as products under development by others, may prove to be as or more effective than our products for the indications being studied;
- our ability to build a successful pharmaceutical sales and marketing infrastructure;
- our ability and our distribution and marketing partners' ability to comply with regulatory requirements regarding the sales, marketing and manufacturing of our products and product candidates and the operation of our laboratories;

- the performance of our third-party distribution partners, licensees and manufacturers over which we have limited control;
- our success is dependent on the involvement and continued efforts of our Chairman and Chief Executive Officer;
- integration challenges for Transition Therapeutics, Inc., BioReference Laboratories, EirGen and other acquired businesses;
- availability of insurance coverage with respect to material litigation matters;
- changes in regulation and policies in the United States ("U.S.") and other countries, including increasing downward pressure on healthcare reimbursement;
- our ability to manage our growth and our expanded operations;
- increased competition, including price competition;
- changing relationships with payors, including the various state and multi-state Blues programs, suppliers and strategic partners;
- efforts by third-party payors to reduce utilization and reimbursement for clinical testing services;
- our ability to maintain reimbursement coverage for our products and services, including the 4Kscore test;
- failure to timely or accurately bill and collect for our services;
- failure in our information technology systems, including cybersecurity attacks or other data security or privacy incidents;
- failure to obtain and retain new clients and business partners, or a reduction in tests ordered or specimens submitted by existing clients;
- failure to establish, and perform to, appropriate quality standards to assure that the highest level of quality is observed in the performance of our testing services;
- failure to maintain the security of patient-related information;
- our ability to obtain and maintain intellectual property protection for our products;
- our ability to defend our intellectual property rights with respect to our products;
- our ability to operate our business without infringing the intellectual property rights of others;
- our ability to attract and retain key scientific and management personnel;
- failure to obtain and maintain regulatory approval outside the U.S.;
- legal, economic, political, regulatory, currency exchange, and other risks associated with international operations; and
- our ability to finance and successfully complete construction of a research, development and manufacturing center in Waterford, Ireland.

OUR COMPANY

We are a diversified healthcare company that seeks to establish industry-leading positions in large and rapidly growing medical markets. Our diagnostics business includes BioReference Laboratories, the nation's third-largest clinical laboratory with a core genetic testing business and an almost 400-person sales and marketing team to drive growth and leverage new products, including the 4Kscore prostate cancer test and the Claros 1 in-

office immunoassay platform (in development). Our pharmaceutical business features Rayaldee, a U.S. Food and Drug Administration ("FDA")-approved treatment for secondary hyperparathyroidism in adults with stage 3 or 4 chronic kidney disease and vitamin D insufficiency (launched in November 2016), OPK88004, a selective androgen receptor modulator currently being studied for benign prostatic hyperplasia but for which we are exploring other potential indications, and OPK88003, a once or twice weekly oxyntomodulin for type 2 diabetes and obesity which is a clinically advanced drug candidate among the new class of GLP-1 glucagon receptor dual agonists (phase 2b). Our pharmaceutical business also features hGH-CTP, a once-weekly human growth hormone injection (in phase 3 and partnered with Pfizer Inc. ("Pfizer")).

We operate established pharmaceutical platforms in Spain, Ireland, Chile and Mexico, which are generating revenue and from which we expect to generate positive cash flow and facilitate future market entry for our products currently in development. We have a development and commercial supply pharmaceutical company, as well as a global supply chain operation and holding company in Ireland, which we expect will play an important role in the development, manufacturing, distribution and approval of a wide variety of drugs with an emphasis on high potency products. We also own a specialty active pharmaceutical ingredients manufacturer in Israel, which we expect will facilitate the development of our pipeline of molecules and compounds for our proprietary molecular diagnostic and therapeutic products.

We are a Delaware corporation. We maintain our principal executive offices at 4400 Biscayne Blvd., Miami, FL 33137. Our telephone number is (305) 575-4100. We maintain a website at *www.opko.com*. The information contained on our websites or that can be accessed through our website does not constitute part of this prospectus or the accompanying prospectus supplement.

USE OF PROCEEDS

Except as may be otherwise set forth in any prospectus supplement accompanying this prospectus, we will use the net proceeds we receive from sales of securities offered hereby to fund research and development to further develop and commercialize our portfolio of proprietary pharmaceutical and diagnostic products and for working capital, capital expenditures, acquisitions and other general corporate purposes, which may include the repayment or repurchase of indebtedness or debt securities outstanding from time to time. Pending these uses, the net proceeds may also be temporarily invested in cash equivalents or short-term securities. When specific securities are offered, the prospectus supplement relating thereto will set forth our intended use of the net proceeds that we receive from the sale of such securities.

SELLING STOCKHOLDERS

Selling stockholders are persons or entities that, directly or indirectly, have acquired or will from time to time acquire from us, our securities. Such selling stockholders may be parties to registration rights agreements with us, or we otherwise may have agreed or will agree to register their securities for resale. The initial purchasers of our securities, as well as their transferees, pledges, donees or successors, all of whom we refer to as "selling stockholders," may from time to time offer and sell our securities pursuant to this prospectus and any applicable prospectus supplement.

The applicable prospectus supplement will set forth the name of each of the selling stockholders and the number of securities beneficially owned by such selling stockholder that are covered by such prospectus supplement. The applicable prospectus supplement will also disclose whether any of the selling stockholders has held any position or office with, has been employed by or otherwise has had a material relationship with us during the three years prior to the date of the applicable prospectus supplement.

DILUTION

We will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers of the equity interests being offered; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF CAPITAL STOCK

General

This section describes the general terms of our capital stock. A prospectus supplement may provide information that is different from this prospectus. If the information in the prospectus supplement with respect to our stock being offered differs from this prospectus, you should rely on the information in the prospectus supplement. A copy of our amended and restated certificate of incorporation, as amended, which we refer to as our Amended and Restated Certificate of Incorporation, and our amended and restated bylaws, which we refer to as our Amended and Restated Bylaws, have been incorporated by reference from our filings with the SEC as an exhibit to the registration statement of which this prospectus forms a part. Our stock and the rights of the holders of our stock are subject to the applicable provisions of the General Corporation Law of the State of Delaware, which we refer to as the DGCL, our Amended and Restated Certificate of Incorporation, our Amended and Restated Bylaws, as well as some of the terms of our outstanding indebtedness.

The description below of our stock and provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws are summaries and are qualified by reference to the Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws, and by the applicable provisions of the DGCL.

Our authorized capital stock consists of 760,000,000 shares of capital stock, of which: (i) 750,000,000 shares are designated as common stock, par value $0.01 per share; and (ii) 10,000,000 shares are designated as preferred stock, par value $0.01 per share. As of December 31, 2018, there were 586,331,543 shares of common stock issued and outstanding and no shares of preferred stock issued and outstanding.

Common Stock

Voting Rights

The holders of shares of our common stock are entitled to one vote per share in connection with the election of directors and all other matters submitted to a vote of stockholders. The holders of shares of our common stock do not have cumulative voting rights.

Dividend Rights

Subject to any preferential dividend rights of holders of any then outstanding shares of our preferred stock and our Amended and Restated Certificate of Incorporation, the holders of shares of our common stock shall be entitled to receive, on a pro rata basis, such dividends and other distributions in cash, stock or property when, as and if declared thereon by our board of directors from time to time out of our assets or funds legally available therefor. No dividends have been paid to holders of shares of our common stock since our incorporation, and no dividends are anticipated to be declared or paid in the reasonably foreseeable future.

Liquidation Rights

After payments to creditors and subject to any preferential liquidation, dissolution or winding up rights of holders of any then outstanding shares of our preferred stock, the holders of shares of our common stock are entitled to share ratably in all of our remaining assets and funds available for distribution to holders of shares of our common stock upon the liquidation, dissolution or winding-up of our affairs.

Other Matters

Holders of shares of our common stock do not have any preemptive, subscription, redemption or conversion rights. All of the shares of our common stock currently issued and outstanding are fully-paid and nonassessable.

Preferred Stock

Under our Amended and Restated Certificate of Incorporation, our board of directors has the authority, without further action by stockholders, to divide shares of our preferred stock into such number of series as our board of directors may determine and to determine and alter, from time to time, the designations, rights, preferences, privileges and restrictions granted to and imposed upon any wholly unissued series of our preferred stock, including dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including sinking fund provisions), redemption price or prices, and the liquidation preference of any wholly unissued series of our preferred stock, any or all of which may be greater than the rights of our common stock, and to establish the number of shares constituting any such series. The issuance of preferred stock with voting rights or conversion rights may adversely affect the voting power of our common stock, including the loss of voting control to others. The issuance of preferred stock may also have the effect of delaying, deferring or preventing a change in control of our company without stockholder approval.

Series A Convertible Preferred Stock

Of the authorized preferred stock, 4,000,000 shares are designated “Series A Convertible Preferred Stock”. We redeemed all previously issued and outstanding shares of our Series A Convertible Preferred Stock.

