

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2019

OR

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

For the transition period from to

Commission File Number: 001-37792

NantHealth, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

9920 Jefferson Blvd.
Culver City, California

(Address of principal executive offices)

27-3019889

(I.R.S. Employer
Identification No.)

90232

(Zip Code)

(310) 883-1300

Registrant's telephone number, including area code

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

Title of each class
Common Stock, par value \$0.0001 per share

Name of each exchange on which registered
The NASDAQ Global Select Market

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

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES NO

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the Registrant on June 30, 2019, based on a closing price \$0.53 per share of common stock on the NASDAQ Global Select Market on June 30, 2019, was approximately \$20.8 million.

The number of shares of Registrant's common stock, \$0.0001 par value per share, outstanding as of February 28, 2020 was 110,619,678.

DOCUMENTS INCORPORATED BY REFERENCE

As noted herein, the information called for by Part III is incorporated by reference to specified portions of the Registrant's definitive proxy statement to be filed in conjunction with the Registrant's 2020 Annual Meeting of Stockholders, which is expected to be filed not later than 120 days after the Registrant's fiscal year ended December 31, 2019.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K, or this Annual Report, including, without limitation, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Item 1A, "Risk Factors," contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases you can identify these statements by forward-looking words such as "believe," "may," "will," "might," "estimate," "continue," "anticipate," "intend," "could," "should," "would," "project," "plan," "outlook," "target," "expect," or similar expressions, or the negative or plural of these words or expressions. These forward-looking statements include, but are not limited to, statements concerning the following:

- the structural change in the market for healthcare in the United States, including uncertainty in the healthcare regulatory framework and regulatory developments in the United States and foreign countries;
- the evolving treatment paradigm for cancer, including physicians' use of molecular information and targeted oncology therapeutics and the market size for molecular information products;
- physicians' need for precision medicine products and any perceived advantage of our solutions over those of our competitors, including the ability of our comprehensive platform to help physicians treat their patients' cancers;
- our ability to generate revenue from sales of products enabled by our molecular and biometric information platforms to physicians in clinical settings;
- our ability to increase the commercial success and to accelerate commercial growth of our sequencing and molecular analysis solutions and our other products and services;
- our plans or ability to obtain reimbursement for our sequencing and molecular analysis solutions, including expectations as to our ability or the amount of time it will take to achieve successful reimbursement from third-party payers, such as commercial insurance companies and health maintenance organizations, and government insurance programs, such as Medicare and Medicaid;
- our ability to effectively manage our growth, including the rate and degree of market acceptance of our solutions;
- our ability to offer new and innovative products and services, including new features and functionality for our existing products and services;
- our ability to attract new partners and clients;
- our ability to estimate the size of our target market;
- our ability to maintain and enhance our reputation and brand recognition;
- consolidation in the healthcare industry;
- competition which could limit our ability to maintain or expand market share within our industry;
- restrictions and penalties as a result of privacy and data protection laws;
- our use of "open source" software;
- our ability to use, disclose, de-identify or license data and to integrate third-party technologies;
- data loss or corruption due to failures or errors in our systems and service disruptions at our data centers;
- breaches or failures of our security measures;
- our reliance on Internet infrastructure, bandwidth providers, data center providers, other third parties and our own systems for providing services to our users;
- risks related to future acquisition opportunities;
- the requirements of being a public company;
- our ability to attract and retain key personnel;
- our expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act, or the JOBS Act;
- our ability to obtain and maintain intellectual property protection for our solutions and not infringe upon the intellectual property of others;
- our ability to implement our comprehensive restructuring plan that includes a wide range of organizational efficiency initiatives and other cost reduction opportunities;
- our financial performance expectations, including our expectations regarding our revenue, cost of revenue, gross profit or gross margin, operating expenses, including changes in research and development, sales and marketing and general and administrative expenses, and our ability to achieve and maintain future profitability; and
- our expectations regarding our ability to comply with Nasdaq continued listing standards.

We caution you that the foregoing list does not contain all of the forward-looking statements made in this Annual Report.

These forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties, which could cause our actual results to differ materially from those reflected in the forward-looking statements. These statements are within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. These statements appear throughout this Annual Report and are statements regarding our intent, belief, or current expectations, primarily based on our current assumptions, expectations and projections about future events and trends that may affect our business, financial conditions, operating results, cash flows or prospects, as well as related industry developments. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Annual Report. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in Part I, Item 1A, “Risk Factors,” and in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Part II, Item 7 of this Annual Report. We undertake no obligation to update any forward-looking statements for any reason to conform these statements to actual results or to changes in our expectations, except as required by law.

NantHealth, Inc.

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We own or have rights to trademarks and service marks that we use in connection with the operation of our business. NantHealth, Inc. and our logo as well as other brands such as GPS Cancer, Omics Core, NaviNet, Eviti, Eviti | Connect, Eviti | IQ, and other marks relating to our Eviti product line are used in this Annual Report on Form 10-K. Solely for convenience, the trademarks and service marks referred to in this Annual Report on Form 10-K are listed without the (sm) and (TM) symbols, but we will assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, service marks and trade names. Additionally, we do not intend for our use or display of other companies' trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

PART I

Item 1. Business

Overview

NantHealth, Inc (“NantHealth” or the “Company”) is a next-generation, evidence-based, personalized healthcare technology company that is transforming the way critical diseases, such as cancer, are known and treated. We employ precision medicine, data and software-as-a-service (SaaS) solutions to give physicians, payers, pharma and patients actionable information that drives improved patient outcomes and economics across the healthcare ecosystem.

NantHealth’s product portfolio comprises the latest technology in molecular analysis (GPS Cancer), payer/provider collaboration platforms for real-time coverage decision support (NaviNet and Eviti), and medical device interoperability (MDI) solutions (which we refer to as our “Connected Care” business). Each of these business lines are leaders in their respective market segment. Altogether, we generally derive revenue from SaaS subscription fees, software licensing and maintenance fees, hardware sales, support services, professional services, data-driven reporting services, and molecular analysis services (including GPS Cancer).

From these core business lines arise opportunities to create data and analytics assets which further drive value and efficiency for our customers. We are investing to further integrate big data and automated intelligence technologies within our core business lines and to create new product and service offerings. We believe we are uniquely positioned to benefit from multiple significant market opportunities as healthcare providers and payers transition from fee-for-service to value-based reimbursement models and accelerate their pursuit of evidence-based clinical practice.

In the second quarter of 2019, we ceased offering our commercial Liquid GPS product and completed the divestiture of our home health care services business. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for additional information.

On January 13, 2020, NantHealth entered into an asset purchase agreement with Masimo Corporation, VCCB Holdings, Inc., and NantWorks, LLC to sell its assets related to its “Connected Care” business, including the products known as DCX (formerly DeviceConX), VCX (formerly VitalsConX), HBox and Shuttle Cable (the Company’s medical-grade serial-to-USB interface cable product offering). The Company completed the sale on February 3, 2020. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for additional information.

We Are Uniquely Positioned to Address Transformative Shifts across the Healthcare Continuum

The efficiency and effectiveness of the current healthcare system is often hindered by the complex, dynamic interplay of three uncoordinated and segregated domains: the knowledge domain, the care delivery domain, and the payer domain. The disparate nature of these domains, and their often-inconsistent incentives and conflicting priorities, can inhibit interoperability and coordination. We believe two simultaneous, transformative shifts are highlighting these critical deficiencies of the current healthcare environment:

1. ***A rapid evolution from traditional fee-for-service to patient-centered and patient-empowered, value-based models driven by quantifiable measures of outcomes relative to cost.*** Unsustainable escalating healthcare costs, which we believe are due to broken fee-for-service models, are driving many stakeholders and governments toward alternative delivery models. Despite significant investments in Electronic Health Records (“EHRs”) and other technologies designed to enable the transition to more value-based care, we believe that, in a fee-for-service model, the economic incentives generally discourage coordination among healthcare stakeholders and encourage volume-driven (rather than outcomes-driven) decision-making. This model results in healthcare and financial data that remains largely segregated into “walled gardens.” Thus, patient data often remains static and cannot be easily shared or interpreted due to siloed legacy proprietary platforms that lack interoperability.
2. ***A paradigm shift to molecularly precise and real-time biometric-driven medicine, with both massive volumes and rapidly expanding repositories of complex data from traditional and novel sources.*** Advances in molecular medicine require healthcare providers to promptly aggregate, evaluate and synthesize hundreds to thousands of relevant facts in real time to arrive at a single patient decision. Molecular profiling often generates hundreds of gigabytes of data per patient, which must then be transported, stored, analyzed and interpreted with supercomputing and/or high-performance computing environments. We believe the rapid pace of medical advancements, the massive amount of molecular data and the frequency of biometric information is overwhelming many providers’ ability to process that information at the point of care, thereby inhibiting the paradigm shift to individualized medicine.

We believe these shifts, and the associated challenges, require next-generation and advanced technology systems that deliver more information, faster and with more relevance and accuracy than the healthcare continuum has experienced. Our unique portfolio of healthcare technology solutions allow us to collect, interpret and deliver data to provide decision support and help both payers and providers effectively transition to value-based care. Given the magnitude of these shifts and the difficulty involved in addressing the associated challenges, we believe our solution platforms serve to position NantHealth at the forefront of multiple large and growing market opportunities. We have invested significant capital, healthcare and biotechnology expertise over nearly a decade to develop, acquire and integrate the components that we believe address many of the challenges faced by stakeholders across the continuum of care.

Our Strategy

Our goal is to become the leading evidence-based, personalized healthcare company transforming the way critical diseases, such as cancer, are identified and treated. We further seek to facilitate payer and provider collaboration, to leverage available data and knowledge towards delivering improved patient outcomes and more effective treatment decisions for critical illnesses. To accomplish this goal, we plan to deploy NantHealth solutions designed to address and accelerate the transformational shifts occurring in healthcare: rapid evolution from traditional fee-for-service to value-based models and the paradigm shift to molecularly precise and real-time biometric driven medicine. The key elements of our strategy include:

- **Driving global reimbursement and adoption while emphasizing reimbursed testing for our molecular analysis solutions.** To drive the profitable growth of our molecular analysis service business in the United States, we are working to pursue FDA 510(k) authorization and Medicare coverage for the core elements of our GPS Cancer laboratory developed test offering. In the fourth quarter of 2019, we received FDA 510(k) authorization for "Omics Core", the nation's first FDA authorized whole exome tumor-normal in vitro diagnostic (IVD) that measures overall tumor mutational burden (TMB) in cancer tissue, completing a key step towards achieving Medicare coverage. We continue to pursue this coverage through the CMS contractor programs for molecular diagnostics (MoIDX). In parallel, we are focused on disciplined growth of paid commercial tests, through our existing payer/employer contracted base and through an emphasis on cash-pay patients in the marketplace.
- **Increasing sales of NantHealth solutions to healthcare providers, payers, pharma, and self-insured employers.** We are marketing NantHealth solutions to healthcare providers transitioning from fee-for-service reimbursement models to value-based care models in pursuit of improved patient outcomes and lower costs. We believe we are positioning NantHealth as a next-generation payer intermediary and partner with healthcare payers and self-insured employers as they roll out value-based model partnerships and transition to value-based precision care.
- **Expanding our business in international markets.** We are executing our go-to-market strategies internationally, creating global awareness of our brand and taking steps towards our goal of broader adoption worldwide.
- **Developing new features and functionality for NantHealth solutions.** We are continuing to make significant R&D investments to create new features and functionality with NantHealth's solutions, driving additional customer value and aiming to our vision of improved patient outcomes and lower cost of care. Also, we are continuing to emphasize the creation of valued data assets and analytics capabilities which will position to drive further value in the future.
- **Complementing internal growth with strategic acquisitions.** We believe opportunities exist for us to enhance our competitive position by acquiring additional companies with complementary products and technologies and/or acquiring rights to proprietary products or technologies from third parties.

Our Industry

Today, the U.S. healthcare landscape is being redefined by the shift toward value-based reimbursement models and an explosion of the quantity, frequency and complexity of data. We believe there is a demand for platforms that utilize a molecularly precise and systems-based collaborative approach to addressing the following underlying transformative shifts and challenges.

A rapid evolution from traditional fee-for-service to patient-centered and patient-empowered, value-based models driven by quantifiable measures of outcomes relative to cost.

In response to the rising cost of healthcare, government and private payers and providers are introducing value-based care models. In value-based models, providers assume increased levels of clinical and financial responsibility for patient outcomes, instead of being reimbursed strictly based on the quantity of services provided. We believe that healthcare platforms that efficiently assist healthcare stakeholders to transition to these value-based models will be best positioned to capture this opportunity.

Challenges associated with the adoption of value-based models

The healthcare continuum can be viewed as an aggregation of three distinct domains:

- The knowledge domain, including academic centers, scientific institutions and companies that discover and commercialize medical and scientific knowledge;
- The care delivery domain, including hospitals, community practices, physicians and other constituents that deliver healthcare to patients; and
- The payer domain, including insurers, governments and self-insured employers that administer and provide funding to the healthcare system.

The disparate and fragmented nature of these domains and economic incentives under traditional fee-for-service models frequently result in overtreatment, high costs and suboptimal patient outcomes. Fee-for-service models are as a general matter inherently site-centric, volume driven, reactive in nature and uncoordinated. In contrast, value-based models are generally more patient-centric, outcomes-focused, proactive and coordinated across the care continuum.

Despite a clear need, the design and implementation of next-generation interoperable systems has been limited due to reliance on legacy, site-specific, fee-for-service technology systems and infrastructure. Since the passage of the HITECH Act in 2009, providers and payers have made significant investments in EHRs, and other technologies meant to enable the transition to value-based care. Despite extensive investment and coordination, the introduction of value-based models has been limited due to the shortcomings of legacy, proprietary systems and the reliance on unstructured data that hinders interoperability and cannot be sufficiently shared or manipulated to produce actionable findings. Value-based models require collection and analysis of longitudinal treatment, outcomes and financial data at the patient level, regardless of treatment site. Critically, these systems must also securely safeguard patient data in compliance with stringent HIPAA and other privacy regulations. We believe that there is a significant need for interoperability platforms that dynamically access, normalize, integrate and update information from disparate sources across the healthcare continuum in real time. Secure interoperability platforms can allow for more comprehensive solutions development that proactively connect, deliver business and clinical intelligence and enable enhanced provider and patient engagement.

A paradigm shift to molecularly precise and real-time biometric-driven medicine, with both massive volumes and rapidly expanding categories of complex data from traditional and novel sources.

The collection and interpretation of molecular profiles and near real-time biometric monitoring has the potential to dramatically improve quality and outcomes.