Voting Rights

The holders of record of our Series A Convertible Preferred Stock were and would be entitled to notice of, and to vote on or consent to, all actions on which holders of shares of our common stock are required or permitted to act upon. On all matters requiring or permitting a vote or consent of the holders of common stock, each share of Series A Convertible Preferred Stock was and would be equivalent to one share of common stock and all shares of Series A Convertible Preferred Stock were and would be voted together with the shares of common stock as a single class, except as otherwise provided by our Amended and Restated Certificate of Incorporation or our Amended and Restated Bylaws or by law. So long as shares of Series A Convertible Preferred Stock were and would be outstanding, without the approval of the holders of record of at least a majority of the then outstanding shares of Series A Convertible Preferred Stock, voting separately as a class, we were not and would not be permitted to (i) alter or change the rights, preferences, privileges or restrictions of shares of Series A Preferred so as to affect them adversely; or (ii) increase the authorized number of shares of Series A Convertible Preferred Stock.

Dividend Rights

Holders of record of our Series A Convertible Preferred Stock were and would be entitled to receive dividends in the amount of $0.25 per share, payable annually in arrears. At the option of our board of directors, dividends were and would be payable to the extent lawfully permitted either (i) wholly or partially in cash or (ii) in newly issued shares of Series A Convertible Preferred Stock valued as set forth in our Amended and Restated Certificate of Incorporation.

Liquidation Rights

In the event of a liquidation, dissolution or winding-up, the holders of record of our Series A Convertible Preferred Stock were and would be entitled to receive ratably in full, out of our lawfully available assets, an amount in cash per outstanding share of Series A Convertible Preferred Stock equal to the sum of $2.50 and all dividends (whether or not declared) accrued and unpaid thereon as of the date of final distribution to such holders, without interest, before any payment shall be made or any assets distributed to the holders of common stock or any other class or series of our capital stock ranking junior as to liquidation rights to the Series A Convertible Preferred Stock; provided, however, that such rights would accrue to the holders of Series A Convertible Preferred Stock only in the event our payments with respect to the liquidation preferences of any holders of capital stock ranking senior as to liquidation rights to our Series A Convertible Preferred Stock (the "Senior Liquidation Stock") are fully met. If, upon any liquidation, dissolution and winding-up, the amount available for such payment to the holders of Series A Convertible Preferred Stock would not be sufficient to pay in full the amounts payable on the Series A Convertible Preferred Stock, the holders of the Series A Convertible Preferred Stock and any other class or series of the our capital stock which may be created having parity as to liquidation rights with the Series A Convertible Preferred Stock would share in the distribution of the amount available in proportion to the respective preferential amounts to which each is entitled.

The liquidation preference of our Series A Convertible Preferred Stock is subject to proportional adjustment as set forth in our Amended and Restated Certificate of Incorporation.

Conversion Rights

Each share of Series A Convertible Preferred Stock was and would be convertible, at the option of the holder of record, into fully paid and nonassessable shares of our common stock. Shares of Series A Convertible Preferred Stock were and would be convertible into the number of shares of our common stock determined by dividing (i) the number of shares of Series A Convertible Preferred Stock (including additional shares) held by a holder by (ii) a divisor equal to $2.50, subject to certain adjustments set forth in our Amended and Restated Certificate of Incorporation.

Optional Redemption

Shares of Series A Convertible Preferred Stock were and would be redeemable, at our option, in whole or in part, at any time and from time to time, if the average closing bid price of our common stock was at least $3.75 per share for any 30 consecutive trading days ending within 15 days prior to the date on which we give notice of redemption of shares of Series A Convertible Preferred Stock. The redemption price was and would be $2.50 per share plus a sum equal to the accrued but unpaid dividends on the Series A Convertible Preferred Stock.

Series C Convertible Preferred Stock

Of the authorized preferred stock, 500,000 shares are designated "Series C Convertible Preferred Stock". All previously issued and outstanding shares of Series C Convertible Preferred Stock automatically converted into shares of our common stock, on a one–hundred–for–one basis.

Voting Rights

Except as otherwise expressly provided in our Amended and Restated Certificate of Incorporation or as otherwise required by law, (i) each holder of Series C Convertible Preferred Stock was and would be entitled to vote on all matters submitted to a vote of our stockholders and was and would be entitled to that number of votes equal to the largest number of whole shares of common stock into which such holder's shares of Series C Convertible Preferred Stock could be converted, at the record date for the determination of stockholders entitled to vote on such matters or, if no such record date is established, at the date such vote is taken or any written consent of stockholders is solicited, and (ii) the holders of shares of preferred stock and common stock would vote together (or tender written consents in lieu of a vote) as a single class on all matters submitted to our stockholders.

Dividend Rights

The holders of shares of Series C Convertible Preferred Stock were and would be entitled to receive, when, as and if declared by our board of directors, out of our assets legally available therefor, prior and in preference to any declaration or payment of any dividend on our common stock or any other class or series of our capital stock ranking junior to the Series C Convertible Preferred Stock with respect to the payment of dividends, and subject to the rights to dividends of any class or series of our preferred stock ranking senior or on parity with our Series C Convertible Preferred Stock with respect to dividends, cumulative cash dividends at the rate per share as set forth in our Amended and Restated Certificate of Incorporation. Whenever we would declare a dividend on our common stock, the holders of the Series C Convertible Preferred Stock were and would be also entitled to receive dividends in an amount equal per share (on an as-if-converted to common stock basis) to the amount paid or set aside for each share of our common stock.

Liquidation Rights

In the event of any liquidation, dissolution or winding up, or in the event of our insolvency, distributions to our stockholders would be made in the following manner:

(i) First, before any distribution or payment is made to any holders of common stock or any other class or series of capital stock, the holders of Series C Convertible Preferred Stock would be entitled to be paid first out of the assets of the Company available for distribution to holders of capital stock of all classes and series, whether such assets are capital, surplus or earnings (collectively, "Available Assets"), an amount per share equal to the Series C Preferential Amount (as defined in our Amended and Restated Certificate of Incorporation).

(ii) After payment of the Series C Preferential Amount to all holders of the Series C Convertible Preferred Stock and payment of any other preference amounts to the holders of any other class or series of preferred stock entitled to a liquidation preference, the entire remaining Available Assets, if any, would be distributed among the holders of common stock, Series C Convertible Preferred Stock and any other class or series of preferred stock entitled to participate with the common stock in a liquidating distribution, pro rata in proportion to the shares of common stock then held by them and the shares of common stock which they then have the right to acquire upon conversion of such shares of preferred stock held by them.

Conversion Rights

The Series C Convertible Preferred Stock was and would be subject to conversion into shares of common stock at the option of the holder and upon certain specified events, in each case as set forth in our Amended and Restated Certificate of Incorporation.

8% Series D Cumulative Convertible Preferred Stock

Of the authorized preferred stock, 2,000,000 shares are designated "8% Series D Cumulative Convertible Preferred Stock" ("Series D Preferred Stock"). All previously issued and outstanding shares of our Series D Preferred Stock were converted into shares of our common stock.

Voting Rights

The holders of Series D Preferred Stock had and would have the right to receive notice of any meeting of holders of our common stock or Series D Preferred Stock and to vote (on an as–converted into common stock basis) upon any matter submitted to a vote of the holders of common stock or Series D Preferred Stock. Except as otherwise expressly set forth in our Amended and Restated Certificate of Incorporation, the holders of Series D Preferred Stock would vote on each matter submitted to them with the holders of common stock and all other classes and series of our capital stock entitled to vote on such matter, taken together as a single class.

Dividend Rights

Holders of shares of the Series D Preferred Stock were and would be entitled to receive, when, as and if declared by our board of directors, out of funds legally available therefor, dividends on each share of Series D Preferred Stock at a rate per annum equal to 8.0% of the sum of (i) $24.80 as adjusted in accordance with our Amended and Restated Certificate of Incorporation for each stock combination, stock split, recapitalization, or similar corporate action that is the functional equivalent of any of the foregoing, plus (ii) any and all declared and unpaid and accrued dividends thereon. All dividends described in the foregoing sentence were and would be cumulative, whether or not earned or declared, and accrued on an annual basis from the issue date of the Series D Preferred Stock. Whenever we would declare and pay or make a dividend or any other distribution on or with respect to shares of any class of our common stock, holders of shares of the Series D Preferred Stock were and would also be entitled to receive in respect of each share of Series D Preferred Stock, a dividend or distribution in an amount equal to the amount of such dividend or distribution received by a holder of the number of shares of our common stock for which such share of Series D Preferred Stock is convertible on the date of the payment of such dividend or distribution to holders of our common stock.

Rank and Liquidation Rights

With respect to dividend distributions (other than required dividends to the holders of our Series A Convertible Preferred Stock) and distributions upon liquidation, winding up or our dissolution, the Series D Preferred Stock ranked and would rank senior to all classes of our common stock, our Series A Convertible Preferred Stock, our Series C Convertible Preferred Stock and to each other class of our capital stock that is not specifically designated as ranking senior to or *pari passu* with our Series D Preferred Stock.

Conversion Rights

The Series D Preferred Stock was and would be subject to conversion into shares of common stock at the option of the holder and upon certain specified events, in each case as set forth in the certificate of designation with respect to the Series D Preferred Stock.

Certain Amended and Restated Certificate of Incorporation and Bylaws Provisions

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our Amended and Restated Bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or one of its committees or other matters properly brought by a stockholder under Rule 14a-8 promulgated under the Exchange Act.

Special Meetings

Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that, except as otherwise required by law, special meetings of the stockholders may only be called by the chairman of the board of directors, the Chief Executive Officer, or by the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the whole board. Only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders.

No Cumulative Voting

Section 214 of the DGCL provides that the certificate of incorporation of any corporation may provide stockholders with the right to cumulate votes in the election of directors. Our Amended and Restated Certificate of Incorporation does not provide for cumulative voting of shares of our stock.

Delaware Anti-Takeover Law

We are a Delaware corporation subject to Section 203 of the DGCL. Under Section 203, certain "business combinations" between a Delaware corporation whose stock is listed on a national securities exchange or held of record by more than 2,000 stockholders and an "interested stockholder" are prohibited for a three-year period following the date that such stockholder became an interested stockholder, unless:

- the corporation has elected in its certificate of incorporation not to be governed by Section 203;
- the business combination or the transaction which resulted in the stockholder becoming an interested stockholder was approved by the board of directors of the corporation before the date of the business combination or the date such stockholder became an interested stockholder, as applicable;
- upon consummation of the transaction that made such stockholder an interested stockholder, the interested stockholder owned at least 85% of the "voting stock" (as defined in Section 203) of the corporation outstanding at the commencement of the transaction excluding voting stock owned by directors who are also officers or held in employee benefit plans in which the employees do not have a confidential right to tender stock held by the plan in a tender or exchange offer; or
- the business combination is approved by the board of directors and by the stockholders (acting at a meeting and not by written consent) by the affirmative vote of at least 66-2/3% of the outstanding voting stock which is not "owned" (as defined in Section 203) by the interested stockholder.

The three-year prohibition also does not apply to some business combinations proposed by an interested stockholder following the announcement or notification of an extraordinary transaction involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation's directors. The term "business combination" is defined generally to include mergers or consolidations between a Delaware corporation and an interested stockholder, transactions with an interested stockholder involving the assets or stock of the corporation or its majority-owned subsidiaries and transactions which increase an interested stockholder's percentage ownership of stock, or other transaction resulting in a financial benefit to the interested stockholder. The term "interested stockholder" is defined generally as those stockholders who become beneficial owners of 15% or more of a Delaware corporation's voting stock, together with the affiliates or associates of that stockholder.

Listing

Our common stock is listed on the NASDAQ Global Select Market under the trading symbol "OPK."

Transfer Agent and Registrar

The Transfer Agent and Registrar for our common stock is American Stock Transfer & Trust Company. The registrar and transfer agent for our preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

This prospectus describes certain general terms and provisions of the debt securities that we may offer under this prospectus and one or more prospectus supplements. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a prospectus supplement. The following description of debt securities will apply to the debt securities offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of debt securities may specify different or additional terms.

We may issue "senior," "senior subordinated," or "subordinated" debt securities. "Senior securities" will be direct obligations of ours and will rank equally and ratably in right of payment with other indebtedness of ours

that is not subordinated. “Senior subordinated securities” will be subordinated in right of payment to the prior payment in full of senior indebtedness, as defined in the applicable prospectus supplement, and may rank equally and ratably with any other senior subordinated indebtedness. “Subordinated securities” will be subordinated in right of payment to senior subordinated securities.

We need not issue all debt securities of one series at the same time. Unless we provide otherwise, we may reopen a series, without the consent of the holders of such series, for issuances of additional securities of that series.

We will issue the senior debt securities and senior subordinated debt securities under a senior indenture, which we will enter into with a trustee to be named in the senior indenture, and we will issue the subordinated debt securities under a subordinated indenture, which we will enter into with a trustee to be named in the subordinated indenture. We use the term “indenture” or “indentures” to refer to both the senior indenture and the subordinated indenture. Each indenture will be subject to and governed by the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act, and we may supplement the indenture from time to time. Any trustee under any indenture may resign or be removed with respect to one or more series of debt securities, and we may appoint a successor trustee to act with respect to that series. We have filed a form of indenture as an exhibit to this registration statement, of which this prospectus forms a part. The terms of the senior indenture and subordinated indenture will be substantially similar, except that the subordinated indenture will include provisions pertaining to the subordination of the subordinated debt securities and senior subordinated debt securities to the senior debt securities and any other of our senior securities. The following statements relating to the debt securities and the indenture are summaries only, are subject to change, and are qualified in their entirety to the detailed provisions of the indenture, any supplemental indenture, and the discussion contained in any prospectus supplements.

General

The debt securities will be our direct obligations. We may issue debt securities from time to time and in one or more series as our board of directors may establish by resolution or as we may establish in one or more supplemental indentures. The particular terms of each series of debt securities will be described in a prospectus supplement relating to the series. We may issue debt securities with terms different from those of debt securities that we previously issued.

We may issue debt securities from time to time and in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will set forth in a prospectus supplement, relating to any series of debt securities being offered, the initial offering price, and the following terms of the debt securities:

- the title of the debt securities;
- the series designation and whether they are senior securities, senior subordinated securities, or subordinated securities;
- the aggregate principal amount of the debt securities and any limit on the aggregate amount of the series of debt securities;
- the price or prices (expressed as a percentage of the aggregate principal amount) at which we will issue the debt securities and, if other than the principal amount of the debt securities, the portion of the principal amount of the debt securities payable upon the maturity of the debt securities;
- the date or dates on which we will pay the principal on the debt securities;
- the rate or rates (which may be fixed or variable) or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index, or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable, and any regular record date for the interest payable on any interest payment date;

- the place or places where principal, premium, if any, and any interest will be payable or the method of such payment and where the debt securities can be surrendered for transfer, exchange, or conversion;
- the terms, if any, by which holders of the debt securities may convert or exchange the debt securities for our common stock, preferred stock, or any other security or property;
- if convertible, the initial conversion price, the conversion period, and any other terms governing such conversion;
- any subordination provisions or limitations relating to the debt securities;
- any sinking fund requirements;
- any obligation we have to redeem, purchase or repay the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the price or prices at which and the period and periods within which and the terms and conditions upon which debt securities of the series shall be redeemed, purchased, or repaid pursuant to such obligation;
- the dates on which and the price or prices at which we will repurchase the debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of $1,000 and any integral multiple thereof;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- whether we will issue the debt securities in certificated or book-entry form;
- the price or prices at which (if any), the period or periods within which (if any), and the terms and conditions upon which (if other than as provided herein) the debt securities may be redeemed, in whole or in part, at the option, or as an obligation, of the Company;
- whether the debt securities shall be issued in whole or in part in the form of a global security or securities; the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual debt securities, and the depositary for such global security and securities;
- whether the debt securities will be in registered or bearer form and, if in registered form, whether the securities will be issuable, in whole or in part, in the form of a global security;
- the currency of denomination of the debt securities;
- the designation of the currency, currencies, or currency units in which payment of principal of, premium, and interest on the debt securities will be made;
- if payments of principal of, and interest and any additional amounts on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies other than that in which the debt securities are denominated or designated to be payable or by reference to a commodity, commodity index, stock exchange index, or financial index;
- any applicability of the defeasance provisions described in this prospectus or any prospectus supplement;
- the trustee for the debt securities;

- whether and under what circumstances, if any, we will pay additional amounts on any debt securities in respect of any tax, assessment, or governmental charge and, if so, whether we will have the option to redeem the debt securities instead of making this payment;
- any addition to or change in the events of default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;
- if the debt securities are to be issued upon the exercise of debt warrants, the time, manner, and place for them to be authenticated and delivered;
- any securities exchange on which we will list the debt securities;
- any restrictions on transfer, sale, or other assignment;
- any provisions relating to any security provided for the debt securities;
- any provisions relating to any guarantee of the debt securities;
- any other terms of the debt securities, which may modify or delete any provision of the indenture as it applies to that series; and
- any depositaries, interest rate calculation agents, exchange rate calculation agents, or other agents with respect to the debt securities.

We may issue debt securities that are exchangeable for or convertible into shares of our common stock or other securities or property. The terms, if any, on which the debt securities may be exchanged for or converted into shares of our common stock or other securities or property will be set forth in the applicable prospectus supplement. Such terms may include provisions for conversion, either mandatory, at the option of the holder or at our option, in which case the number of shares of common stock or other securities or property to be received by the holders of debt securities would be calculated as of a time and in the manner stated in the prospectus supplement.

We may issue debt securities at less than the principal amount payable upon maturity. We refer to these securities as “original issue discount securities.” If material or applicable, we will describe in the applicable prospectus supplement special U.S. federal income tax, accounting, and other considerations applicable to original issue discount securities.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and interest and any additional amounts on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will describe the restrictions, elections, general tax considerations, specific terms, and provide other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Except as may be set forth in any prospectus supplement relating to the debt securities, no indenture will contain any other provisions that would limit our ability to incur indebtedness or that would afford holders of the debt securities protection in the event of a highly leveraged or similar transaction involving us or in the event of a change in control. You should review carefully the applicable prospectus supplement for information with respect to events of default and any covenants applicable to the debt securities being offered.