Evolution to comprehensive molecular analysis

Advances in sequencing over the last 15 years and the associated cost efficiencies have led to the development of targeted therapeutics initiating the transformation from “one size fits all” treatments to personalized, molecularly precise medicine. Single marker and gene panel diagnostic tests have now advanced from the research to clinical care settings. Oncology is leading the rapid advances in molecular testing and the development of targeted therapeutics based on increasing understanding of the impact of molecular profile on disease progression. Recent publications, including The Cancer Genome Atlas Research Network genomic and molecular characterization studies, support selection of treatment regimens based on the underlying molecular pathways and related genomic alterations in the genetic profile of the tumor compared with the patient’s own germline, as opposed to the anatomical location of the cancer in the patient’s body. Cancer is increasingly understood to be a heterogeneous collection of rare diseases, with hundreds of patient-specific, cancer-promoting mutated proteins, some known and many more unknown, called neopeptides. Identifying and targeting these mutated proteins is requiring more comprehensive genomic analysis, which is increasingly becoming embedded in drug approvals. As a result, we believe comprehensive genomic analysis is positioned to become the standard of clinical care, replacing single marker or gene panels in treating cancer patients.

Oncology has been an early adopter of precision medicine due to the cost as well as inconsistent and often poor clinical outcomes associated with many traditional “trial-and-error” treatment regimens. While oncology represents the most immediate opportunity, we believe other disease areas are beginning to experience a similar evolution, with immune-related diseases, central nervous system disorders and transplants having a high potential for adoption of personalized medicine. We believe technologies that enable the capture, aggregation and analysis of massive volumes of genomic data will further bolster the growth of precision medicine and its expansion from cancer to additional disease states. Over time, we believe this will lead to identification of drugs that target specific pathways by using a universal personalized companion diagnostics platform, ultimately resulting in improved clinical outcomes.

Limitations of the existing single marker and gene panel approach

The human genome is comprised of approximately 20,000 genes and 3 billion DNA base pairs. Until recently, scientists have focused on less than 2% of the genome that is responsible for coding proteins. As a result, most diagnostic tests today only analyze specific genes, or gene panels, exploring only a fraction of the human genome, while incorporating “a priori” assumptions that capture only a subset of the most common gene alterations. These alterations are calculated relative to a reference genome of a population instead of a patient’s own healthy tissue, or germline. Gene panels that utilize a reference genome often fail to capture key, medically actionable mutations or incorrectly highlight mutations present in both the germline and cancer tissue. Analyses that exclude whole genome/exome sequencing, RNA analysis and comparisons to an individual’s germline instead of a reference genome can lead to materially false positive and false negative results. A more comprehensive molecular analysis would allow providers to develop personalized treatment regimens, replacing existing costly “trial-and-error” approaches to treatment. A comprehensive molecular analysis, including both germline and cancer tissue, would make no assumptions as to the molecular driver of the patient’s disease and would capture mutations that are commonly missed by gene panels.

Challenges associated with the adoption of comprehensive molecular analysis

Comprehensive molecular analysis combines whole genome-to-germline comparison and RNA expression as confirmation of the presence of variants. Comprehensive molecular analysis has been difficult to perform in a practical, timely and cost-effective manner because it has long run times to complete sequencing, creates hundreds of gigabytes of complex data per patient, which must be transported, stored and analyzed with supercomputing and/or high-performance computing environments in a clinically relevant period of time, and requires large capital investments required to perform sequencing at scale. Furthermore, the absence of adaptive machine learning algorithms to enable efficient medical interpretation and effective expression analysis has inhibited the ability to derive value from the massive amount of data produced by comprehensive molecular analysis. Accordingly, comprehensive molecular analysis has primarily been utilized in the academic and research settings, and not in the clinical setting to inform treatment decisions. Finally, there have been insurance coverage and reimbursement challenges for comprehensive molecular analysis solutions, limiting their adoption.

Increasing proliferation and importance of real-time biometric data and its adoption in hospitals and other patient care settings

Several trends are contributing to the rising importance and availability of biometric data, including the increasing prevalence of connected devices in multiple care settings and the opportunity for proactive patient interventions to improve health outcomes. As hospital systems implement EHRs, they have installed hardware and software solutions to connect medical devices to collect periodic sampling of key patient metrics such as respiratory rate, blood pressure and heart rate. Providers have expanded these technologies into other care settings, including skilled nursing facilities, nursing homes, outpatient facilities and patients’ homes. Concurrently, with the advent of connected devices, activity monitors and remote patient monitoring devices are achieving widespread adoption, allowing for the increased quantification of key biometric signals. Healthcare professionals have the potential to gain a more comprehensive view of an individual’s health on a real-time basis across care settings through increased adoption of patient monitoring devices. The increased availability of quantifiable biometric data allows for the implementation of decision support tools and proactive treatment interventions, potentially utilizing care pathways and learning algorithms to improve care outcomes.

Challenges associated with leveraging quantifiable, real-time biometric analysis in multiple care settings

An increasing amount of biometric data is being generated by the proliferation of connected devices. However, complexities associated with synthesizing this data into actionable insights remain an obstacle. Although many hospital-based medical devices can continuously stream data to an EHR, frequently the EHR can only accept periodic data, potentially missing a critically relevant patient episode. There is also a lack of comprehensive solutions that support physician decision-making in real time. The absence of effective data interpretation supported by adaptive machine learning or other algorithms is evidenced by “alarm fatigue” among many healthcare providers (a condition that can occur when one is exposed to many frequent alarms or alters and consequently becomes desensitized to them) as they struggle to establish optimal event thresholds.

Growth in complexity and its promise for value-based models

Advances in molecular medicine and real-time biometrics require healthcare providers to promptly aggregate, evaluate and synthesize hundreds to thousands of relevant facts to arrive at a single patient decision. With the enormous complexity of genomics and expression analysis derived from comprehensive molecular analysis, the pace of medical advancements, and the significant amount of data being created every day by patient care, payment and regulatory compliance systems, it is nearly impossible for a practicing physician to interpret and synthesize the deluge of complex information required for patient treatment.

We believe there is a considerable need for advanced adaptive machine learning algorithms to collect, index and analyze rich biometric, phenotypic, genomic and proteomic data at scale to support physician decision-making. Although this complexity creates significant challenges, it also presents opportunities for developers of systems infrastructures, platforms and learning systems that can identify clinically meaningful correlations that can be employed to improve patient outcomes in a cost-effective manner.

Our Market Opportunity

We believe the increasing focus on value-based reimbursement models and evidence-based, personalized medicine will drive validation and adoption of NantHealth solutions. Recent statistics show that 38% of Americans will be diagnosed with cancer at some point in their lives, resulting in an estimated cost of \$174 billion by 2020. Additionally, we see the precision medicine market growing substantially as comprehensive diagnostics and evidence-based medicine become increasingly important across multiple disease areas and likely assuming greater share of the combined biopharmaceutical and diagnostics markets. We believe several factors support adoption of our molecular analysis solutions, including GPS Cancer, which enables an increased understanding of molecular pathways and their targets, such as:

- Improved pharmacoeconomics, including the use of more cost-effective drugs approved for other indications (such as asthma and diabetes) in cancer treatment regimens;
- A clearer understanding of critical drug resistance information;
- Increased adoption of bundled payments as providers and payers recognize the efficiency of optimized therapies; and
- Increased awareness and published clinical results demonstrating the benefits of evidence-based molecular medicine.

We believe the potential addressable market for NantHealth solutions will continue to grow in relation to the market-share gains of value-based models and the adoption of precision medicine.

NantHealth Solutions

Our NantHealth solutions comprise a highly differentiated, integrated model for the delivery of healthcare, comprised of our unique molecular profiling solutions, software-as-a-service platforms and connected care MDI solutions, enabling value-based care and evidence-based clinical practice. Our platform and our multi-domain solutions are designed to address some of the most pressing cross-domain challenges across the healthcare continuum. Our solutions are single-domain and cross-domain offerings that can be applied, for example, within a hospital system or for a hospital system and a commercial insurance provider in an Accountable Care Organization, or ACO, crossing multiple domains. We believe unique systems-based approach positions us (i) to deliver 21st century molecular and biometric signature-driven precision medicine and potentially change the current paradigm of uncoordinated healthcare and (ii) as a next-generation payer intermediary who facilitates payment for value.

- **Cancer Care Solutions.** Our comprehensive set of interoperability, advanced molecular analysis, risk stratification and decision support solutions (Eviti) can enable our clients to improve decision-making and coordinate care across the healthcare continuum. Our GPS Cancer molecular profiling solution is the only comprehensive and commercially available molecular profiling solution that integrates whole genome/exome (comparing both a patient's normal and tumor tissue), RNA and molecular pathways information into a clinical report that analyzes this data and identifies actionable targets and potential clinical treatment options.
- **Provider Solutions.** Our provider solution software, comprised of NaviNet and Eviti Advisor, leverage the data available on our systems infrastructure to enable patient-centered engagement and coordination across care locations. Our NantHealth software solutions include clinical and administrative workflows including eligibility and benefits, claims, referrals and authorizations management solutions.

- **Payer Solutions.** Our NantHealth payer software solutions, including NaviNet Open and Eviti Connect, establish daily access to the clinical practice and caregiver and leverage the data available on our systems infrastructure to facilitate reduction in overall administrative costs and payment for value. We believe our position between the payer and the provider allows us to align incentives as a next-generation payer intermediary, to help payers ensure consistent evidence-based treatment pathways and to accelerate pre-adjudication and lower administrative overhead for providers. This can ultimately drive quality of care and streamline workflows while improving control over the administrative and operating costs associated with eligibility and benefits, claims processing, referrals, authorizations, information exchange and review utilization. Our multi-payer collaboration solution, NaviNet Open, offers provider end users a uniform set of workflows and services across many or all the payers with whom they routinely collaborate. This multi-payer experience benefits payers and providers alike. Providers can benefit from a uniform experience and toolset across multiple payer relationships, and the payer can benefit from the uniform application of best practices, tools, and options, as well as the reduction in costly errors and phone-based interactions that can stem from a non-uniform end-user experience.

We designed our NantHealth solutions to enable providers, payers, pharma and self-insured employers to overcome challenges encountered across the knowledge, care delivery, and payer domains within the healthcare continuum.

We are a leading vendor of payer-provider collaboration solutions (NaviNet Open), with a national provider network of approximately 935,000 registered user accounts on the NaviNet platform across all 50 states.

Our Systems Infrastructure

Our unique interoperable systems infrastructure has been built over the last decade to address the knowledge, care delivery and payer domains.

NantHealth's systems-based approach enables the near real-time transfer and clinical translation of genomic analysis, biometric signal data and actionable information to the care delivery domain, with access to a HIPAA-compliant cloud, providing the coordination of reimbursement between the care delivery domain and the payer domain.

Our Systems Infrastructure is comprised of:

- Access to next-generation genomic analysis technologies with near real-time bioinformatics, provided as part of GPS Cancer through our affiliate, NantOmics, LLC ("NantOmics"); and
- Access to a secure HIPAA-compliant cloud environment.

Our access to CAP- and CLIA-certified sequencing capability, coupled with supercomputer environments, enables us to deliver comprehensive genomic analysis. We have established a HIPAA-compliant, secure and scalable cloud computing, storage and transport infrastructure capable of processing, storing and transporting petabytes of diverse, protected patient data. Our cloud-based NantHealth software solutions accesses, integrates and updates information from disparate clinical, operational and financial systems to create a dynamic and actionable dataset. This framework enables us, our clients and third-party partners to develop an integrated ecosystem of compatible applications.

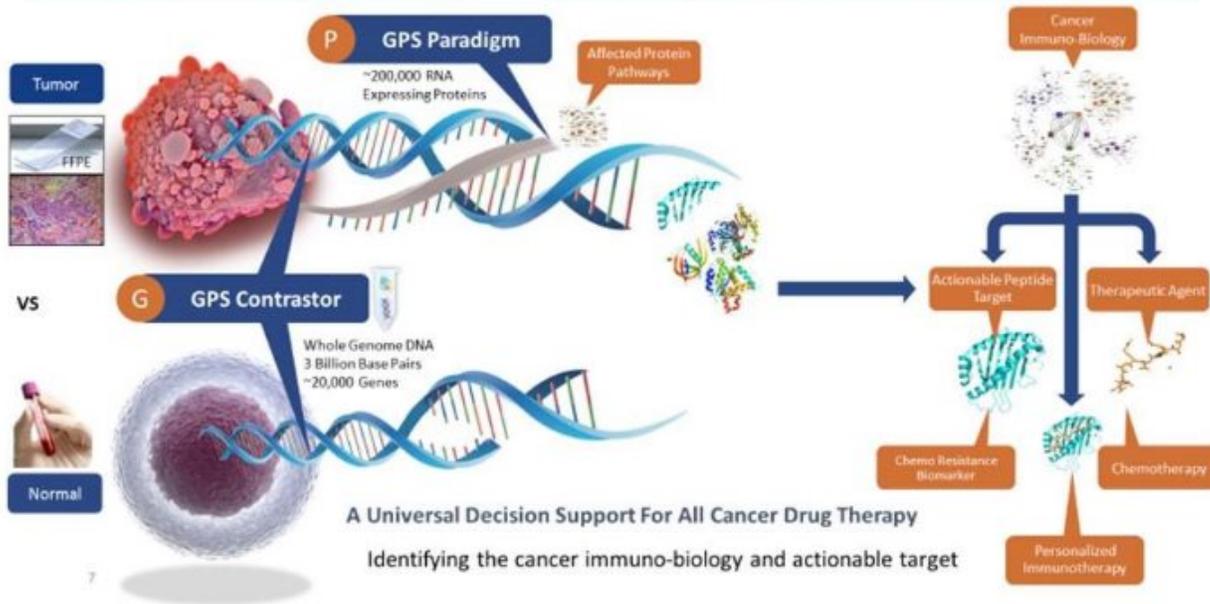
Product Overviews

GPS Cancer:

GPS Cancer is a comprehensive molecular profile that integrates whole genome/exome (DNA) sequencing of tumor and normal germline samples and whole transcriptome (RNA) sequencing, providing oncologists with insights into the unique molecular signature of a patient's cancer to inform personalized treatment strategies. The results of the GPS Cancer profile can provide oncologists with insight into cancer therapies that may have potential benefit - including active clinical trials - and those therapies to which the cancer may be resistant. GPS Cancer profiling is conducted in CLIA-certified and CAP-accredited laboratories.