Payments and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of, and interest and any additional amounts on, the debt securities of a particular series at the office of the paying agents designated by us, except that, unless we otherwise indicate in the applicable prospectus supplement, we may make interest payments by check, which we will mail to the holder, or by wire transfer to certain holders. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series.

Form, Transfer, and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, as depositary, or a nominee of the depositary (as a "book-entry debt security"), or a certificate issued in definitive registered form (as a "certificated debt security"), as described in the applicable prospectus supplement. Except as described under "Global Debt Securities and Book-Entry System" below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities

A holder of our debt securities may transfer or exchange certificated debt securities at the trustee's office or paying agencies in accordance with the terms of the indenture. No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange.

A holder of our debt securities may transfer certificated debt securities and the right to receive the principal of, and interest and any additional amounts on, certificated debt securities only by surrendering the old certificate representing those certificated debt securities and either we or the trustee will reissue the old certificate to the new holder, or we or the trustee will issue a new certificate to the new holder.

Global Debt Securities and Book-Entry System

Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the depositary, and registered in the name of the depositary or a nominee of the depositary. Ownership of beneficial interests in book-entry debt securities will be limited to persons that have accounts with the depositary for the related global debt security, whom we refer to as participants, or persons that may hold interests through participants.

Except as described in this prospectus or any applicable prospectus supplement, beneficial owners of book-entry debt securities will not be entitled to have securities registered in their names, will not receive or be entitled to receive physical delivery of a certificate in definitive form representing securities, and will not be considered the owners or holders of those securities under the indenture. Accordingly, to exercise any rights of a holder under the indenture, each person beneficially owning book-entry debt securities must rely on the procedures of the depositary for the related global debt security and, if that person is not a participant, on the procedures of the participant through which that person owns its interest.

We understand, however, that under existing industry practice, the depositary will authorize the persons on whose behalf it holds a global debt security to exercise certain rights of holders of debt securities, and the indenture provides that we, the trustee, and our respective agents will treat as the holder of a debt security the persons specified in a written statement of the depositary with respect to that global debt security for purposes of obtaining any consents or directions required to be given by holders of the debt securities pursuant to the indenture.

We will make payments of principal of, and interest and any additional amounts on, book-entry debt securities to the depositary or its nominee, as the case may be, as the registered holder of the related global debt security. We,

the trustee, and any other agent of ours or agent of the trustee will not have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a global debt security or for maintaining, supervising, or reviewing any records relating to such beneficial ownership interests.

Any certificated debt securities issued in exchange for a global debt security will be registered in such name or names as the depositary shall instruct the trustee. We expect that such instructions will be based upon directions received by the depositary from participants with respect to ownership of book-entry debt securities relating to such global debt security.

For additional discussion of book entry and certificated securities, see the section entitled "Legal Ownership of Securities" included in this prospectus. We have obtained the foregoing information in this section and the "Legal Ownership of Securities" section concerning the depositary and the depositary's book-entry system from sources we believe to be reliable. We take no responsibility for the depositary's performance of its obligations under the rules and regulations governing its operations.

No Protection in the Event of a Change in Control

Unless we provide otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions that may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

Covenants

Unless we provide otherwise in the applicable prospectus supplement, the debt securities will not contain any restrictive covenants, including covenants restricting us or any of our subsidiaries from incurring, issuing, assuming, or guaranteeing any indebtedness secured by a lien on any of our or our subsidiaries' property or capital stock or restricting us or any of our subsidiaries from entering into any sale and leaseback transactions.

Merger, Consolidation, and Sale of Assets

Unless we provide otherwise in the applicable prospectus supplement, we may not merge with or into or consolidate with, or convey, transfer, or lease all or substantially all of our properties and assets to, any person (a "successor person"), unless the following applies:

- either (a) the company is the surviving entity or (b) the successor person is a corporation, partnership, trust, or other entity organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture;
- immediately after giving effect to the transaction, no event of default, and no event that, after notice or lapse of time, or both, would become an event of default, will have occurred and be continuing under the indenture; and
- certain other conditions that may be set forth in the applicable prospectus supplement are met.

This covenant would not apply to any recapitalization transaction, a change in control of us, or a transaction in which we incur a large amount of additional debt unless the transactions or change in control included a merger, consolidation, or transfer or lease of substantially all of our assets. Except as may be described in the applicable prospectus supplement, there are no covenants or other provisions in the indenture providing for a "put" right or increased interest or that would otherwise afford holders of debt securities additional protection in the event of a recapitalization transaction, a change in control of us, or a transaction in which we incur a large amount of additional debt.

Events of Default Under the Indenture

Unless we provide otherwise in the applicable prospectus supplement, an "event of default" will mean, with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable and continuance of that default for a period of 30 days (unless the entire amount of such payment is deposited by us with the trustee or with a paying agent before the expiration of the 30-day period);
- default in the payment of principal of, and any other amounts due on, any debt security of that series when due and payable either at maturity, redemption, or otherwise;
- default in the deposit of any sinking fund payment, when and as due in respect of any debt security of that series;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series) or in the debt security, which default continues uncured for a period of 60 days after we receive written notice from the trustee or we and the trustee receive written notice from the holders of not less than a majority in principal amount of the outstanding debt securities of that series as provided in the indenture;
- we, pursuant to or within the meaning of any applicable bankruptcy law, commence a voluntary case, consent to the entry of an order for relief against us in an involuntary case, consent to the appointment of a custodian for all or substantially all of our property, make a general assignment for the benefit of our creditors, or admit in writing our inability generally to pay our debts as they become due; or, similarly, a court enters an order or decree under any applicable bankruptcy law that provides for relief against us in an involuntary case, appoints a custodian for all or substantially all of our properties, or orders our liquidation (and the order remains in effect for 60 days); and
- any other event of default provided with respect to debt securities of that series that is included in any supplemental indenture or is described in the applicable prospectus supplement accompanying this prospectus.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency, or reorganization) necessarily will constitute an event of default with respect to any other series of debt securities. An event of default may also be an event of default under our bank credit agreements or other debt securities in existence from time to time and under certain guaranties by us of any subsidiary indebtedness. In addition, certain events of default or an acceleration under the indenture may also be an event of default under some of our other indebtedness outstanding from time to time.

Unless we provide otherwise in the applicable prospectus supplement, if an event of default with respect to debt securities of any series at the time outstanding occurs and is continuing (other than certain events of our bankruptcy, insolvency, or reorganization), then the trustee or the holders of not less than a majority in principal amount of the outstanding debt securities of that series may, by written notice to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and accrued and unpaid interest, if any, of all debt securities of that series. In the case of an event of default resulting from certain events of bankruptcy, insolvency, or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, of all outstanding debt securities will become and be immediately due and payable without any declaration or other act by the trustee or any holder of outstanding debt securities.

At any time after an acceleration with respect to debt securities of a series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of not less than a majority

in principal amount of the outstanding debt securities of that series may cancel the acceleration and annul its consequences if the rescission would not conflict with any judgment or decree and if all existing events of default with respect to that series have been cured or waived except nonpayment of principal (or such lesser amount) or interest that has become due solely because of the acceleration.

The indenture also provides that the holders of not less than a majority in principal amount of the outstanding debt securities of any series may waive any past default with respect to that series and its consequences, except a default involving the following:

- our failure to pay the principal of, and interest and any additional amounts on, any debt security; or
- a covenant or provision contained in the indenture that cannot be modified or amended without the consent of the holders of each outstanding debt security affected by the default.

The trustee is generally required to give notice to the holders of debt securities of each affected series within 90 days of a default actually known to a responsible officer of the trustee unless the default has been cured or waived. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any default or event of default (except in payment on any debt securities of that series) with respect to debt securities of that series if it in good faith determines that withholding notice is in the interest of the holders of those debt securities.

Unless we provide otherwise in the applicable prospectus supplement, the indenture will provide that the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request or discretion of any holder of any such outstanding debt securities unless the trustee receives indemnity satisfactory to it against any loss, liability, or expense. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method, and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series. The trustee may, however, refuse to follow any discretion that conflicts with the indenture or any law or which may be unduly prejudicial to the holders of the debt securities of the applicable series not joining in the discretion.

Unless we provide otherwise in the applicable prospectus supplement, no holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing event of default with respect to debt securities of that series; and
- the holders of at least 25% in principal amount of the outstanding debt securities of that series have made written request, and offered reasonable indemnity, to the trustee to institute such proceeding as trustee, and the trustee will not have received from the holders of a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days.

Notwithstanding the foregoing, except as provided in the subordination provisions, if any, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, and any interest or additional amounts on, that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a certificate as to compliance with the indenture, or, in the event of noncompliance, specify the noncompliance and the nature and status of the noncompliance.

Modification of Indenture and Waiver

Except as specified below, modifications and amendments to the indenture require the approval of not less than a majority in principal amount of our outstanding debt securities.