What is GPS Cancer:

Comprehensive Molecular Profiling Targeted Proteogenomic Test is performed in a CAP-accredited and CLIA-certified



GPS Cancer compares a total of 6 billion DNA base pairs between a patient's healthy normal (or germline) sample and the tumor sample (usually Formalin-Fixed, Paraffin-Embedded-FFPE or fresh frozen tissue) each encoding for over 20,000 genes. All the RNA (over 200,000 transcripts) from the tumor sample is sequenced to confirm and give evidence of expression of mutations found in the genome. We identify affected molecular pathways that are drivers of a patient's cancer by analyzing DNA and RNA sequence data against our curated database of over 15,000 nodes within approximately 1,500 protein pathways.

Cancer is increasingly understood to be a heterogeneous collection of rare diseases. As such, understanding genomic alterations in tumor samples can help to identify potential treatment options for the personalized management of people with cancer.

Whole genome/exome sequencing of a person's tumor sample against their normal sample highlights molecular alterations that are specific to their tumor DNA, and RNA sequencing subsequently confirms the alterations identified in the DNA of a person's tumor. Whole genome/exome sequencing and RNA sequencing can provide vital clinical information about individual molecular alterations in tumors that result in abnormal proteins, which can be important targets for many cancer therapies.

GPS Cancer identifies genomic alterations with high clinical relevance to each person's tumor. The alterations are then matched to drugs that might be effective against tumors containing the specific change. By identifying the totality of alterations from whole genome/exome sequencing, homing in on alterations that are associated with protein expression from RNA sequencing, a more accurate and comprehensive molecular profile is assembled that can inform the therapeutic options available to oncology care providers and their patients.

By enabling informed therapy selection and utilization, GPS Cancer brings various opportunities to impact both cost and quality of care for individuals with cancer, such as:

- **Avoiding ineffective therapy usage:** By providing molecular insight into sensitivity or resistance to specific drugs, GPS Cancer may help oncologists identify regimens that are unlikely to benefit the patient. This insight may help avoid use of high-cost therapies that are unlikely to help the patient.
- **Decreasing treatment cycles through improved therapy selection:** Therapies selected based on molecular evidence of likely benefit may require fewer cycles to achieve response.
- **Increasing clinical trial participation:** For many advanced cancers, standard-of-care drug options are quickly exhausted, and clinical trials represent a source of additional options for patients. GPS Cancer helps identify trials that may be applicable to the patient based on their tumor's molecular profile.

GPS Cancer Report

Our GPS Cancer solution further leverages novel adaptive machine learning algorithms that match the identified alterations to an extensive and evolving library of signaling pathways, drugs and drug targets, regardless of indication, to provide predictive analyses that can enable the physician to make decisions regarding the potential efficacy of personalized therapies, as well as points of resistance. GPS Cancer results are available to the ordering physician in a concise report. While the GPS Cancer report does not recommend treatments, it can enable the treating physician to develop a personalized treatment plan after discussing with the patient the available treatment options and the potential risks associated with each treatment option. The GPS Cancer report can be utilized by the physician in several ways. The report may:

- List targets based on DNA/RNA analysis that may be treated by FDA-approved drugs either in an on-label or off-label manner based on peer-reviewed clinical data;
- List findings that suggest a particular targeted therapy which the physician would otherwise use may not work due to a potential resistance marker;
- Provide information on key biomarkers that inform the use of immunotherapy, including PD-L1, tumor mutational burden, and microsatellite instability (MSI);
- Provide information on key pharmacogenomic markers of chemotherapy drug toxicity and thromboembolic risk;
- Provide the information necessary for the physician to decide whether it is appropriate to place the patient in a clinical trial; and
- Provide key information based on germline sequencing, including germline mutations in cancer predisposition genes and confirmation of provenance - i.e., that the tumor being tested comes from the intended patient.

Pharmacogenomics

Our GPS Cancer test results includes information on a patient's pharmacogenomic profile to provide insight on germline alterations implicated in increased toxicity or altered metabolism of anti-cancer drugs. This information is presented in a patient's GPS Cancer test report.

Specifically, we have added an analysis of eight pharmacogenomic genes to our GPS Cancer test offering, CYP2d6, CYP3A5, DPYD, F5, G6PD, NUDT15, TPMT, and UGT1A1, and their associations with the following drugs: Azathioprine, Belinostat, Capecitabine, Dabrafenib, Eltrombopag olamine, Fluorouracil, Irinotecan, Mercaptopurine, Nilotinib, Pazopanib, Rasburicase, Tacrolimus, Tamoxifen, Tegafur, and Thioguanine. Sources used for pharmacogenomic implications include prescribing information, primary scientific literature, and guidelines published by the Clinical Pharmacogenomics Implementation Consortium (CPIC, see www.cpicpgx.org). In addition, the F5 (Factor V) gene is screened for the Leiden variant that confers increased risk of thromboembolic events.

Liquid GPS

Liquid GPS is NantHealth's blood-based molecular laboratory developed test that provides oncologists with a powerful tool for noninvasive tumor profiling and quantitative monitoring of treatment response. Liquid GPS looks beyond cfDNA to cfRNA, which allows profiling and trending of actionable biomarkers that cannot be assessed through cfDNA alone. In addition to providing molecular insight into key guidelines-based biomarkers (e.g., EGFR, ALK, ROS1, KRAS), this powerful RNA-based approach enables a variety of capabilities and applications not typically available from a liquid biopsy test.

Key Applications

Targeted therapy monitoring

In addition to assessing guideline-recommended mutations (e.g., EGFR, BRAF, KRAS, and NRAS), Liquid GPS provides cfRNA-based testing and monitoring for gene fusions and translocations (i.e., ALK, ROS1). RNA has also been shown to be a more accurate indicator of fusions and translocations compared to DNA, which can miss or incorrectly classify gene fusions.

Immunotherapy monitoring

With immunotherapy increasingly becoming a central component of care in many cancers, molecular tools are evolving to give oncologists new and earlier insights into their effectiveness in each patient. Liquid GPS includes 4 analytes associated with approved and investigational immunotherapies - PDL1, CTLA-4, LAG-3, and TIM-3. PD-L1 via Liquid GPS's cfRNA analysis has been demonstrated to correlate to measurement by IHC. Not only can this information inform an oncologist's initial treatment selection, it can also be used to monitor response over time. In fact, blood-based PD-L1 assessment has been shown to objectively differentiate between true progression and pseudoprogression, which may help to avoid erroneously changing treatment due to pseudoprogression.

Chemotherapy monitoring

Liquid GPS includes 11 analytes associated with response or resistance to commonly used chemotherapies, including ERCC1 to inform use of platinum and TUBB3 to inform use of taxanes.

In the second quarter of 2019, we ceased offering our commercial Liquid GPS. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for additional information.

Eviti: Payer-Provider Treatment Decision Collaboration for Cancer and other Complex Diseases:

The rapid advancement of molecular and biometric medicine is overwhelming many physicians’ cognitive ability, while uncoordinated, non-evidence-based treatment pathways are increasing costs and reducing the quality of care.

Within our oncology solutions, Eviti, our decision support solution, provides evidence-based clinical decision support, which is a critical element to ensure optimal treatment regimens. Eviti is a SaaS-based clinical decision support solution that centralizes clinical content, treatment cost data from Medicare reimbursements and treatment toxicity data. The clinical content is curated by our dedicated team of clinicians, including oncologists and nurses, who convert published literature and clinical trials into structured information that can be used for decision support. The Eviti Advisor product is an overlay on this platform and allows physicians to access this data to better inform treatment decisions. Thus, physicians can readily stay abreast of the latest advances in cancer care.

Eviti provides value to our clients through its access to over 7,600 federally-registered clinical trials updated weekly and over 4,000 evidence-based treatment regimens for the treatment of cancer arising from over 40 different anatomical locations. Unique to the care delivery domain, physicians also benefit from improved claim processing by using our Eviti platform that issues a pre-authorization “Eviti code” when the physician chooses an approved evidence-based clinical pathway, thereby validating appropriate treatment and pre-adjudicating the claim. This is an important step in that payers and providers are collaborating on high-value, evidence-based clinical pathways as opposed to non-value-added reimbursements and denials of payments.

Eviti is typically sold to health plans on a per member (or life) per month basis. These health plans sponsor the solution and provide Eviti free of charge to oncologists and their staffs.

The snapshot of our system below illustrates how different cancer treatment options for a patient is presented to compare treatments across a variety of metrics, including expected treatment outcome, plan compliance and costs. By providing the oncologist with this comparison, we believe Eviti drives compliance and a greater number of treatments to be in accordance with evidence-based pathways.

[eviti| Connect](#)
[Home](#)
[Practice Dashboard](#)
[Saved Treatments](#)
[My Account](#)
[Logout](#)


Welcome **Medical**

Choose A Cancer Type:

Regimen Preference Legend:
★ Preferred Regimen ● Highly Preferred

Active Filters:
 Pathology: Adenocarcinoma Stage: II

The pricing displayed is for reference at ASP +6%. It may not represent your final reimbursement which is subject to fee schedules, eligibility, and any plan provisions or qualifiers.

Evidence-Based Regimens Total Regimens Found: 24

Please expand this section to view the evidence-based regimens that meet the diagnosis you entered.

	Regimen Name	Line of Treatment(s)	Stage(s)	Level of Evidence	Reported Outcome (Most Relevant)	Total Cost of Treatment
<input type="checkbox"/>	★ Dose Dense Doxorubicin and Cyclophosphamide Followed by Paclitaxel Every 2 Weeks (AC-P) (Stages II-III, Neoadjuvant)	Neoadjuvant/ Pre-operative	IIA, IB, IIIA, IIIB, IIIC	A1	3 year OS: 92.0 %	\$1,579.72
<input type="checkbox"/>	★ Dose Dense Doxorubicin and Cyclophosphamide Followed by Paclitaxel Every 2 Weeks (AC-P) (Stages IA-III, Adjuvant)	Adjuvant/ Post-operative	IA, IB, IIA, IIB, IIIA, IIIB, IIIC	A4	3 year OS: 92.0 %	\$4,574.77
<input type="checkbox"/>	Anastrozole (Arimidex) (Five years) (Stages IA-III, Adjuvant)	Adjuvant/ Post-operative	IA, IB, IIA, IIB, IIIA, IIIB, IIIC	A4	N/A	\$21,645.00
<input type="checkbox"/>	Exemestane (Aromasin) After Initial Tamoxifen (Stages IA-III, Adjuvant)	Adjuvant/ Post-operative	IA, IB, IIA, IIB, IIIA, IIIB, IIIC	A4	5 year OS: 98.0 %	\$24,392.10
<input type="checkbox"/>	Letrozole (Femara) (Stages IA-III, Adjuvant)	Adjuvant/ Post-operative	IA, IB, IIA, IIB, IIIA, IIIB, IIIC	A4	N/A	\$38,238.00
<input type="checkbox"/>	Neuligin (Nerlynx) after Adjuvant Trastuzumab (Stages IIA-III, Adjuvant)	Adjuvant/ Post-operative	IIA, IIB, IIIA, IIIB, IIIC	A4	N/A	\$164,800.00

Clinical Trials Total Trials Found: 2

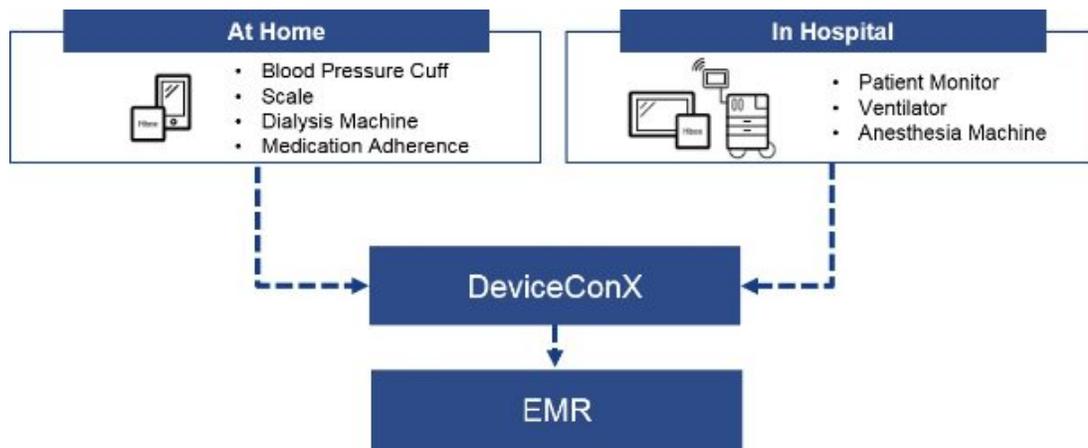
Please expand this section to view the Clinical Trials that meet the diagnosis you entered.

Provider Engagement (NantHealth Software Solutions):

Our web-based and mobile **NantHealth software solutions** include near real-time vitals connectivity, clinical and administrative workflow, eligibility and benefits, claims, and referral management solutions.

Connected Care Software Solutions:

- Device Connectivity Suite:** Our device connectivity and near real-time biometric software and hardware suite allow us to aggregate data from one of the largest libraries of in-hospital and remote medical devices on the market. Utilizing our hardware and software platform, we can extract data from various disparate provider systems, payer systems and consumer devices across the care continuum. Our offerings can enable the near real-time collection and integration of quantifiable biometric and phenotypic data into EHRs and other clinical systems, resulting in the enrichment of the holistic patient health record which can improve care and treatment. In addition, our offerings can improve care coordination and data aggregation across care settings to facilitate transitioning patients to lower cost care settings such as a skilled nursing facility or the patient's home.



- **DCX (formerly DeviceConX):** DCX is a device data normalization software that connects to hundreds of inpatient and outpatient clinical devices and converts data into a standard format that can be integrated into EHR systems and other clinical systems. This offering provides physicians with a real-time and integrated snapshot of a patient’s physiological data. Our software is scalable and can be embedded across the care continuum, including inpatient, outpatient and home settings. In addition, our platform can enable connectivity with both networked and non-networked medical devices and can eliminate the need for manual data entry by clinicians, which can result in time savings and potentially eliminate transcription errors and adverse events in patients. DCX is installed in over 390 client sites, including active hospitals/facilities, across the United States, Canada, Denmark, Sweden, and Singapore.
- **HBox:** The HBox is an Internet of Medical Things, or IoMT, and Internet of Things, or IoT, hardware hub that provides wired or wireless connectivity to multiple monitoring devices and transmits the data into remote monitoring centers and third-party EHR systems, giving providers near real-time access to physiological data. Several home monitoring devices have been tested and integrated with the HBox to support remote monitoring, readmission management and care coordination solutions and services. The HBox integrates with various weight scales, pulse oximeters and blood pressure monitors and mobile health devices. For non-networked medical devices, we use our proprietary Device Escort adapter and HBox to wirelessly connect to nearly any medical device that is capable of outputting discrete medical data. HBox is currently installed at client sites in the United States, Canada, Denmark, Sweden, and Singapore.
- **VCX (formerly Vitals ConX):** In addition to DCX and HBox, we also provide a tablet-optimized application that sits on top of our DCX platform to provide clinicians more convenient and ubiquitous access to capture a wide array of patient vitals such as respiratory rate, blood pressure and heart rate in addition to performing patient assessments. Our solution can enable a more efficient patient rounding and assessment workflow by providing a near real-time stream of data from the patient’s bedside unlike periodic sampling typically entered into an EHR hours later.