Changes Requiring the Unanimous Approval

We and the trustee may not make any modification or amendment to the indenture without the consent of the holder of each affected debt security then outstanding if that amendment will have any of the following results:

- reduce the rate of or extend the time for payment of interest on any debt security;
- reduce the principal of or change the fixed maturity of any debt security or waive a redemption payment or alter the redemption provisions on any debt security;
- reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal, interest, or any additional amounts on any debt security, except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from that acceleration;
- make the principal of, or interest or any additional amounts on, any debt security payable in currency other than that stated in the debt security;
- change the place of payment on a debt security;
- change the currency or currencies of payment of the principal of, and any premium, make-whole payment, interest, or additional amounts on, any debt security;
- impair the right to initiate suit for the enforcement of any payment on or with respect to any debt security;
- reduce the percentage of holders of debt securities whose consent is needed to modify or amend an indenture;
- reduce the percentage of the holders of outstanding debt securities of any series necessary to modify or amend the indenture, to waive compliance with provisions of the indenture or defaults and their consequences under the indenture, or to reduce the quorum or voting requirements contained in the indenture;
- make any change that adversely affects the right to convert or exchange any debt security other than as permitted by the indenture or decrease the conversion or exchange rate or increase the conversion or exchange price of any such debt security;
- waive a redemption payment with respect to any debt security; or
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, and interest and any additional amount on, those debt securities, the right of holders to institute suit for the enforcement of any payment or the right of holders to waive past defaults.

Changes Not Requiring Approval of Debt Holders

We and the trustee may modify or amend an indenture, without the consent of any holder of debt securities, for any of the following purposes:

- to evidence the succession of another person to us as obligor under the indenture;

- to add to our existing covenants additional covenants for the benefit of the holders of all or any series of debt securities, or to surrender any right or power conferred upon us in the indenture;
- to add events of default for the benefit of the holders of all or any series of debt securities;
- to add or change any provisions of the indenture to facilitate the issuance of, or to liberalize the terms of, debt securities in bearer form, or to permit or facilitate the issuance of debt securities in uncertificated form, provided that this action will not adversely affect the interests of the holders of the debt securities of any series in any material respect;
- to add, change, or eliminate any provisions of the indenture, provided that any addition, change, or elimination (a) shall neither (i) apply to any debt security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the holder of any debt security with respect to such provision, or (b) shall become effective only when there are no outstanding debt securities;
- to establish additional series of debt securities;
- to secure previously unsecured debt securities;
- to establish the form or terms of debt securities of any series, including the provisions and procedures, if applicable, for the conversion or exchange of the debt securities into our common stock, preferred stock, or other securities or property;
- to evidence and provide for the acceptance or appointment of a successor trustee or facilitate the administration of the trusts under the indenture by more than one trustee;
- to make any provision with respect to the conversion or exchange of rights of holders pursuant to the requirements of the indenture;
- to cure any ambiguity, defect, or inconsistency in the indenture, provided that the action does not adversely affect the interests of holders of debt securities of any series issued under the indenture;
- to close the indenture with respect to the authentication and delivery of additional series of debt securities or to qualify, or maintain qualification of, the indenture under the Trust Indenture Act; or
- to supplement any of the provisions of the indenture to the extent necessary to permit or facilitate defeasance and discharge of any series of debt securities, provided that the action shall not adversely affect the interests of the holders of the debt securities of any series in any material respect.

A vote by holders of debt securities will not be required for clarifications and certain other changes that would not adversely affect holders of the debt securities.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance

Unless the terms of the applicable series of debt securities provide otherwise, we may be discharged from any and all obligations in respect of the debt securities of any series (except for certain obligations to register the transfer or exchange of debt securities of the series; to replace stolen, lost, or mutilated debt securities of the series; and to maintain paying agencies and certain provisions relating to the treatment of funds held by paying agents). We will be so discharged upon the deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, foreign government obligations (as described at the end of this section), that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient to pay and discharge each installment of principal, interest, and any additional amounts on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of such payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an officers' certificate and an opinion of counsel stating that we have received from, or there has been published by, the U.S. Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable U.S. federal income tax law, in either case to the effect that holders of the debt securities of such series will not recognize income, gain, or loss for U.S. federal income tax purposes as a result of the deposit, defeasance, and discharge and will be subject to U.S. federal income tax on the same amount and in the same manner and at the same times as would have been the case if the deposit, defeasance, and discharge had not occurred.

Defeasance of Certain Covenants

Unless the terms of the applicable series of debt securities provide otherwise, upon compliance with certain conditions, we may omit to comply with the restrictive covenants contained in the indenture (except for certain obligations to maintain paying agencies and certain provisions relating to the treatment of funds held by paying agents), as well as any additional covenants contained in the applicable prospectus supplement.

The conditions include, among others, the following:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, foreign government obligations, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient, in the opinion of a nationally recognized firm of independent public accountants, to pay principal, interest, and any additional amounts on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and
- delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain, or loss for U.S. federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to U.S. federal income tax in the same amount and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred.

Covenant Defeasance and Events of Default

If we exercise our option, as described above, not to comply with certain covenants of the indenture with respect to any series of debt securities, and the debt securities of that series are declared due and payable because of the occurrence of any event of default, the amount of money and/or U.S. government obligations or foreign government obligations on deposit with the trustee will be sufficient to pay amounts due on the debt securities of that series at the time of their stated maturity but may not be sufficient to pay amounts due on the debt securities of that series at the time of the acceleration resulting from the event of default. However, we will remain liable for those payments.

"Foreign government obligations" means, with respect to debt securities of any series that are denominated in a currency other than U.S. dollars:

- direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged, which are not callable or redeemable at the option of the issuer thereof; or
- obligations of a person controlled or supervised by or acting as an agency or instrumentality of that government, the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by that government, which are not callable or redeemable at the option of the issuer thereof.

Guarantees

Our payment obligations under any series of debt securities may be guaranteed by us or one or more of our subsidiaries. The terms of any such guarantee will be set forth in the applicable prospectus supplement.

Subordination

We will set forth in the applicable prospectus supplement the terms and conditions, if any, upon which any series of senior subordinated securities or subordinated securities is subordinated to debt securities of another series or to other indebtedness of ours. The terms will include a description of the following:

- the indebtedness ranking senior to the debt securities being offered;
- any restrictions on payments to the holders of the debt securities being offered while a default with respect to the senior indebtedness is continuing;
- any restrictions on payments to the holders of the debt securities being offered following an event of default; and
- provisions requiring holders of the debt securities being offered to remit some payments to holders of senior indebtedness.

Conversion and Exchange Rights

The terms on which debt securities of any series may be convertible into or exchangeable for our common stock, preferred stock, or other securities or property of our company will be described in the applicable prospectus supplement. These terms will include the following:

- the conversion or exchange price, or the manner of calculating the price;
- the exchange or conversion period;
- whether the conversion or exchange is mandatory, or voluntary at the option of the holder, or at our option;
- any restrictions on conversion or exchange in the event of redemption of the debt securities and any restrictions on conversion or exchange; and
- the means of calculating the number of shares of our common stock, preferred stock, or other securities or property of our company to be received by the holders of debt securities.

The conversion or exchange price of any debt securities of any series that are convertible into our common stock or preferred stock may be adjusted for any stock dividends, stock splits, reclassification, combinations, or similar transactions, as set forth in the applicable prospectus supplement.

Redemption of Debt Securities

The debt securities may be subject to optional or mandatory redemption on terms and conditions described in the applicable prospectus supplement. Subject to such terms, we may opt at any time to redeem the debt securities in whole or in part.

If less than all the debt securities of any series are to be redeemed or purchased in an offer to purchase at any time, the trustee will select the debt securities of that series to be redeemed or purchased as follows: (1) if the securities of such series are listed on any national securities exchange, in compliance with the requirements of the principal national securities exchange on which the debt securities of that series are listed, or, (2) if the debt securities of that series are not listed on a national securities exchange, on a pro rata basis, by lot, or by such other method as the trustee deems fair and appropriate.

Except as otherwise provided as to any particular series of debt securities, at least 30 days but not more than 60 days before a redemption date, we or the trustee will mail a notice of redemption to each holder whose debt securities are to be redeemed. From and after notice has been given as provided in the applicable indenture, if funds for the redemption of any debt securities called for redemption shall have been made available on the redemption date, the debt securities will cease to bear interest on the date fixed for the redemption specified in the notice, and the only right of the holders of the debt securities will be to receive payment of the redemption price.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the state of New York, except to the extent that the Trust Indenture Act is applicable.

DESCRIPTION OF DEPOSITARY SHARES

We may issue receipts for depositary shares representing fractional shares of preferred stock. The fractional share of the applicable series of preferred stock represented by each depositary share will be set forth in the applicable prospectus supplement.

The shares of any series of preferred stock underlying any depositary shares that we may sell under this prospectus will be deposited under a deposit agreement between us and a depositary selected by us. Subject to the terms of the deposit agreement, each holder of a depositary share will be entitled, in proportion to the applicable fraction of a share of the preferred stock underlying the depositary share, to all of the rights, preferences, and privileges, and will be subject to the qualifications and restrictions, of the preferred stock underlying that depositary share.