On January 13, 2020, we entered into an asset purchase agreement with Masimo Corporation, VCCB Holdings, Inc., and NantWorks, LLC to sell our assets related to our “Connected Care” business, including the products known as DCX (formerly DeviceConX), VCX (formerly VitalsConX), HBox and Shuttle Cable. We completed the sale on February 3, 2020. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for additional information.

NaviNet Open:

NaviNet Open is a leading payer-provider collaboration platform, enhancing communication between health plans and providers to increase operating efficiency, lower costs, improve provider satisfaction and enable expansion. As organizations develop more value-based product lines to support the transition to value-based care, provider alignment and actionable data prior to care delivery becomes critical. To enable these capabilities, health plans and providers need a flexible, extensible infrastructure that fosters collaboration and encourages interoperability. NaviNet Open delivers vital administrative and clinical information to providers in real-time, so they can quickly and easily communicate across multiple health plans. As of December 31, 2019, NaviNet Open connected approximately 935,000 registered user accounts nationwide, who performed more than 53 million online interactions with 934 health plans, including our 48 payer customers.

NaviNet Open solutions include:

- **Plan Central:** Provides our health plan partners with the ability to deliver a branded custom-content experience to their provider networks, allowing plans to own and manage their communications to users in support of their business. Plan Central is valued by our partners as a single access point for all provider and end-user communications, transactions, and content, delivering ease of use and increased provider satisfaction.
- **Eligibility and Benefits:** Delivers membership verification, insurance coverage, and payment information, such as copayments, deductibles, and benefit intelligence to provider offices in real-time; information that is highly valued by providers and members alike. Provider offices can verify insurance and benefit coverage at the time of a patient visit or as part of the billing cycle.
- **Claims Status Inquiry:** Lets provider offices access detailed financial and claim status information in real-time; automating the delivery of claim receipt confirmation, adjudication status, and payment details. This eliminates the need for provider offices to call health plans directly to maintain a healthy revenue cycle and improves provider satisfaction.
- **Claims Management:** A collection of powerful claim applications that consist of Claim Submission, pre- and post-adjudication Corrections and Adjustments, Claim Attachments, Claim Investigation, Claim Appeals and a multi-payer Claims Log where users manage their claim submissions. Our integrated Claims Management solution simplifies payment efforts by eliminating phone calls, costly paper claims, and other manual processes associated with claims follow-up, correction, and resubmission. Providers now gain access to a powerful set of claim tools, augmenting provider systems with self-service access, or without needing a sophisticated EMR or practice management system at all.
- **Referrals:** Lets provider offices submit and access referrals in real-time, guiding patients to the best specialist at the most affordable cost. Referrals empowers provider staff with more referral information - such as benefit tiers, preferred providers, and patient payment implications. Administrative staff becomes better equipped to navigate complex sub-networks, while health plans optimize in-network referrals to reduce leakage and lower costs.
- **Authorizations:** Lets provider offices submit authorizations to health plans and access real-time authorization information, such as status updates and approvals. The authorizations workflow is optimized to make it simple for health plans to configure fields and add additional business logic and links to third party applications. Providers can upload any documents needed for authorization processing, further streamlining workflows and lowering costs.
- **Document Exchange:** Modernizes communication between health plans and providers by transmitting administrative and clinical information in near real-time. This application lets health plans and providers share risk adjustment information, quality measurement data, and performance reports, among other data. Providers are notified of care gaps within their existing workflows, making it easy to upload supporting documents.
NaviNet Open Document Exchange enables health plans and providers to thrive in a world of value-based care by providing near real-time access to critical information at the point of care.

AllPayer Access provides standard eligibility, benefit, and claim status information to provider offices for hundreds of commercial and government plans and CMS for Medicare beneficiaries through the NaviNet portal. Building on the rich, multi-payer experience of NaviNet Open, AllPayer Access allows provider offices, and payer COB and Payment Integrity teams, to quickly find the information they need, without having to jump between portals or spend unnecessary time on the phone with health plans.

NantHealth Systems Infrastructure to Enable NantHealth Solutions:

We host our applications and serve all our clients from four redundant data centers in geographically diverse locations. These infrastructure-hosting services also include capabilities such as secure server and application hosting, secure offsite backup, disaster recovery and business continuity solutions.

Due to the sensitive nature of our clients' data, we have a heightened focus on data security and protection. We have implemented healthcare IT industry-standard processes, policies and tools through all levels of our software development and network administration, including regularly scheduled vulnerability scanning and third-party penetration testing to reduce the risk of vulnerabilities in our system.

Our clinical decision support platform achieved initial full URAC accreditation in Health Utilization Management, or HUM, during September 2010 and subsequently re-accredited every three years – the most recent during August 2019 for another 3-year period.

Our payer solutions products have been accredited under the Health Network Accreditation Program of the Electronic Healthcare Network Accreditation Commission since 2006 and were re-certified in January 2019 for two years.

Our Relationship with NantOmics and Allscripts

We have worldwide, exclusive rights from NantOmics to resell their proprietary GPS Cancer product to institutional clients, including payers, self-insured employers and healthcare providers. NantOmics provides whole genome/exome and RNA sequencing, along with related computational and data management and bioinformatics services. We provide these services as part of our comprehensive molecular analysis offering. Under the agreement, we are responsible for various aspects of delivering our sequencing and molecular analysis solutions, including patient engagement and communications with providers such as providing interpretations of our GPS Cancer reports and resolving any disputes, ensuring customer satisfaction, and managing billing and collections. Our current agreement with NantOmics expires in December 2020, subject to renewal for up to an additional nine years if certain thresholds are met. The terms of the agreement include an annual minimum of \$2.0 million in fees for years 2016-2020, \$25.0 million in fees for years 2021-2023 and \$50.0 million in fees for years 2024-2029 paid to NantOmics.

In May 2015, we and Allscripts Healthcare, LLC, or Allscripts Healthcare, an affiliate of Allscripts, entered into a mutual license and reseller agreement, or the Mutual License and Reseller Agreement, which was subsequently amended and restated in June 2015, pursuant to which we each appointed the other as a non-exclusive marketer and reseller to eligible, approved customers of various products and services, including our DCX, VCX, HBox, Device Escort and Eviti Advisor products and services and Allscripts Healthcare's FollowMyHealth, Care Director, EPSi and dbMotion products and services. In addition, we and Allscripts Healthcare each designated the other as a preferred partner-i.e., subject to certain exceptions and limitations, our DCX family of products and services are the exclusive medical device integration products and services that may be marketed and sold by Allscripts Healthcare, and Allscripts Healthcare's scheduled products and services are the exclusive products and services of the same required functionality that may be marketed and sold by us. Each party retained ownership of any data generated and collected in connection with its respective products, though each party granted the other a non-exclusive, fully paid-up license to use its data, as well as to use its trademarks, marketing materials and product documentation in connection with the marketing and resale of products and services. The agreement has an initial term of five (5) years and renews automatically for successive one (1) year periods, unless terminated by us or Allscripts Healthcare. Each party has the right to terminate the agreement in the event the other party commits a material, uncured breach, is declared insolvent, suffers a prolonged force majeure event, becomes ineligible for federal healthcare programming or undergoes a change-in-control involving such party's competitor. In June 2015, Allscripts purchased a 10% equity stake in our company for \$200.0 million in cash. In addition, Nant Capital, LLC ("NantCapital"), announced a \$100.0 million investment into Allscripts. NantCapital's investment was executed through a private placement of Allscripts common stock. The investments and commercial agreement strengthened the partnership between Allscripts and our company, originally announced in March 2015, to develop an integrated, evidence-based, personalized approach to healthcare solutions, and specifically cancer care. We plan to use Allscripts' scale, global network of hospital and physician clients and leading software solutions, combined with our clinical platform, applications and connectivity devices to build out the infrastructure for new personalized, precision medicine programs for our clients to improve cancer care. Together, our goal is for physicians and patients to have the tools to stay engaged and active and provide the necessary intervention as early as possible. On August 3, 2017, we entered into an asset purchase agreement with Allscripts Healthcare Solutions, Inc., pursuant to which we agreed to sell to Allscripts substantially all of the assets of the company's provider/patient engagement solutions business, including our FusionFX solution and components of its NantOS software connectivity solutions. The sale was completed on August 25, 2017. Concurrent with the sale to Allscripts and as contemplated by the asset purchase agreement, we and Allscripts modified the amended and restated mutual license and reseller agreement dated June 26, 2015, which was further amended on December 30, 2017, such that, among other things, we committed to deliver a minimum of \$95.0 million of total bookings over a ten-year period ("Bookings Commitment") from referral transactions and sales of certain Allscripts products under this agreement. In the event of a Bookings Commitment shortfall at the end of the ten-year period, we may be obligated to pay 70% of the shortfall, subject to certain credits. We will earn 30% commission from Allscripts on each software referral transaction that results in a booking with Allscripts. We account for the Bookings Commitment at its estimated fair value over the life of the agreement and, as of December 31, 2019, we estimate it to be \$22.0 million.

Our Clients

NantHealth solutions and technology platforms are used by key healthcare stakeholders, including healthcare providers, payers, self-insured employers, academic institutions and biotechnology and pharmaceutical companies. NantHealth solutions, coupled with our engagement methodology, is designed to be tailored to meet the large-scale needs of governmental organizations and private entities while remaining convenient, intuitive and configurable at the user level. We believe that this provides us with a significant advantage over a siloed, single vendor approach, which often requires the removal or replacement of existing information technology infrastructure and applications.

Our total revenue was \$96.0 million and \$89.5 million in 2019 and 2018, respectively. For the years ended December 31, 2019 and 2018, three customers each accounted for more than 10% of our revenue.

Sales and Marketing

Our sales organization is primarily comprised of direct sales executives and pre-sales support teams organized by account type and domain and subject matter expertise. We also leverage strategic reseller arrangements and a channel relationship coverage team.

- **Direct sales organization:** We leverage domain and subject matter expertise, market credibility, thought leadership, and relationships of our executives, senior management, and product leaders in our sales efforts. Our direct sales organization is by product ownership. These direct coverage teams include both sales professionals searching for new accounts and client engagement sales professionals responsible for developing existing accounts. Furthermore, sales professionals have unique expertise and specialized coverage for health plans, self-insured employers, health systems, and individual providers. Our account management organization is responsible for the continuity of current client relationships and the expansion of those relationships to include additional solutions and services.

We have a pre-sales organization that includes clinical, business and technical customer alignment teams to support our sales organization in addition to executive sponsorship with members of our senior management team.

- **Resale and channel partnership:** In the United States, we have entered strategic resale arrangements with major partners, including EHR vendors (including Allscripts), in-hospital medical devices manufacturers and health plans who resell our solutions to their customer base. Internationally, we have entered resale arrangements with other strategic distributors to accelerate our market adoption. Reseller revenue in 2019 and 2018 was \$4.4 million and \$14.5 million, respectively.

We also maintain business relationships with individuals and organizations that promote or support our sales or services. We refer to these individuals and organizations as our channel partners. These channel partners generally do not make sales directly like our resale partners, but instead provide us with leads that we use to develop new business through our direct sales force. These relationships enable access to broader hospital and physician clients, leading software solutions and multiple cross-selling opportunities.

We complement our sales efforts with a marketing organization that plans and execute marketing and communication strategies that are centered on initiatives that drive awareness of our company and solutions. These initiatives include educating the market about our company broadly, as well as solutions-specific campaigns for lead generation. Marketing efforts also include participation in speaking engagements and strategic interfacing with key business and trade media personnel. We employ a broad array of specific events to facilitate these initiatives, including, but not limited to, sponsorship and partnership of key industry conferences such as HIMSS and or ASCO, events and client-focused programs such as key partner user groups.

Our sales cycle can vary significantly and typically ranges from 6 months to 18 months from initial contact to contract execution. The sales cycle significantly differs based on the domain, type of solution and size of the client. Implementation, training and professional services are normally rendered based on a mutually agreed upon timetable.

Competition

The competitive landscape is highly fragmented, and to our knowledge, no single competitor currently offers similarly diverse capabilities and solution offerings. As a result, our primary competitors are characterized relative to each of our platforms or solutions:

- Molecular analysis vendors, such as Caris Life Sciences, Inc., Foundation Medicine, Inc., Guardant Health, Inc., Paradigm Diagnostics, Inc., Personal Genome Diagnostics, Inc. and Tempus Labs;
- Payer-provider collaboration vendors, such as Availity, LLC, Change Healthcare, Inc., Experian Information Solutions, Inc. (including its Passport division), Healthx, Inc. and Health Trio, LLC;
- Payer-Provider Disease Treatment Decision Support vendors include The Advisory Board Company, Castlight Health, Evolent Health, eviCore Healthcare, HealthCatalyst, Inc., or HealthCatalyst, International Business Machines Corporation, or IBM, Inovalon Holdings, Inc., or Inovalon.

The principal competitive factors in our industry include:

- Breadth and depth of application functionality;
- Ease of use and performance;
- Network strength and level of user adoption;
- Client testimonials and recommendations;
- Breadth of client base;
- Cloud-based delivery model;
- Competitive and understandable pricing;
- Ability to deliver actionable information in a relevant time period;
- Ability to demonstrate customer's ROI and improvements to clinical outcomes;
- Size and scope of payer clinical policy knowledge;
- Sales and marketing capabilities of vendor;
- Financial stability of vendor;
- Ability to integrate with legacy enterprise infrastructures and third-party applications; and
- Ability to innovate and respond rapidly to client needs and regulatory changes.

We believe we will compete favorably despite competing against a broad, diverse set of businesses and with increasing competition as other established and emerging companies enter our industry, client requirements evolve, and new products and technologies are introduced. Moreover, some of our actual and potential competitors have certain advantages over us, such as greater financial, technical, marketing, research and development and other resources, stronger brand and business user recognition, larger installed customer bases, larger intellectual property portfolios and broader global distribution and presence.

Research and Development

Our research and development efforts consist primarily of new product research and development, significant product improvements, the development of our knowledge base, the development of our online tools, such as our online portal and mobile applications, and the improvement and augmentation of our data and analytics infrastructure.