The depositary shares will be evidenced by depositary receipts issued under the deposit agreement. Depositary receipts will be distributed to the holders of the depositary shares that are sold in the applicable offering. We will incorporate by reference into the registration statement of which this prospectus forms a part the form of any deposit agreement, including a form of depositary receipt, that describes the terms of any depositary shares we are offering before the issuance of the related depositary shares. The following summaries of material provisions of the deposit agreement, the depositary shares and the depositary receipts are subject to, and qualified in their entirety by reference to, all of the provisions of the deposit agreement applicable to a particular offering of depositary shares. We urge you to read the prospectus supplements relating to any depositary shares that are sold under this prospectus, as well as the complete deposit agreement and depositary receipt.

Form

Pending the preparation of definitive depositary receipts, the depositary may, upon our written order, issue temporary depositary receipts substantially identical to the definitive depositary receipts but not in definitive form. These temporary depositary receipts will entitle their holders to all of the rights of definitive depositary receipts. Temporary depositary receipts will then be exchangeable for definitive depositary receipts at our expense.

Dividends and Other Distributions

The depositary will distribute all cash dividends or other cash distributions received with respect to the underlying preferred stock to the record holders of depositary shares in proportion to the number of depositary shares owned by those holders.

If there is a distribution other than in cash, the depositary will distribute property received by it to the record holders of depositary shares in proportion to the number of depositary shares owned by those holders, unless the

depositary determines that it is not feasible to do so. If this occurs, the depositary may, with our approval, sell the property and distribute the net proceeds from the sale to those holders in proportion to the number of depositary shares owned by them.

The amount distributed to holders of depositary shares will be reduced by any amounts required to be withheld by us or the preferred stock depositary on account of taxes or other governmental charges.

Liquidation Preference

If a series of preferred stock underlying the depositary shares has a liquidation preference, in the event of our voluntary or involuntary liquidation, dissolution, or winding up, holders of depositary shares will be entitled to receive the fraction of the liquidation preference accorded each share of the applicable series of preferred stock, as set forth in the applicable prospectus supplement.

Withdrawal of Underlying Preferred Stock

Except as otherwise provided in a prospectus supplement, holders may surrender depositary receipts at the principal office of the depositary and, upon payment of any unpaid amount due to the depositary, be entitled to receive the number of whole shares of underlying preferred stock and all money and other property represented by the related depositary shares. We will not issue any partial shares of preferred stock. If the holder delivers depositary receipts evidencing a number of depositary shares that represent more than a whole number of shares of preferred stock, the depositary will issue a new depositary receipt evidencing the excess number of depositary shares to the holder.

Redemption of Depositary Shares

If the preferred stock underlying any depositary shares we may sell under this prospectus is subject to redemption, the depositary shares will be redeemed from the proceeds received by the depositary resulting from any such redemption, in whole or in part, of that underlying preferred stock. The redemption price per depositary share will be equal to the applicable fraction of the redemption price per share payable with respect to the underlying preferred stock. Whenever we redeem shares of underlying preferred stock that are held by the depositary, the depositary will redeem, as of the same redemption date, the number of depositary shares representing the shares of underlying preferred stock so redeemed. If fewer than all of the depositary shares are to be redeemed, the depositary shares to be redeemed will be selected by lot or proportionately, as may be determined by the depositary.

After the date fixed for redemption, the depositary shares called for redemption will no longer be deemed to be outstanding, and all rights of the holders of the depositary shares will cease, except the right to receive the monies payable and any other property to which the holders were entitled upon the redemption upon surrender to the preferred stock depositary of the depositary receipts evidencing the depositary shares. Any funds deposited by us with the preferred stock depositary for any depositary shares that the holders fail to redeem will be returned to us after a period of two years from the date the funds are deposited.

Voting

Upon receipt of notice of any meeting at which holders of the preferred stock underlying any depositary shares that we may sell under this prospectus are entitled to vote, the depositary will mail the information contained in the notice to the record holders of the depositary shares. Each record holder of the depositary shares on the record date, which will be the same date as the record date for the underlying preferred stock, will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the amount of the underlying preferred stock represented by the holder's depositary shares. The depositary will then try, as far as practicable, to vote the number of shares of preferred stock underlying those depositary shares in accordance with those instructions, and

we will agree to take all reasonable actions which may be deemed necessary by the depositary to enable the depositary to do so. The depositary will not vote the underlying preferred stock to the extent it does not receive specific instructions with respect to the depositary shares representing such preferred stock.

Conversion of Preferred Stock

If the prospectus supplement relating to any depositary shares that we may sell under this prospectus states that the underlying preferred stock is convertible into our common stock or other securities, the following will apply. The depositary shares, as such, will not be convertible into any of our securities. Rather, any holder of the depositary shares may surrender the related depositary receipts to the depositary with written instructions that direct us to cause conversion of the preferred stock represented by the depositary shares into or for whole shares of our common stock or other securities, as applicable. Upon receipt of those instructions and any amounts payable by the holder in connection with the conversion, we will cause the conversion using the same procedures as those provided for conversion of the underlying preferred stock. If only some of a holder's depositary shares are converted, a new depositary receipt or receipts will be issued to the holder for any depositary shares not converted.

Amendment and Termination of the Deposit Agreement

The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may at any time be amended by agreement between us and the depositary. However, any amendment which materially and adversely alters the rights of the holders of depositary shares will not be effective until 90 days after notice of that amendment has been given to the holders. Each holder of depositary shares at the time any amendment becomes effective shall be deemed to consent and agree to that amendment and to be bound by the deposit agreement as so amended. The deposit agreement may be terminated by us or by the depositary only if all outstanding depositary shares have been redeemed or converted into any other securities into which the underlying preferred stock is convertible or there has been a final distribution, including to holders of depositary receipts, of the underlying preferred stock in connection with our liquidation, dissolution, or winding up.

Charges of Depositary

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangement. We will also pay charges of the depositary in connection with the initial deposit of the preferred stock, the initial issuance of the depositary shares, any redemption of the preferred stock, and all withdrawals of preferred stock by owners of depositary shares. Holders of depositary receipts will pay transfer, income, and other taxes and governmental charges and other specified charges as provided in the deposit arrangement for their accounts. If these charges have not been paid, the depositary may refuse to transfer depositary shares, withhold dividends and distributions, and sell the depositary shares evidenced by the depositary receipt.

Limitation on Liability

Neither we nor the depositary will be liable if either of us is prevented or delayed by law or any circumstance beyond our control in performing our respective obligations under the deposit agreement. Our obligations and those of the depositary will be limited to performance of our respective duties under the deposit agreement without, in our case, negligence or bad faith or, in the case of the depositary, negligence or willful misconduct. We and the depositary may rely upon advice of counsel or accountants, or upon information provided by persons presenting the underlying preferred stock for deposit, holders of depositary receipts, or other persons believed by us in good faith to be competent and on documents believed to be genuine.

Corporate Trust Office of Preferred Stock Depositary

The preferred stock depositary's corporate trust office will be set forth in the applicable prospectus supplement relating to a series of depositary shares. The preferred stock depositary will act as transfer agent and registrar for

depositary receipts, and, if shares of a series of preferred stock are redeemable, the preferred stock depositary will act as redemption agent for the corresponding depositary receipts.

Resignation and Removal of Depositary

The depositary may resign at any time by delivering notice to us of its election to resign. We may remove the depositary at any time. Any resignation or removal will take effect upon the appointment of a successor depositary and its acceptance of the appointment. The successor depositary must be appointed within 60 days after delivery of the notice of resignation or removal and must be a bank or trust company having its principal office in the United States and having a combined capital and surplus of at least $50,000,000.

Reports to Holders

We will deliver all required reports and communications to holders of the preferred stock to the preferred stock depositary, and it will forward those reports and communications to the holders of depositary shares. Upon request, the preferred stock depositary will provide for inspection to the holders of depositary shares the transfer books of the depositary and the list of holders of receipts; provided that any requesting holder certifies to the preferred stock depositary that such inspection is for a proper purpose reasonably related to such person's interest as an owner of depositary shares evidenced by the receipts.

DESCRIPTION OF WARRANTS

General

We may issue warrants to purchase common stock, which we refer to as common stock warrants, preferred stock, which we refer to as preferred stock warrants, debt securities, which we refer to as debt security warrants, or depositary shares, which we refer to as depositary share warrants. Any of these warrants may be issued independently or together with any other securities offered by this prospectus and may be attached to or separate from those securities.

While the terms we have summarized below will generally apply to any future warrants we may offer under this prospectus, we will describe the particular terms of any warrants that we may offer in more detail in the applicable prospectus supplement. The terms of any warrants we offer under a prospectus supplement may differ from the terms we describe below.

We may issue the warrants under a warrant agreement, which we will enter into with a warrant agent to be selected by us. Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

We will incorporate by reference into the registration statement of which this prospectus forms a part the form of warrant agreement, including a form of warrant certificate, that describes the terms of the series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement applicable to a particular series of warrants. We urge you to read the applicable prospectus supplements related to the warrants that we sell under this prospectus, as well as the complete warrant agreements that contain the terms of the warrants.

We will set forth in the applicable prospectus supplement the terms of the warrants in respect of which this prospectus is being delivered, including, when applicable, the following:

- the title of the warrants;
- the aggregate number of the warrants;
- the price or prices at which the warrants will be issued;
- the designation, number, and terms of the securities purchasable upon exercise of the warrants;
- the designation and terms of the other securities, if any, with which the warrants are issued and the number of warrants issued with each such security;
- the date, if any, on and after which the warrants and the related underlying securities will be separately transferable;
- the price at which each underlying security purchasable upon exercise of the warrants may be purchased;
- the date on which the right to exercise the warrants will commence and the date on which such right will expire;
- the minimum amount of the warrants that may be exercised at any one time;
- any information with respect to book-entry procedures;
- the effect of any merger, consolidation, sale, or other disposition of our business on the warrant agreement and the warrants;
- any other terms of the warrants, including terms, procedures, and limitations relating to the transferability, exchange, and exercise of such warrants;
- the terms of any rights to redeem or call, or accelerate the expiration of, the warrants;
- the date on which the right to exercise the warrants begins and the date on which that right expires;
- the U.S. federal income tax consequences of holding or exercising the warrants; and
- any other specific terms, preferences, rights, or limitations of, or restrictions on, the warrants.

Unless specified in an applicable prospectus supplement, common stock warrants, preferred stock warrants, debt security warrants, or depositary shares warrants will be in registered form only.

A holder of warrant certificates may exchange them for new certificates of different denominations, present them for registration of transfer, and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any common stock warrants, preferred stock warrants, debt security warrants, or depositary shares warrants are exercised, holders of the warrants will not have any rights of holders of the underlying common stock, preferred stock, debt securities, or depositary shares, including any rights to receive dividends or to exercise any voting rights, except to the extent set forth under the heading “Warrant Adjustments” below.

Exercise of Warrants

Each warrant will entitle the holder to purchase for cash shares of common stock, preferred stock, debt securities, or depositary shares at the applicable exercise price set forth in, or determined as described in, the applicable prospectus supplement. Warrants may be exercised at any time up to the close of business on the expiration date set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Warrants may be exercised by delivering to the corporation trust office of the warrant agent or any other officer indicated in the applicable prospectus supplement (a) the warrant certificate properly completed and duly executed and (b) payment of the amount due upon exercise. As soon as practicable following exercise, we will forward the shares of common stock, preferred stock, debt securities, or depositary shares. If less than all of the warrants represented by a warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or a part of the exercise price for the warrants.

Amendments and Supplements to the Warrant Agreements

We may amend or supplement a warrant agreement without the consent of the holders of the applicable warrants to cure ambiguities in the warrant agreement, to cure or correct a defective provision in the warrant agreement, or to provide for other matters under the warrant agreement that we and the warrant agent deem necessary or desirable, so long as, in each case, such amendments or supplements do not materially and adversely affect the interests of the holders of the warrants.

Warrant Adjustments

Unless the applicable prospectus supplement states otherwise, the exercise price of, and the number of securities covered by, a common stock warrant, preferred stock warrant, debt security warrant, or depositary share warrant will be adjusted proportionately if we subdivide or combine our common stock, preferred stock, debt securities, or depositary shares, as applicable. In addition, unless the prospectus supplement states otherwise, if we, without payment:

- issue capital stock or other securities convertible into or exchangeable for common stock or preferred stock, or any rights to subscribe for, purchase, or otherwise acquire any of the foregoing, as a dividend or distribution to holders of our common stock or preferred stock;
- pay any cash to holders of our common stock or preferred stock other than a cash dividend paid out of our current or retained earnings or other than in accordance with the terms of the preferred stock;
- issue any evidence of our indebtedness or rights to subscribe for or purchase our indebtedness to holders of our common stock or preferred stock; or
- issue common stock or preferred stock or additional stock or other securities or property to holders of our common stock or preferred stock by way of spinoff, split-up, reclassification, combination of shares, or similar corporate rearrangement,

then the holders of common stock warrants, preferred stock warrants, debt security warrants, and depositary share warrants, as applicable, will be entitled to receive upon exercise of the warrants, in addition to the securities otherwise receivable upon exercise of the warrants and without paying any additional consideration, the amount of stock and other securities and property such holders would have been entitled to receive had they held our common stock, preferred stock, debt securities, or depositary shares, as applicable, issuable under the warrants on the dates on which holders of those securities received or became entitled to receive such additional stock and other securities and property.

Except as stated above, the exercise price and number of securities covered by a common stock warrant, preferred stock warrant, debt security warrant, and depositary share warrant, and the amounts of other securities or property to be received, if any, upon exercise of those warrants, will not be adjusted or provided for if we issue those securities or any securities convertible into or exchangeable for those securities, or securities carrying the right to purchase those securities or securities convertible into or exchangeable for those securities.

Holders of common stock warrants, preferred stock warrants, debt security warrants, and depositary share warrants may have additional rights under the following circumstances:

- certain reclassifications, capital reorganizations, or changes of our common stock, preferred stock, or depositary shares, as applicable;
- certain share exchanges, mergers, or similar transactions involving us and which result in changes of our common stock, preferred stock, or depositary shares, as applicable; or
- certain sales or dispositions to another entity of all or substantially all of our property and assets.

If one of the above transactions occurs and holders of our common stock, preferred stock, debt securities, or depositary shares are entitled to receive stock, securities, or other property with respect to or in exchange for their securities, the holders of our common stock warrants, preferred stock warrants, debt security warrants, and depositary share warrants then outstanding, as applicable, will be entitled to receive upon exercise of their warrants the kind and amount of shares of stock and other securities or property that they would have received upon the applicable transaction if they had exercised their warrants immediately before the transaction.

DESCRIPTION OF PURCHASE CONTRACTS

We may issue purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or varying number of debt securities, shares of common stock or preferred stock, depositary shares, warrants, or any combination of the above, at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or varying number of debt securities, shares of common stock or preferred stock, depositary shares, warrants, or any combination of the above. The price of the securities subject to the purchase contracts may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula described in the purchase contracts. We may issue purchase contracts separately or as a part of units each consisting of a purchase contract and one or more of the other securities described in this prospectus or securities of third parties, including U.S. Treasury securities, securing the holder's obligations under the purchase contract. If we issue a purchase contract as part of a unit, the applicable prospectus supplement will state whether the purchase contract will be separable from the other securities in the unit before the purchase contract settlement date. The purchase contracts may require us to make periodic payments to holders or vice versa and the payments may be unsecured or pre-funded on some basis. The purchase contracts may require holders to secure the holder's obligations in a manner specified in the applicable prospectus supplement, and in certain circumstances, we may deliver newly issued prepaid purchase contracts, often known as prepaid securities, upon release to a holder of any collateral securing such holder's obligations under the original purchase contract.

We will incorporate by reference into the registration statement of which this prospectus forms a part the form of purchase contract we are offering before the issuance of the purchase contract. The following summaries of material provisions of the purchase contract are subject to, and qualified in their entirety by reference to, all the provisions of the purchase contract. We urge you to read the applicable prospectus supplements related to the purchase contracts that we sell under this prospectus, as well as the complete purchase contract.

The applicable prospectus supplement will describe the terms of any purchase contracts in respect of which this prospectus is being delivered, including, to the extent applicable, the following:

- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid or not;
- whether the purchase contracts will be issued as part of a unit and, if so, the other securities comprising the unit;

- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance, or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination, or other provisions relating to the settlement of the purchase contracts; and
- whether the purchase contracts will be issued in fully registered or global form.

Material U.S. federal income tax consideration applicable to the purchase contracts and the purchase units will also be discussed in the applicable prospectus supplement.

DESCRIPTION OF UNITS

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus. Units may be offered independently or together with common stock, preferred stock, debt securities, depositary shares, and warrants offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will generally apply to any future units that we may offer under this prospectus, we will describe the particular terms of any series of units that we may offer in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference into the registration statement of which this prospectus forms a part the form of unit agreement, including a form of unit certificate, if any, that describes the terms of the series of units we are offering before the issuance of the related series of units. The following summaries of material provisions of the units and the unit agreements are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the units that we sell under this prospectus, as well as the complete unit agreements that contain the terms of the units.

General

We may issue units consisting of common stock, preferred stock, debt securities, depositary shares, and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time, or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including the following:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer, or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under **"**Description of Capital Stock," "Description of Debt Securities," "Description of Depositary Shares," and "Description of Warrants," will apply to each unit and to any common stock, preferred stock, debt security, depositary share, or warrant included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit, without the consent of the related unit agent or the holder of any other unit, may enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, the unit agent, and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purposes and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee, depositary or warrant agent maintain for this purpose as the "holders" of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as "indirect holders" of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

See also the section entitled "Description of Debt Securities — Form, Transfer, and Exchange" above for additional discussion of book entry and certificated form of ownership as such forms of ownership impact the rights and obligations of purchasers of debt securities to be issued under this prospectus.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depositary on behalf of other financial institutions that participate in the depositary's book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers. Upon the issuance of a global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal amounts of the book-entry securities represented by the global security beneficially owned by such participants. The accounts to be credited will be designated by any dealers, underwriters, or agents participating in the distribution of the book-entry securities. Ownership of book-entry securities will be shown on, and the transfer of the ownership interests will be effected only through, records maintained by the depositary for the related global security (with respect to interests of participants) and on the records of participants (with respect to interests of persons holding through participants). The laws of some states may require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to own, transfer, or pledge beneficial interests in book-entry securities.