Our ability to compete and attract new clients depends, in large part, on our continuous commitment to rapidly introduce new applications, technologies, features, and functionality. Our research and development team is responsible for the design and development of our applications and software tools. We follow state-of-the-art practices in software development using modern programming languages, data storage systems, and other tools.

Research and development expenses were \$19.1 million and \$20.9 million for the years ended December 31, 2019 and 2018, respectively.

We expect that our overall research and development expenses will increase in absolute dollars as we continue to innovate our informational technology capabilities, develop additional products, and expand our data management resources.

Intellectual Property

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to our business, including seeking, maintaining, and defending patent rights, whether developed internally or acquired from third parties. Our policy is to seek to protect our proprietary position by, among other methods, filing patent applications in the United States and in jurisdictions outside of the United States related to our proprietary technology, inventions, and improvements that are important to the development and implementation of our business. We also rely on trade secrets and know-how relating to our proprietary technology, continuing innovation, and acquisition and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in the field of molecular diagnostics and healthcare technology products and services.

Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for our technology, inventions, and improvements; to preserve the confidentiality of our trade secrets; to defend and enforce our proprietary rights, including our patents; and to operate without infringing on the valid and enforceable patents and other proprietary rights of third parties.

We have developed and acquired numerous patents and patent applications and we possess substantial know-how and trade secrets relating to the development and commercialization of healthcare technology products and services. As of December 31, 2019, our patent portfolio consisted of the following matters relating to our proprietary technology and inventions: (i) thirteen (13) issued U.S. patents, of which twelve (12) are U.S. utility patents and one (1) is a U.S. design patent; (ii) twenty-one (21) pending U.S. patent applications, of which nineteen (19) are U.S. utility patent applications and two (2) are U.S. design patent applications; (iii) four (4) issued patents outside the United States; and (iv) seventeen (17) patent applications pending in jurisdictions outside the United States. Of these U.S. and non-U.S. patents and applications, five (5) patents and eight (8) applications are jointly owned.

As of February 11, 2020, following the sale of the Company's "Connected Care" business, our patent portfolio consisted of the following matters relating to our proprietary technology and inventions: (i) seven (7) issued U.S. utility patents; (ii) fifteen (15) pending U.S. patent applications, of which thirteen (13) are U.S. utility patent applications and two (2) are U.S. design patent applications; (iii) four (4) issued patents outside the United States; and (iv) seventeen (17) patent applications pending in jurisdictions outside the United States. Of these U.S. and non-U.S. patents and applications, five (5) patents and eight (8) applications are jointly owned.

Individual patents extend for varying periods of time, depending upon the date of filing of the patent application, the date of patent issuance, and the legal term of patents in the countries in which they are obtained.

Generally, patents issued for applications filed in the United States are effective for 20 years from the earliest effective filing date. The patent term may be adjusted to compensate for delayed patent issuance, when such delays are caused by the patent office or successful appeals against patent office actions. There is no limit on this patent term adjustment. The duration of patents outside of the United States varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. We estimate that our issued U.S. patents will expire on dates ranging from 2022 to 2036. If patents are issued on our pending U.S. patent applications, the resulting patents are projected to expire on dates ranging from 2026 to 2038. However, the actual protection afforded by a patent varies on a product-by-product basis, from country-to-country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of legal remedies in a particular country, and the validity and enforceability of the patent.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. No consistent policy regarding the scope of claims allowable in patents in the field of healthcare information technology has emerged in the United States. The patent situation outside of the United States is even more uncertain. Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions and enforce our intellectual property rights, and more generally could affect the value of our intellectual property. In particular, our ability to stop third parties from making, using, selling, offering to sell, or importing products that infringe our intellectual property will depend in part on our success in obtaining and enforcing patent claims that cover our technology, inventions, and improvements.

With respect to our intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our products and the processes involved in using those products. Moreover, even our issued patents do not guarantee us the right to practice our technology in relation to the commercialization of our products. However, the area of patent and other intellectual property rights in healthcare technology is an evolving one with many risks and uncertainties, and third parties may have blocking patents that could be used to prevent us from commercializing our patented products and practicing our proprietary technology. Our issued patents and those that may issue in the future may be challenged, invalidated, or circumvented, which could limit our ability to stop competitors from marketing related products or limit the length of the term of patent protection that we may have for our products. In addition, the rights granted under any issued patents may not provide us with protection or competitive advantages against competitors with similar technologies. Furthermore, our competitors may independently develop similar technologies. For these reasons, we may have competition for our products and services. Moreover, because of the extensive time required for development and testing of a potential product or service, it is possible that, before any particular product or service can be commercialized, any related patent may expire or remain in force for only a relatively short period following commercialization, thereby reducing any advantage of the patent.

We may also rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets are difficult to protect. We seek to protect our technology and product candidates, in part, by entering into confidentiality agreements with those who have access to our confidential information, including our employees, contractors, consultants, collaborators, and advisors. We also seek to preserve the integrity and confidentiality of our proprietary technology and processes by maintaining physical security of our premises and physical and electronic security of our information technology systems. Although we have confidence in these individuals, organizations, and systems, agreements or security measures may be breached and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or may be independently discovered by competitors. To the extent that our employees, contractors, consultants, collaborators, and advisors use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

For this and more comprehensive risks related to our proprietary technology, inventions, improvements and products, please see the section captioned "Risk Factors-Risks Related to Intellectual Property."

Employees and Culture

We view our employees and company culture as integral to the successful execution of our vision and mission. As a result, our leadership team prioritizes establishing trusting relationships with our clients, our partners, and each other. We encourage our employees to "rise up" to the challenge and believe that this collective mindset has enabled us to attract and retain some of the best minds in technology, bioscience and healthcare to build and advance our offering. Our core values, which we seek to reflect in our work are:

- **Clarity:** conveying our mission clearly, coherently and intelligibly, and empowering our stakeholders with information required to make good decisions.
- **Empathy:** understanding and sharing the feelings of others by putting yourself in another's place.
- **Collaboration:** working with others to create solutions.
- **Pioneering:** exploring and developing original solutions that make a meaningful impact on our community, the market, or society at large.
- **Community:** creating a feeling of identity and fellowship with others resulting from common values and goals.
- **Integrity:** always being honest, honorable and accountable with adherence to moral and ethical principles.

As of December 31, 2019, we had a total of 398 full-time associates in the United States and the United Kingdom. Associate engagement is a core tenant of our leadership focus and monitor of our performance and organizational health. None of our associates are represented by a labor union or covered by a collective bargaining agreement. We have not experienced any work stoppages, and we consider our relations with our associates to be good.

Government Regulation

The products and services that we provide are regulated by federal, state and foreign governmental authorities. Failure to comply with the applicable laws and regulations can subject us to significant administrative or enforcement actions by the government, government investigation, repayment of amounts previously paid to us, significant civil and criminal penalties, loss of licensure, certification, or accreditation, exclusion from government healthcare programs, corporate integrity agreements, or litigation. The significant areas of regulation are summarized below.

Clinical Laboratory Improvement Amendments of 1988 and State Regulation

The Omics services we perform fall under CLIA. A clinical laboratory is required to hold certain federal and state licenses, certifications, and permits to conduct business. As to federal certifications, Congress passed CLIA in 1988, establishing quality standards for all laboratory testing to ensure the accuracy, reliability, and timeliness of patient test results regardless of where the test was performed. The laboratory that performs our Omics services is CLIA-certified and is also required to meet certain laboratory licensing requirements for states with regulations beyond CLIA.

Under CLIA, a laboratory is any facility which performs laboratory testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease, or the impairment or assessment of health. CLIA regulates virtually all clinical laboratories by requiring they be certified by the federal government and comply with various operational, personnel, facilities administration, quality, and proficiency requirements intended to ensure that their clinical laboratory testing services are accurate, reliable, and timely. Laboratories must register and list their tests with CMS, the agency that oversees the CLIA program. CLIA compliance and certification is also a prerequisite to be eligible to bill for services provided to governmental payer program beneficiaries and for many private payers. CLIA is user-fee funded. Therefore, all costs of administering the program must be covered by the regulated facilities, including certification and survey costs.

Clinical laboratories are subject to survey and inspection every two years to assess compliance with program standards and may be subject to additional unannounced inspections. Laboratories performing high complexity testing are required to meet more stringent requirements than laboratories performing fewer complex tests. In addition, a laboratory, like the one which performs our Omics services, that is certified as “high complexity” under CLIA, may develop, manufacture, validate, and use proprietary tests referred to as laboratory developed tests, or LDTs. CLIA requires full validation, including accuracy, precision, specificity, sensitivity, and establishment of a reference range for any LDT used in clinical testing.

In addition to the federal certification requirements under CLIA, certain states require clinical laboratories to maintain a state license. State licensure authorities typically regulate the day-to-day operations of a clinical laboratory, including the training and skills required of its personnel and quality control. Certain states may also mandate proficiency testing, which requires the clinical laboratory to verify the accuracy of any test or procedure it performs. In addition, certain states require out-of-state laboratories to be licensed if they accept specimens from those states. CLIA provides that a state may adopt laboratory regulations that are more stringent than those under federal law. In some cases, state licensure programs substitute for the federal CLIA program. In other instances, the state’s regulations may be in addition to the CLIA program. If a laboratory is out of compliance with state laws or regulations governing licensed laboratories, penalties for violation vary from state to state but may include suspension, limitation, revocation or annulment of the license, assessment of financial penalties or fines, or imprisonment.

FDA

The FDA regulates the sale and distribution in interstate commerce of medical devices under the Federal Food, Drug, and Cosmetic Act, or the FDCA, including in vitro diagnostic devices, reagents, and instruments used to perform diagnostic testing. Devices must undergo premarket review by the FDA prior to commercialization unless the device is of a type exempted from such review by statute, regulation, or pursuant to the FDA’s exercise of enforcement discretion. Although historically the FDA has not exercised its authority to actively regulate the development and use of LDTs, which are tests that are designed, manufactured, validated, and used within a single laboratory, more recently, the FDA has issued warning letters to certain genomics labs for illegally marketing genetic tests that claim to predict patients’ responses to specific medications, noting that the FDA has not created a legal “carve-out” for LDTs and retains discretion to take action when appropriate, such as when certain genomics tests raise significant public health concerns. As manufacturers develop more complex genetic tests, it is likely that the FDA will more actively regulate LDTs in the future, which will impose greater burdens on manufacturers to obtain the necessary premarket notification or approval from the FDA as well as comply with applicable post-market regulatory obligations. Such requirements will likely delay market entry and will require more resources and time commitment from manufacturers in the in vitro diagnostic space.

In October 2014, the FDA issued draft guidance documents stating that the FDA intends to change its policy and describing an approach to regulating LDTs using a risk-based, phased-in approach. In November 2016, the FDA stated that it had decided to delay finalizing its draft guidance on regulating LDTs, and it would be seeking input from the new presidential administration and Congress on the subject. Based on the request of stakeholders and the significant amount of feedback to the 2014 Draft Guidance, in January 2017, the FDA issued a Discussion Paper on LDTs in which it announced that it would not issue a final guidance on the oversight of LDTs and provided a prospective oversight framework that focuses on new and significantly modified high and moderate risk LDTs. Subject to certain limitations, the proposed focused oversight appears to exempt a wide range of LDTs from FDA oversight, which include, but are not limited to, previously marketed LDTs (these “grandfathered” LDTs would still be subject to adverse event reporting), traditional LDTs, and low risk LDTs. In the Discussion Paper, the FDA proposes a risk-based, phased in approach for premarket review of new and significantly modified LDTs and such premarket review would not be duplicative of CMS’s post market oversight of laboratory operations or clinical utility determinations. The FDA also proposes to leverage existing CMS/CLIA requirements related to quality systems and expanding third party premarket review, including coordination with a range of programs, including New York’s Clinical Laboratory Evaluation Program. That said, based on the November 2018 FDA Statement and warning letters issued by the FDA in 2019 to certain genomics labs for illegally marketing genetic test that claims to predict patients’ responses to specific medications, the FDA may increase its scrutiny and regulation of certain LDTs. In the meantime, NantHealth has obtained 510(k) clearance from the FDA for its Omics Core Assay and the laboratory that performs the Omics services (including the Company’s LDT offering, GPS Cancer) will maintain its CLIA certification.

The FDA regulations pertaining to medical devices govern, among other things, the research, design, development, pre-clinical and clinical testing, manufacture, safety, effectiveness, clearance or approval, record-keeping, packaging, labeling, storage, adverse event reporting, advertising, promotion, marketing, sales, distribution, and import and export of medical devices. Pursuant to the FDCA, and its implementing regulations, medical devices are subject to varying degrees of regulatory control and are classified in one of three classes depending on the controls the FDA determines necessary to reasonably ensure their safety and effectiveness.

In general, Class I devices are those for which reasonable assurance of safety and effectiveness can be provided by adherence to the FDA’s general controls for medical devices, which include applicable portions of the FDA’s Quality System Regulation (“QSR”), facility registration and product listing, reporting of adverse medical events, and appropriate, truthful, and non-misleading labeling, advertising and promotional materials. Many Class I devices are exempt from premarket regulation; however, some Class I devices require premarket clearance by the FDA through the 510(k) premarket notification process described below.

Class II devices are generally subject to the FDA’s general controls, and any other special controls, such as performance standards, post market surveillance, and FDA guidelines, deemed necessary by the FDA to provide reasonable assurance of the devices’ safety and effectiveness. Premarket review and clearance by the FDA for Class II devices are accomplished through the 510(k) premarket notification procedure, although some Class II devices are exempt from the 510(k) requirements. Premarket notifications are subject to user fees, unless a specific exemption applies. To obtain 510(k) clearance, a manufacturer must submit a premarket notification demonstrating that the proposed device is “substantially equivalent” to a predicate device, which is a previously cleared 510(k) device or a pre-amendment device that was in commercial distribution before May 28, 1976, for which the FDA has not yet called for the submission of a premarket approval, or PMA, application. In determining substantial equivalence, the FDA assesses whether the proposed device has the same intended use and technical characteristic as the predicate device, or whether the proposed device has different technological characteristics, and the information submitted in the premarket notification demonstrates the device is as safe and effective as a legally marketed device and does not raise new questions of safety and effectiveness than the predicate device. The FDA may request additional information, including clinical data. Under the Medical Device User Fee Amendment of 2012, the FDA’s performance goal for reviewing a 510(k) submission is 90 days, but the FDA’s review of the premarket notification can take significantly longer if the FDA requests additional information or raises new questions during the review process. If the FDA determines that the device is substantially equivalent to the predicate device(s), the subject device may be marketed upon grant of FDA clearance. However, if the FDA determines that a device is not substantially equivalent to the predicate device(s), then the device would be regulated as a Class III device, discussed below. If a manufacturer obtains a 510(k) clearance for its device and then makes a modification that could significantly affect the safety or effectiveness of the device, or a major modification in the intended use of the device, a new premarket notification must be submitted and cleared by the FDA.

Class III devices are those deemed by FDA to pose the greatest risk, such as those that are life-sustaining or life-supporting and for which reasonable assurance of the device's safety and effectiveness cannot be assured solely by the general controls and special controls described above. Some pre-amendment Class III devices for which the FDA has not yet required a PMA require the FDA's clearance of a premarket notification in order to be marketed. However, most Class III devices are required to undergo the PMA process in which the manufacturer must demonstrate reasonable assurance of the safety and effectiveness of the device to the FDA's satisfaction. A PMA application must provide valid scientific evidence, typically extensive preclinical and clinical trial data, and information about the device and its components regarding, among other things, device design, manufacturing, and labeling. PMA applications (and supplemental PMA applications) are subject to significantly higher user fees than are 510(k) premarket notifications. Some PMA applications are exempt from a user fee, for example, a small business's first PMA.

If a new medical device does not qualify for the 510(k) premarket notification process because no predicate device to which it is substantially equivalent can be identified, the device is automatically classified into Class III. The Food and Drug Administration Modernization Act of 1997 established a new route to market for low to moderate risk medical devices that are automatically placed into Class III due to the absence of a predicate device, called the "Request for Evaluation of Automatic Class III Designation," or the de novo classification process. This process allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA. If the manufacturer seeks reclassification into Class II, the manufacturer must include a draft proposal for special controls that are necessary to provide a reasonable assurance of the safety and effectiveness of the medical device. The FDA may reject the reclassification petition if it identifies a legally marketed predicate device that would be appropriate for a 510(k) or determines that the device is not low to moderate risk and requires PMA or that general controls would be inadequate to control the risks and special controls cannot be developed.

Even if regulatory approval or clearance of a device is granted, the FDA continues to impose limitations on the uses and indications for which the device may be labeled and promoted, and the device remains subject to significant regulatory requirements. Medical devices may be marketed only for the uses and indications for which they are cleared or approved by the FDA. Device manufacturers must register their facilities and list their devices with the FDA within 30 days of an establishment beginning an activity or putting a device into commercial distribution. A device manufacturer's manufacturing processes and those of some of its suppliers are required to comply with the applicable portions of the QSR, which covers quality management, design, production and process controls, quality assurance, labeling, packaging, shipping, complaint handling, and adverse event reporting. Device manufacturers must submit to the FDA medical device reports for deaths, serious injuries, and certain malfunctions and report certain field corrections and product recalls or removals. Some manufacturers also may be subject to post-market surveillance regulations. Medical device establishments, including their facility records and manufacturing processes, are subject to periodic unscheduled inspections by the FDA.

Failure to comply with applicable regulatory requirements can result in enforcement action by the FDA, which may include any of the following sanctions: public warning letters, fines, injunctions, civil or criminal penalties, recall or seizure of products, operating restrictions, partial suspension or total shutdown of production, delays in or denial of 510(k) clearance or PMA applications for new products, challenges to existing 510(k) clearances or PMA applications, and a recommendation by the FDA to disallow a device manufacturer from entering into government contracts. The FDA also has the authority to request repair, replacement, or refund of the cost of any device manufactured or distributed. If a supplier fails to maintain compliance with a device manufacturer's quality requirements, the manufacturer may have to qualify a new supplier and could experience manufacturing delays as a result.

HIPAA and HITECH

Under the administrative simplification provisions of HIPAA, as amended by the HITECH Act, the HHS issued regulations that establish uniform standards governing the conduct of certain electronic healthcare transactions and protecting the privacy and security of protected health information used or disclosed by healthcare providers and other covered entities. Three principal regulations with which we are required to comply have been issued in final form under HIPAA: privacy regulations, security regulations, and standards for electronic transactions, which establish standards for common healthcare transactions. The privacy and security regulations were extensively amended in 2013 to incorporate requirements from the HITECH Act.

The privacy regulations cover the use and disclosure of protected health information by healthcare providers and other covered entities. They also set forth certain rights that an individual has with respect to his or her protected health information maintained by a covered entity, including the right to access or amend certain records containing protected health information, or to request restrictions on the use or disclosure of protected health information. The security regulations establish requirements for safeguarding the confidentiality, integrity, and availability of protected health information that is electronically transmitted or electronically stored. The HITECH Act, among other things, makes certain of HIPAA's privacy and security standards applicable to business associates of covered entities, and established certain protected health information security breach notification requirements. A covered entity must notify affected individual(s) and the HHS when there is a breach of unsecured protected health information. The HIPAA privacy and security regulations establish a uniform federal "floor" that covered entities and their business associates must meet and do not supersede state laws that are more stringent or provide individuals with greater rights with respect to the privacy or security of, and access to, their records containing protected health information. HIPAA also governs patient access to laboratory test reports. Effective October 6, 2014, individuals (or their personal representatives, as applicable), have the right to access test reports directly from clinical laboratories and to direct that copies of those test reports be transmitted to persons or entities designated by the individual.

These laws contain significant fines and other penalties for wrongful use or disclosure of protected health information. Additionally, to the extent that we submit electronic healthcare claims and payment transactions that do not comply with the electronic data transmission standards established under HIPAA and the HITECH Act, payments to us may be delayed or denied.

In addition to the federal privacy regulations, there are several state laws regarding the privacy and security of health information and personal data that are applicable to our operations. The compliance requirements of these laws, including additional breach reporting requirements, and the penalties for violation vary widely and new privacy and security laws in this area are evolving. Massachusetts, for example, has a state law that protects the privacy and security of personal information of Massachusetts residents that is more prescriptive than HIPAA. Many states have also implemented genetic testing and privacy laws imposing specific patient consent requirements and protecting test results. In some cases, we are prohibited from conducting certain tests without a certification of patient consent by the physician ordering the test. Requirements of these laws and penalties for violations vary widely. We believe that we have taken the steps required of us to comply with health information privacy and security statutes and regulations in all jurisdictions, both state and federal. However, we may not be able to maintain compliance in all jurisdictions where we do business. Failure to maintain compliance, or changes in state or federal laws regarding privacy or security, could result in civil and/or criminal penalties and could have a material adverse effect on our business.

Federal, State and Foreign Fraud and Abuse Laws

In the United States, there are various fraud and abuse laws with which we must comply and we are potentially subject to regulation by various federal, state and local authorities, including CMS, other divisions of the HHS (e.g., the Office of Inspector General), the U.S. Department of Justice, and individual U.S. Attorney offices within the Department of Justice, and state and local governments. We also may be subject to foreign fraud and abuse laws.

In the United States, the federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for patient referrals for, or purchasing, leasing, ordering, recommending or arranging for the purchase, lease or order of, any healthcare item or service reimbursable under a governmental payer program. Courts have stated that a financial arrangement may violate the Anti-Kickback Statute if any one purpose of the arrangement is to encourage patient referrals or other federal healthcare program business, regardless of whether there are other legitimate purposes for the arrangement. The definition of "remuneration" has been broadly interpreted to include anything of value, including gifts, discounts, credit arrangements, payments of cash, consulting fees, waivers of co-payments, ownership interests, and providing anything at less than its fair market value. Recognizing that the Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements within the healthcare industry, the HHS issued a series of regulatory "safe harbors." These safe harbor regulations set forth certain provisions, which, if met, will assure healthcare providers and other parties that they will not be prosecuted under the federal Anti-Kickback Statute. Although full compliance with these safe harbor provisions ensures against prosecution under the federal Anti-Kickback Statute, the failure of a transaction or arrangement to fit within a specific safe harbor does not necessarily mean that the transaction or arrangement is illegal or that prosecution under the federal Anti-Kickback Statute will be pursued. That said, non-compliance with all the requirements of a safe harbor can increase the risk of the transaction or arrangement and may increase the risk of government scrutiny. Many states also have anti-kickback statutes, some of which may apply to items or services reimbursed by any third-party payer, including commercial insurers.

In addition, federal false claims laws, including the federal civil False Claims Act, prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to, or approval by, the federal government or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes “any request or demand” for money or property presented to the U.S. government. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of the product for unapproved, and thus generally non-reimbursable, uses. The civil monetary penalties statute imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

HIPAA created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payers and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.

In addition, various states have enacted false claim laws analogous to the federal False Claims Act, although many of these state laws apply where a claim is submitted to any third-party payer and not merely a governmental payer program. If our operations are found to be in violation of any of the federal and state healthcare laws described above or any other governmental regulations that apply to us, we may be subject to significant penalties, including without limitation, civil, criminal and/or administrative penalties, damages, fines, disgorgement, exclusion from participation in government programs, such as Medicare and Medicaid, injunctions, private “qui tam” actions brought by individual whistleblowers in the name of the government, or refusal to allow us to enter into government contracts, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. The costs of defending such claims, as well as any sanctions imposed, could significantly affect our financial performance.

Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act, or FCPA, prohibits any United States individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, if any, and to devise and maintain an adequate system of internal accounting controls for international operations.

In Europe, various countries have adopted anti-bribery laws providing for severe consequences, in the form of criminal penalties and/or significant fines, for individuals and/or companies committing a bribery offence. Violations of these anti-bribery laws, or allegations of such violations, could have a negative impact on our business, results of operations and reputation. For instance, in the United Kingdom, under the Bribery Act 2010, which went into effect in July 2011, a bribery occurs when a person offers, gives or promises to give a financial or other advantage to induce or reward another individual to improperly perform certain functions or activities, including any function of a public nature. Bribery of foreign public officials also falls within the scope of the Bribery Act 2010. Under the new regime, an individual found in violation of the Bribery Act 2010 faces imprisonment of up to 10 years. In addition, the individual can be subject to an unlimited fine, as can commercial organizations for failure to prevent bribery.

Federal and State Physician Self-Referral Prohibitions

Under a federal law directed at “self-referral,” commonly known as the “Stark Law,” there are prohibitions, with certain exceptions, on referrals for certain designated health services, including laboratory services, that are covered by the Medicare and Medicaid programs by physicians who personally, or through a family member, have an investment or ownership interest in, or a compensation arrangement with, an entity performing the tests. The prohibition also extends to payment for any testing referred in violation of the Stark Law. A person who engages in a scheme to circumvent the Stark Law’s referral prohibition may be fined up to \$100,000 for each such arrangement or scheme. In addition, any person who presents or causes to be presented a claim to the Medicare or Medicaid programs in violation of the Stark Law is subject to civil monetary penalties of up to \$15,000 per bill submission, an assessment of up to three times the amount claimed and possible exclusion from participation in federal governmental payer programs. Bills submitted in violation of the Stark Law may not be paid by Medicare or Medicaid, and any person collecting any amounts with respect to any such prohibited bill is obligated to refund such amounts. Many states have comparable laws that are not limited to Medicare and Medicaid referrals.

Physician Payment Sunshine Act

The Physician Payment Sunshine Act, or the Sunshine Act, which was enacted as part of the Affordable Care Act, requires applicable manufacturers and certain distributors of prescription drugs, devices, biologics or other medical supplies available for coverage by Medicare, Medicaid or the Children’s Health Insurance Program to report annually to the Secretary of HHS: (i) payments or other transfers of value made by that entity, or by a third-party as directed by that entity, to physicians and teaching hospitals or to third parties on behalf of physicians or teaching hospitals; and (ii) physician ownership (including immediate family ownership) and investment interests in the entity. The statute requires the federal government to make reported information available to the public starting September 2014, which it has. Failure to comply with the reporting requirements can result in significant civil monetary penalties ranging from \$1,000 to \$10,000 for each payment or other transfer of value that is not reported (up to a maximum per annual report of \$150,000) and from \$10,000 to \$100,000 for each knowing failure to report (up to a maximum per annual report of \$1.0 million). Additionally, there are criminal penalties if an entity intentionally makes false statements in such reports. Upon commercialization, we will be subject to the Sunshine Act and the information we disclose may lead to greater scrutiny, which may result in modifications to established practices and additional costs. Additionally, similar reporting requirements have also been enacted on the state level domestically, and an increasing number of countries worldwide either have adopted or are considering similar laws requiring transparency of interactions with healthcare professionals.

Corporate Practice of Medicine

Numerous states have enacted laws prohibiting business corporations, such as us, from practicing medicine and employing or engaging physicians to practice medicine, generally referred to as the prohibition against the corporate practice of medicine. These laws are designed to prevent interference in the medical decision-making process by anyone who is not a licensed physician. For example, California’s Medical Board has indicated that determining what diagnostic tests are appropriate for a particular condition and taking responsibility for the ultimate overall care of the patient, including providing treatment options available to the patient, would constitute the unlicensed practice of medicine if performed by an unlicensed person. Violation of these corporate practice of medicine laws may result in civil or criminal fines, as well as sanctions imposed against us and/or the physician through licensure proceedings. Typically, such laws are only applicable to entities that conduct business or interact with patients located in that state. Additionally, claims that violate the corporate practice of medicine or other FDA or healthcare laws may increase our liability under the federal False Claims Act and comparable state false claims laws.

Healthcare Reform

The United States and some foreign jurisdictions are considering or have enacted several legislative and regulatory proposals designed to change the healthcare system in ways that could affect our business. In the United States, there is significant interest in promoting changes in the health care system with the stated goal of containing healthcare costs, improving quality or expanding access. For example, the ACA contains certain measures that may be significant for our business. The ACA includes, among other things, provisions regarding initiatives to revise Medicare payment methodologies; the coordination and promotion of research on comparative clinical effectiveness of different technologies and procedures; and initiatives to promote quality indicators in payment methodologies. The ACA also includes an annual excise tax on device manufacturers of 2.3% of the price for which manufacturers sell their devices. The excise tax was on a 4-year moratorium for calendar years 2016 through 2019. The Further Consolidated Appropriations Act, 2020 H.R. 1865 (Pub.L.116-94), signed into law on December 20, 2019, repealed the medical device excise tax previously imposed by Section 4191 of the U.S. Internal Revenue Code of 1986, as amended, (the “Code”), for sales of medical devices after December 31, 2019.

There have been other health reform measures taken since the enactment of the ACA. For example, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least \$1.2 trillion for fiscal year 2013 through fiscal year 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction (known as sequestration) to several government programs. This includes aggregate reductions to Medicare payments to providers of 2% per fiscal year, beginning April 1, 2013, which, following passage of subsequent legislation, will remain in effect through fiscal year 2029 unless additional Congressional action is taken. Furthermore, on January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, increased the statute of limitations for the government to recover overpayments to providers from three years to five years.