Only the person in whose name a security is registered is recognized as the holder of that security. Securities issued in global form will be registered in the name of the depositary or its participants. Consequently, for securities issued in global form, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a book-entry security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker, or other financial institution that participates in the depositary's book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities in non-global form. In these cases, investors may choose to hold their securities in their own names or in "street name." Securities held by an investor in street name would be registered in the name of a bank, broker, or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he, she, or it maintains at that institution.

For securities held in street name, we will recognize only the intermediary banks, brokers, and other financial institutions in whose names the securities are registered as the holders of those securities, and we will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee and of any third parties employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name, or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depositary participants or customers or by law, to pass it along to the indirect holders but does not do so. Whether and how the holders contact the indirect holders is up to the holders.

Special Considerations For Indirect Holders

If you hold securities through a bank, broker, or other financial institution, either in book-entry form or in street name, you should check with your own institution to determine the following:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;

- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms. Each security issued in book-entry form will be represented by a global security that we deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement, The Depository Trust Company, New York, New York, known as DTC, will be the depositary for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee, or a successor depositary, unless special termination situations arise. We describe those situations below under "Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank, or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued in global form only, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

We may at any time and in our sole discretion determine not to have any of the book-entry securities of any series represented by one or more global securities and, in that event, we will issue certificated securities in exchange for the global securities of that series.

Special Considerations For Global Securities

The rights of an indirect holder relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depositary that holds the global security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his, her, or its name, and cannot obtain non-global certificates for his, her, or its interest in the securities, except in the special situations we describe below;
- an investor will be an indirect holder and must look to his, her, or its own bank or broker for payments on the securities and protection of his, her, or its legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;

- an investor may not be able to pledge his, her, or its interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges, and other matters relating to an investor's interest in a global security;
- we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in a global security, nor do we or any applicable trustee supervise the depositary in any way;
- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well; and
- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in a global security, may also have their own policies affecting payments, notices, and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, the global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

Unless we provide otherwise in the applicable prospectus supplement, the global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable, or no longer qualified under the Exchange Act to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular types and series of securities covered by the applicable prospectus supplement. When a global security terminates, the depositary, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We and/or any selling stockholder may sell the securities described in this prospectus from time to time in one or more of the following ways:

- to or through underwriters or dealers;
- directly to one or more purchasers;

- through agents; or
- through a combination of any of those methods of sale.

The prospectus supplement with respect to the offered securities will describe the terms of the offering, including the following:

- the name or names of any underwriters or agents;
- any public offering price;
- the proceeds from such sale;
- any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation;
- any over-allotment options under which underwriters may purchase additional securities from us and/or any selling stockholder;
- any discounts or concessions allowed or reallowed or paid to dealers; and
- any securities exchanges on which the securities may be listed.

We and/or any selling stockholder may distribute the securities from time to time in one or more of the following ways:

- at a fixed public offering price or prices, which may be changed;
- at prices relating to prevailing market prices at the time of sale;
- at varying prices determined at the time of sale; or
- at negotiated prices.

Unless otherwise indicated in the applicable prospectus supplement, if we and/or any selling stockholder use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price, or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. Unless otherwise indicated in a prospectus supplement, the underwriters will be obligated to purchase all the securities of the series offered if they purchase any of the securities of that series. We and/or any selling stockholder may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We and/or any selling stockholder may use underwriters with whom we or they have a material relationship. We will describe in the prospectus supplement naming the underwriter the nature of any such relationship. We and/or any selling stockholder may designate agents who agree to use their reasonable efforts to solicit purchases for the period of their appointment or to sell securities on a continuing basis. We and/or any selling stockholder may also sell securities directly to one or more purchasers without using underwriters or agents.

Underwriters, dealers, or agents may receive compensation in the form of discounts, concessions, or commissions from us and/or any selling stockholder or from purchasers of the securities as their agents in connection with the sale of the securities. These underwriters, dealers, or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions, or profits on resale received by underwriters, dealers, or agents may be treated as underwriting discounts and commissions. Each prospectus supplement will identify any underwriter, dealer, or agent and describe any compensation received by them from us and/or any selling stockholder. Any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

Unless otherwise specified in the applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is listed on the Nasdaq Global Select Market. We may elect to apply for listing of our common stock on another securities exchange or to list any other class or series of securities on any exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

In connection with any offering, the underwriters may engage in stabilizing transactions, over-allotment transactions, syndicate covering transactions, and penalty bids in accordance with Regulation M under the Exchange Act.

- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum.
- Over-allotment involves sales by the underwriters of shares of our common stock in excess of the number of shares the underwriters are obligated to purchase, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares of our common stock over-allotted by the underwriters is not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares of our common stock involved is greater than the number of shares in the over-allotment option. The underwriters may close out any covered short position by either exercising their over-allotment option or purchasing shares of our common stock in the open market.
- Syndicate covering transactions involve purchases of our common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares of our common stock available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option so that if there is a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares of our common stock in the open market after the pricing of any offering that could adversely affect investors who purchase in that offering.
- Penalty bids permit the representatives of the underwriters to reclaim a selling concession from a syndicate member when the common stock originally sold by the syndicate member is purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, over-allotments, syndicate covering transactions, and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on the Nasdaq Global Select Market or otherwise and, if commenced, may be discontinued at any time.

We and/or any selling stockholder may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we and/or any selling stockholder may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us and/or any selling stockholder or borrowed from us and/or any selling stockholder or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement.

In addition, we and/or any selling stockholder may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

Underwriters, dealers, and agents may be entitled under agreements entered into with us to indemnification against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments they may be required to make in respect of these liabilities thereof. Underwriters, dealers, and agents and their affiliates may be customers of, may engage in transactions with, or perform services for us in the ordinary course of business for which they receive compensation.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon by Greenberg Traurig, LLP.

EXPERTS

The consolidated financial statements of OPKO Health, Inc. and subsidiaries as of December 31, 2017 and 2016, and for each of the three years in the period ended December 31, 2017, and the effectiveness of internal control over financial reporting as of December 31, 2017, included in the OPKO Health, Inc. Current Report on Form 8-K dated January 28, 2019, have been audited by Ernst & Young LLP, independent registered certified public accounting firm, as set forth in their reports thereon (which contain an explanatory paragraph describing the adoption of Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606),* as described in Note 1 to the consolidated financial statements*)*, and are incorporated herein by reference. Such consolidated financial statements are incorporated by reference herein in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Through our website at *www.opko.com*, you may access, free of charge, our filings, as soon as reasonably practical after we electronically file them with or furnish them to the SEC. The information contained in our website is not incorporated by reference in, and should not be considered a part of, this prospectus or any accompanying prospectus supplement. Our SEC filings are also available to the public at the SEC's website at *www.sec.gov*.

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC to register the securities to be offered hereby. This prospectus does not contain all of the information included in the registration statement, including certain exhibits and schedules. You may obtain the registration statement and exhibits to the registration statement from the SEC at the address listed above or from the SEC's website listed above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information that we incorporate by reference is considered to be part of this prospectus. Information that we file with the SEC in the future and incorporate by reference in this prospectus automatically updates and supersedes previously filed information as applicable.

We incorporate by reference into this prospectus the following documents filed by us with the SEC, other than any portion of any such documents that is not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the SEC on March 1, 2018;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, filed with the SEC on May 8, 2018, August 7, 2018 and November 9, 2018;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 30, 2018; and
- our Current Reports on Form 8-K filed with the SEC on March 1, 2018, April 4, 2018, April 9, 2018, April 27, 2018, June 22, 2018, September 10, 2018, September 11, 2018, September 14, 2018, November 9, 2018, December 27, 2018, January 8, 2019 and January 28, 2019.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (not including any information furnished under Item 2.02, 7.01 or 9.01 of Form 8-K and any other information that is identified as "furnished" rather than filed, which information is not incorporated by reference herein), including those filings made after the date of the initial filing of the registration statement of which this prospectus forms a part, prior to the termination of the offering, will be deemed to be incorporated herein by reference and to be a part of this prospectus from the date of filing of such documents. Any statement contained in a document incorporated herein by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein, or in a subsequently filed document incorporated herein by reference, modifies or supersedes the statement. Any statement modified or superseded will not be deemed, except as modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person, including any beneficial owner, to whom a prospectus is delivered, upon written or oral request of that person, a copy of any and all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus (excluding exhibits unless specifically incorporated by reference into those documents). Please direct requests to us at the following address:

OPKO Health, Inc.
4400 Biscayne Blvd.
Miami, Florida 33137
Attention: Secretary
Telephone: (305) 575-4100

OPKO Health, Inc.

30,000,000 shares of Common Stock

PROSPECTUS SUPPLEMENT

February 4, 2019