The current presidential administration and Congress are also expected to attempt broad sweeping changes to the current health care laws. We face uncertainties that might result from modification or repeal of any of the provisions of the ACA, including as a result of current and future executive orders and legislative actions. The impact of those changes on us and potential effect on the participants in the health care system as a whole is currently unknown. But, any changes to the ACA are likely to have an impact on our results of operations and may have a material adverse effect on our results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States may have on our business.

Changes in healthcare policy could increase our costs and subject us to additional regulatory requirements that may interrupt commercialization of our current and future solutions. Changes in healthcare policy could increase our costs, decrease our revenues and impact sales of and reimbursement for our current and future solutions. The Affordable Care Act substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impact our industry. The Act contains a number of provisions that impact our business and operations, some of which in ways we cannot currently predict, including those governing enrollments in federal healthcare programs and reimbursement changes.

European Regulation

International sales of medical devices are subject to foreign governmental regulations, which vary substantially from country to country. The time required to obtain clearance or approval by a foreign country may be longer or shorter than that required for FDA clearance or approval, and the requirements may be different.

The primary regulatory body in Europe is the European Commission, which has adopted numerous directives and has promulgated standards regulating the design, manufacture, clinical trials, labeling and adverse event reporting for medical devices. Devices that comply with the requirements of a relevant directive will be entitled to bear the European Conformity Marking, or CE Mark, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be commercially distributed throughout the member states of the European Union, and other countries that comply with or mirror these directives. The method of assessing conformity varies depending on the type and class of the product, but normally involves a combination of self-assessment by the manufacturer and a third-party assessment by a notified body, an independent and neutral institution appointed by a country to conduct the conformity assessment. This third-party assessment may consist of an audit of the manufacturer's quality system, review of technical documentation, and specific testing of the manufacturer's device. Such an assessment may be required in order for a manufacturer to commercially distribute the product throughout these countries. We previously received authorization to affix the CE Mark to our HBox device connectivity hardware under Directive 2006/95/EC. The final form of the European Medical Device Regulation, which will replace Europe's Medical Device Directive, was adopted on May 25, 2017 and it becomes effective on May 25, 2020. Additionally, the In Vitro Diagnostic Regulation (IVDR 2017/746), which addresses several weaknesses of the IVDD for IVD manufacturers selling in Europe, will apply starting on May 26, 2022. The Medical Device Regulation will apply in parallel with the Medical Device Directive for a transition period of three years. Our standard DCX software product is not regulated under the European Medical Device Regulation or Europe's Medical Device Directive, but we are currently pursuing a version of our DCX software that may be distributed in Europe and that meets the European Medical Device Regulation, which software would bear a CE Mark upon completion of applicable assessments.

Other Regulatory Requirements

We are subject to federal, state and local laws, rules, regulations and policies governing the use, generation, manufacture, storage, emission, effluent discharge, handling and disposal of certain hazardous and potentially hazardous substances used in connection with our operations. The laboratory performing the Omics services is subject to federal, state and local regulations relating to the handling and disposal of regulated medical waste, hazardous waste and biohazardous waste, including chemical, biological agents and compounds, blood and bone marrow samples, and other human tissue. Typically, the laboratory uses outside vendors who are contractually obligated to comply with applicable laws and regulations to dispose of such waste. These vendors are licensed or otherwise qualified to handle and dispose of such waste.

The U.S. Occupational Safety and Health Administration has established extensive requirements relating to workplace safety for healthcare employers, including requirements to develop and implement programs to protect workers from exposure to blood-borne pathogens by preventing or minimizing any exposure through needle stick or similar penetrating injuries.

Backlog

We have no material backlog of orders.

Geographic and Segment Information

During 2019, substantially all of our long-lived assets were located within the United States and United Kingdom.

Revenue from international markets were approximately 2% of our consolidated revenue for both 2019 and 2018.

We operate in one segment. The Company has one business activity and does not segregate its business for internal reporting. Accordingly, management has determined that the Company operates in one reportable segment.

Seasonality

Our revenues are not seasonal in nature.

Corporate Information

We were founded in 2010 as a Delaware limited liability company under the name "About Advanced Health, LLC." In 2011, our affiliates NantWorks, LLC, or NantWorks, and California Capital Equity, LLC, or Cal Cap, purchased certain assets from Abraxis Bioscience, LLC, which were subsequently contributed to us. We subsequently changed our name to "All About Advanced Health, LLC," and then to "Nant Health, LLC." On June 1, 2016, in connection with our initial public offering, we converted from a limited liability company into a Delaware corporation and changed our name from Nant Health, LLC to NantHealth, Inc., which we refer to as the "LLC Conversion." In conjunction with the LLC Conversion, (a) all of our outstanding units were automatically converted into shares of our common stock, based on the relative rights of our pre-IPO equity holders as set forth in the Nant Health, LLC limited liability company agreement, or the LLC Agreement, and (b) we adopted and filed a certificate of incorporation with the Secretary of State of the State of Delaware and adopted bylaws. Our principal executive offices are located at 9920 Jefferson Blvd, Culver City, CA 90232 and our telephone number is (310) 883-1300. Our corporate website address is www.nanthealth.com. We make available on our website, free of charge, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission, or SEC. Our SEC reports can be accessed through the investor relations page of our website located at <http://ir.nanthealth.com/>.

The contents of our website are not a part of, and are not incorporated by reference into, this Annual Report on Form 10-K or any other report or document we file with the SEC, and any references to our website are intended to be inactive textual references only.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as all other information included in this Annual Report on Form 10-K, including our financial statements and the related notes thereto and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations", any of which may be relevant to decisions regarding an investment in or ownership of our common stock. Our future operating results may vary substantially from anticipated results due to a number of risks and uncertainties, many of which are beyond our control. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that affect us. The following discussion highlights some of these risks and uncertainties and the possible impact of these risks on future results of operations. If any of the following risks actually occurs, our business, financial condition, operating results, prospects and ability to accomplish our strategic objectives could be materially harmed. As a result, the trading price of our common stock could decline and you could lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations and the market price of our common stock.

Risks related to our business approach

We are an early, commercial-stage company attempting to integrate a complex learning system to address a wide range of healthcare issues, and we may not be successful in doing so.

We are an early, commercial-stage company with a business model based upon a novel approach to healthcare. NantHealth solutions are designed to address many of the key challenges healthcare constituents face by enabling them to acquire and store sequencing and molecular analysis data, combine diagnostic inputs with phenotypic and cost data, analyze datasets, securely deliver that data to providers in a clinical setting to aid selection of the appropriate treatments, monitor patient biometric data and progression on a real-time basis, and demonstrate improved patient outcomes and costs. In addition, through our acquisition of NantHealth Labs, Inc. ("NantHealth Labs," formerly Liquid Genomics) in 2018, we expanded into the liquid biopsy analysis market. In the second quarter of 2019, we ceased offering our commercial Liquid GPS product. Instead, we are performing a study to measure the clinical utility of the AR-V7 analyte for informing treatment in patients with castration-resistant prostate cancer, while also pursuing other strategically aligned clinical studies that support our liquid biopsy platform. Integration across our systems infrastructure and platforms may take longer than we expect or may never occur at all.

We have engaged and may in the future engage in the acquisition or disposition of other companies, technologies, and businesses which could divert our management's attention, result in additional dilution to our stockholders and otherwise disrupt our operations and harm our operating results.

Due to the above factors, it may take longer than we expect, or we may never be able, to fully integrate our system as planned. If our integration efforts are not successful, we may not be able to attract new clients and to expand our offerings to existing clients.

The success of NantHealth solutions is dependent upon the robustness of the information we and others input into the system to achieve maximum network effects, and if we are unable to amass and input the requisite data to achieve these effects, our business will be adversely affected.

NantHealth solutions become more valuable as more accurate and clinically relevant information is integrated into them, and our ultimate outputs and recommendations to a patient, provider or payer are therefore highly dependent on the information that is input into our system. As a result, we need to consistently and continuously have access to and integrate the most medically relevant and cutting edge clinical data and research studies with patient-specific real-time DNA and RNA analysis and biometric data. To have access to biometric data in particular, we rely on patients, provider and payers to adopt devices that are compatible with our systems and they may not adopt such devices on a scale or at a rate sufficient to support our offerings or at all. Further, to have access to certain other data points, we rely in part on third parties to develop applications to generate more data to be integrated into NantHealth solutions. These third parties may never develop applications compatible with our software solutions or may develop them at a slower rate than our ability to address shifts in healthcare. In addition, if such third-party solutions are not produced to specification, are produced in accordance with modified specifications, or are defective, they may not be compatible with our systems. In such case, the reliability and performance of our products may be compromised. To the extent we are unable to amass enough data, keep an inflow of current and continuous data or integrate and access the data we currently have to continue to populate NantHealth solutions, the network effects we expect will not be fully realized and our business may be adversely affected.

We may be unable to appropriately allocate our financial and human resources across our broad array of product and service offerings.

We have a broad array of product and service offerings. Our management team is responsible for allocating resources across these products and services and may forego or delay pursuit of opportunities with certain products or services that later prove to have greater commercial potential. In August 2017, we announced a comprehensive restructuring plan that included a wide range of organizational efficiency initiatives and other cost reduction opportunities. In addition, in February 2018, we acquired NantHealth Labs and sold a commercial liquid biopsy test product (marketed as Liquid GPS). In the second quarter of 2019, we ceased commercial sales of the Liquid GPS product. Instead, we are performing a study to measure the clinical utility of the AR-V7 analyte for informing treatment in patients with castration-resistant prostate cancer, while also pursuing other strategically aligned clinical studies that support our liquid biopsy platform. These and other resource allocation decisions may cause us to fail to capitalize on attractive products or services or market opportunities. Our spending on current and future research and development programs and future products or services may not yield commercially viable products or services or may fail to optimize the anticipated network effects of NantHealth solutions. If our management team is unable to appropriately prioritize the allocation of our resources among our broad range of products and services in an efficient manner, our business may be adversely affected.

Risks related to our financial condition and capital requirements

We have a limited operating history, which may make it difficult to evaluate our current business and predict our future performance.

We were organized as a limited liability company in Delaware and began operations in 2010. In June 2016, we converted to a Delaware corporation. Additionally, our business has operated as part of the larger NantWorks, LLC, or NantWorks, group of affiliated companies. Our limited independent operating history, particularly in light of the increasingly complex and rapidly evolving healthcare and technology markets in which we operate, may make it difficult to evaluate our current business and predict our future performance. In addition, we have acquired numerous companies or businesses over the past three years, including certain assets of NaviNet, and most recently NantHealth Labs. In addition, in August 2017, we sold our provider/patient engagement solutions business to Allscripts. We have had limited experience operating these businesses as a whole and as such, it may be difficult to evaluate our current business and predict our future operating performance. In light of the foregoing, any assessment of our profitability or prediction about our future success or viability is subject to significant uncertainty. We have encountered and will continue to encounter risks and difficulties frequently experienced by early, commercial-stage companies in rapidly evolving industries. If we do not address these challenges successfully, our business results will suffer.

We have a history of significant losses, which we expect to continue, and we may never achieve or sustain profitability in the future.

We have incurred significant net losses in each fiscal year since inception and expect to continue to incur net losses for the foreseeable future. We experienced net losses of \$62.8 million and \$192.2 million during the years ended December 31, 2019 and 2018, respectively. As of December 31, 2019, we had an accumulated deficit of \$946.9 million. The losses and accumulated deficit were primarily due to the substantial investments we made to grow our business and enhance our systems infrastructure and platforms. We have grown our business through research and development and the acquisition of assets, businesses and customers. We anticipate that our operating expenses will increase substantially in the foreseeable future as we seek to continue to grow our business, including through strategic acquisitions, and build and further penetrate our client base and develop our product and service offerings, including GPS Cancer and our clinical studies for our liquid biopsy platform. These efforts may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenue sufficiently to offset these higher expenses.

Our prior losses, combined with our expected future losses, have had and will continue to have an adverse effect on our stockholders' equity (deficit) and working capital. We expect to continue to incur operating losses for the foreseeable future and may never become profitable on a quarterly or annual basis, or if we do, we may not be able to sustain profitability in subsequent periods. Our failure to achieve and sustain profitability in the future would negatively affect our business, financial condition, results of operations and cash flows, and could cause the market price of our common stock to decline.

We may need to raise additional capital to fund our existing operations, develop our solutions, commercialize new products and expand our operations.

Based on our current business plan, we believe our current cash, cash equivalents, marketable securities, and our ability to borrow from affiliated entities, will be sufficient to meet our anticipated cash requirements over at least the next 12 months. If our available cash balances and anticipated cash flow from operations are insufficient to satisfy our liquidity requirements, we may seek to sell common or preferred equity or convertible debt securities, enter into a credit facility or another form of third-party funding, or seek other debt financing.

We may consider raising additional capital in the future to expand our business, to pursue strategic investments, to take advantage of financing opportunities, or for other reasons, including to:

- increase our sales and marketing efforts to drive market adoption of NantHealth solutions (including GPS Cancer and NantHealth software solutions);
- address competitive developments;
- fund development and marketing efforts of any future platforms and solutions;
- expand adoption of GPS Cancer and Eviti platform solutions into critical illnesses outside of oncology;
- acquire, license or invest in complimentary businesses, technologies or service offerings; and
- finance capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- our success in driving adoption of our molecular analysis solutions, including GPS Cancer;
- our success in making our molecular analysis solutions reimbursable by payers;
- our ability to achieve revenue growth;
- the cost of expanding our products and service offerings, including our sales and marketing efforts;
- our ability to achieve interoperability across all of our acquired businesses, technologies and service offerings to deliver networking effects to our clients;
- the effect of competing technological and market developments;
- costs related to international expansion;
- costs associated with clinical studies; and
- the potential cost of and delays in product development as a result of any regulatory oversight applicable to our products.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, dilution to our stockholders could result. Any equity securities issued also could provide for rights, preferences or privileges senior to those of holders of our common stock. If we raise funds by issuing debt securities, those debt securities would have rights, preferences and privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations.

If we are unable to maintain effective internal controls over financial reporting, our investors may lose confidence in us and the market price of our common stock may be adversely affected. If our internal controls over financial reporting are not effective, we may not be able to accurately report our financial results or prevent fraud.

Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, requires that we maintain internal control over financial reporting that meets applicable standards. We may err in the design or operation of our controls, and all internal control systems, no matter how well designed and operated, can provide only reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, there can be no assurance that all control issues have been or will be detected. If we are unable, or are perceived as unable, to produce reliable financial reports due to internal control deficiencies, investors could lose confidence in our reported financial information and operating results, which could result in a negative market reaction and a decrease in our stock price.

We are required, pursuant to Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. We will need to disclose any material weaknesses identified by our management in our internal control over financial reporting. As an “emerging growth company,” we are availing ourselves of the exemption from the requirement that our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting under Section 404. However, we may no longer avail ourselves of this exemption when we cease to be an “emerging growth company.” When our independent registered public accounting firm is required to undertake an assessment of our internal control over financial reporting, the cost of our compliance with Section 404 will correspondingly increase. Our compliance with applicable provisions of Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues as we implement additional corporate governance practices and comply with reporting requirements. Moreover, if we are not able to comply with the requirements of Section 404 applicable to us in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the U.S. Securities and Exchange Commission, or SEC, or other regulatory authorities, which would require additional financial and management resources.

In connection with our 2018 financial reports, we previously identified a material weakness in relation to the valuations of our related party equity method investment in NantOmics (see Note 11 to our Consolidated Financial Statements) and the Bookings Commitment liability (see Notes 4 and 13 to our Consolidated Financial Statements). We designed and implemented measures that have remediated this material weakness, including, among other things, controls to consider all required elements needed to support the measurement of fair value of a liability and assess the reasonableness of assumptions underlying prospective financial information used in the fair value measurement of the Company’s investment in a related party. We incurred significant costs to remediate this weakness, primarily personnel costs, external consulting and legal fees, system implementation costs, and related indirect costs including the use of facilities and technology. If we identify additional errors that result in material weaknesses in our internal control over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. Moreover, in the future we may engage in business transactions, such as acquisitions, reorganizations or implementation of new information systems that could negatively affect our internal control over financial reporting and result in material weaknesses.

If we identify new material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 in a timely manner, if we are unable to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting, we may be late with the filing of our periodic reports, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected. As a result of such failures, we could also become subject to investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, and become subject to litigation from investors and stockholders, which could harm our reputation, financial condition or divert financial and management resources from our core business and would have a material adverse effect on our business, financial condition and results of operations.

We are involved in pending securities litigation and an adverse resolution of such litigation may adversely affect our business, financial condition, results of operations and cash flows.

We have been named as a defendant in lawsuits arising out of our initial public offering and later public statements. In March 2017, a number of putative class action securities complaints were filed in U.S. District Court in California, naming as defendants the Company and certain of our executive officers and directors. Certain plaintiffs also named, as defendants, investment banks who were underwriters in our initial public offering but the claims against the underwriters were dropped. The complaints generally allege that defendants made material misstatements and omissions in violation of the federal securities laws. In October 2019, the parties reached an agreement in principle to settle these federal class actions in their entirety for \$16.5 million, which is included in accrued and other current liabilities on the Consolidated Balance Sheet at December 31, 2019. The court granted preliminary approval of the settlement on January 31, 2020, and a hearing for final approval of the settlement is scheduled for June 15, 2020. The majority of the settlement amount will be funded by our insurance carriers, and a portion will be funded by us. The settlement is contingent upon certain matters, including final approval by the court. Also, the parties have the right to terminate the settlement in certain circumstances. We cannot assure you that the settlement will be approved and become final. If the settlement does not get final approval or is terminated or fails to become final for any other reason, the parties will revert to their prior litigation positions, in which event the outcomes of the litigation will be difficult to predict. Plaintiffs may seek recovery of a substantial amount and the monetary and other impact of this action may remain unknown for substantial periods of time. If the settlement does not reach final approval, the cost to defend, attempt a second settlement, or otherwise resolve this matter may be significant and divert management's attention from the operations of the Company. In that event, we cannot assure you that we will prevail in this lawsuit, and if we are ultimately unsuccessful in this matter, we could be required to pay substantial amounts which might materially adversely affect our business, operating results and financial condition. For additional information regarding this and other lawsuits in which we are involved, see Part II, Item 1, Legal Proceedings.

Risks related to our sequencing and molecular analysis solutions and clinical studies

We may not be able to generate sufficient revenue from our sequencing and molecular analysis solutions, including GPS Cancer, or our relationships with sequencing and molecular analysis customers, to achieve and maintain profitability.

We believe our commercial success depends significantly upon our ability to successfully market and sell our sequencing and molecular analysis solutions to continue to expand our current relationships and develop new relationships with physicians, self-insured employers, payers and healthcare providers, and expand adoption of sequencing and molecular analysis for disease indications outside oncology. Net revenue from our sequencing and molecular analysis solutions represented 1.8% and 3.5% of our total net revenue for the years ended December 31, 2019 and 2018, respectively. The demand for sequencing and molecular analysis may decrease or may not continue to increase at historical rates for a number of reasons. Our clients may decide to decrease or discontinue their use of sequencing and molecular analysis due to changes in research and product development plans, financial constraints or utilization of internal molecular testing resources or molecular tests performed by others, which are circumstances outside of our control. In addition to reducing our revenue, this may reduce our exposure to early stage research that facilitates the incorporation of newly developed information about cancer and other diseases into our molecular analysis solutions. Further, we may be unsuccessful in expanding our clients' use of sequencing and molecular analysis outside of oncology.

In addition, our expansion into the liquid tumor profiling market may not be successful and may fail to generate the levels of revenue that we project. The future growth of our market and the success of liquid profiling offerings that may arise from clinical studies that we undertake depends on many factors beyond our control, including the success of our clinical studies, regulatory factors, recognition and acceptance by the scientific community, and the growth, prevalence, and costs of competing methods of tumor analysis. Additionally, our success depends on the ability of our sales organization to successfully sell such commercial offerings.

We are currently not profitable. Even if we succeed in increasing adoption of sequencing and molecular analysis by physicians, self-insured employers, payers and healthcare providers, and maintaining and creating relationships with our existing and new clients, we may not be able to generate sufficient revenue from sequencing and molecular analysis to achieve profitability.

Sequencing and molecular analysis may have limited utility unless we or third parties are able to successfully establish links between genomic sequencing and expression analysis and disease and treatment pathways.

Full genomic sequencing and expression analysis may have limited utility on a stand-alone basis. We believe the real value is derived by linking genomic sequencing and RNA analysis with disease pathways to help enable the discovery and development of personalized treatments. We do not currently, and do not expect in the future to, engage in research regarding disease pathways or engage in the development or commercialization of specific therapeutics or drugs. Instead, we will rely on third parties to do so. If, however, third-party time and funding is not devoted to determining disease pathways or to discovering, developing and marketing therapeutics or drugs specific to such pathways, sequencing and molecular analysis and GPS Cancer will be perceived to have limited utility and our business may be adversely affected.

Our success will depend on our ability to use rapidly changing genetic data to interpret molecular analysis results accurately and consistently, and our failure to do so would have an adverse effect on our operating results and business.

Our success depends on our ability to provide reliable, high-quality molecular profiling tests that incorporate rapidly-evolving information about the role of genes and gene variants in disease and clinically relevant outcomes associated with those variants. The accuracy and reproducibility we have demonstrated to date may not continue, particularly for clinical samples, as molecular analysis volume increases. Errors, including as a result of molecular analysis failing to detect genomic variants with high accuracy, or omissions, including as a result of failing to or incompletely or incorrectly identify the significance of gene variants, could have a significant adverse impact on our business. Hundreds of genes can be implicated in some disorders and overlapping networks of genes and symptoms can play a role in multiple conditions. We also rely on clinicians to interpret what we report and to incorporate specific information about an individual patient into the physician's treatment decision. As a result, a substantial amount of judgment is required in order to interpret testing results for an individual patient and to develop an appropriate patient report. Due to such errors in judgment, patient outcomes may not be improved even if our molecular analysis services perform to our expectations.

The efficiency of sequencing and molecular analysis, including GPS Cancer, and the results that we achieve depend on the design and operation of our test processes, which use a number of complex and sophisticated biochemical, informatics, optical, and mechanical processes, many of which are highly sensitive to external factors. An operational or technology failure in one of these complex processes or fluctuations in external variables may result in processing efficiencies that are lower than we anticipate or that vary between testing runs. In addition, we regularly evaluate and if necessary, refine our processes. These refinements may initially result in unanticipated issues that further reduce our test run yields or increase the variability of our test run yields. Low test run yields can cause variability in our operating results and damage our reputation. In addition, although we believe GPS Cancer is a comprehensive molecular profiling solution, no solution is fully comprehensive, and it will need to be continually improved in line with improvements in science and technology and potential developments by our competitors. If GPS Cancer proves to not be fully comprehensive, customer demand for GPS Cancer may be adversely affected.

GPS Cancer can determine whether specific genes are over- or under-expressed which can affect protein levels and, as a result, cancer phenotype and drug efficacy in a particular patient. Such gene expression can also capture the effect of post-translational modifications, which can have equally significant implications on how a cancer is expressed in a patient and in turn may impact treatment decisions. Our sequencing and molecular analysis solutions (including GPS Cancer) represent a novel and largely unproven approach to the characterization and monitoring of cancer and may not be accurate based on the evolving understanding of how DNA and RNA analysis relate to disease progression and drug efficacy and resistance. As a result, the marketing, sale and use of our sequencing and molecular analysis solutions could subject us to liability for errors in, misunderstandings of, or inappropriate reliance on, information we provide to physicians or geneticists, and lead to claims against us if someone were to allege that our solutions failed to perform as they were designed, if we failed to correctly interpret results, or if the ordering physician were to misinterpret our results or improperly rely on them when making a clinical decision. A product liability or professional liability claim could result in substantial financial and reputational damage and be costly and time-consuming for us to defend. Although we maintain liability insurance, including for errors and omissions, we cannot assure you that our insurance would fully protect us from the financial impact of defending against these types of claims or any judgments, fines or settlement costs arising out of any such claims. Any liability claim, including an errors and omissions liability claim, brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any liability lawsuit could cause injury to our reputation or cause us to suspend sales of our sequencing and/or molecular analysis solutions. The occurrence of any of these events could have an adverse effect on our business, reputation and results of operations.

Our sequencing and molecular analysis solutions may never achieve significant commercial market acceptance.

Our sequencing and molecular analysis solutions may never gain significant acceptance in the marketplace and, therefore, may never generate substantial revenue or profits for us. Our ability to achieve commercial market acceptance for our sequencing and molecular analysis solutions will depend on several factors, including:

- our ability to convince key thought leaders, physicians and caregivers and other key oncology stakeholders of the clinical utility of our entire product offering and its potential advantages over existing sequencing tests, specifically, the advantages of our RNA sequencing, which maps oncology disease pathways versus a patient's own germline;
- the willingness of physicians, self-insured employers, payers and healthcare providers to utilize our sequencing and molecular analysis services; and
- the willingness of commercial third-party payers and government payers to reimburse for our molecular services, the scope and amount of which will affect patients' willingness or ability to pay for our molecular analysis services and likely heavily influence our customers' decisions to recommend our molecular analysis services.

Further, today's most advanced diagnostics tests analyze narrow gene panels that capture only a limited number of the most common gene alterations, as compared to GPS Cancer, which sequences the patient's whole genome/exome (comparing both a patient's normal and tumor tissue) and performs RNA sequencing, gene expression and statistical analysis. These narrow gene panels for specific treatments or disease areas are much less expensive than GPS Cancer. Although we believe that the advantages of sequencing the patient's whole genome/exome for the treatment of cancer, as well as running additional RNA tests, outweigh the costs, key thought leaders, physicians and other caregivers, other key oncology stakeholders and payers may not agree. Further, if advances in the understanding of disease states and pathways do not reveal a benefit to whole genome/exome and RNA sequencing in areas beyond cancer then the market potential for our sequencing and molecular analysis services will be limited. Failure to achieve widespread commercial market acceptance for our sequencing and molecular analysis solutions could materially harm our business, financial condition and results of operations.

If we cannot compete successfully with our competitors for our sequencing and molecular analysis solutions, we may be unable to increase or sustain our revenue or achieve and sustain profitability.

Personalized molecular analysis is a new area of science, and we face competition from companies that offer products, or have conducted research, to profile genes and gene expression in various cancers. Our principal competition for GPS Cancer comes from diagnostic companies that also offer whole genome/exome sequencing. We also compete with diagnostic companies offering molecular diagnostic tests that capture only a single marker or test panels that capture a limited number of the most well-known gene alterations, known as hotspot panel tests. In addition, academic research centers, diagnostic companies and next-generation sequencing, or NGS, platform developers are offering or developing NGS-based testing. NGS-based testing also has the capability to provide whole genome/exome sequencing to compete with GPS Cancer.

Our competitors with respect to GPS Cancer include companies such as Foundation Medicine, Inc., or Foundation Medicine, Caris Life Sciences, Inc., or Caris Life Sciences, Personal Genome Diagnostics, Inc., or Personal Genome Diagnostics, Guardant Health, Inc., and Paradigm Diagnostics, Inc. and Tempus Labs.

With the acquisition of NantHealth Labs, we expanded our testing capabilities to include liquid tumor profiling. Competitors with respect to liquid tumor profiling services that we may offer in the future (stemming from our clinical studies) may include Guardant Health, Inc., Foundation Medicine, Inc., Genomic Health, Inc. and Biocept, Inc.

Many hospitals and academic medical centers may also seek to perform the type of molecular testing we perform at their own facilities. As such, our competition may include entities such as the University of Michigan, Baylor Medical Genetics Laboratories, Washington University in St. Louis, Memorial Sloan Kettering Cancer Center and other academic hospitals and research centers. In addition to developing kits, some diagnostic companies also provide NGS platforms. Illumina, Inc., Thermo Fisher Scientific Corporation, Invitae Corporation, and other companies develop NGS platforms that are being sold directly to research centers, biopharmaceutical companies and clinical laboratories. While many of the applications for these platforms are focused on the research and development markets or testing for conditions outside of oncology, these companies have launched and will continue to commercialize products focused on the clinical oncology market. Although we believe GPS Cancer is a comprehensive molecular profiling solution, our competitors may develop more comprehensive or superior alternative offerings. We believe diagnostic platform providers will seek to place sequencing machines in laboratories to develop NGS-based laboratory-developed tests, or LDTs. In addition, we believe these companies will also develop their own diagnostic kits approved by the FDA, which can be sold to the clients who have purchased their platforms. Also, many private companies are developing information technology-based tools to support the integration of NGS-based testing into the clinical setting.

Additionally, some of our competitors' molecular analysis tests are being used in FDA clinical trials as companion diagnostics. Because companion diagnostics help identify whether a patient's disease expresses the molecular target, or biomarker, for the particular drug, they can help ensure the drug's efficacy and are sometimes required by the FDA to be used with certain drugs. Our molecular analysis solutions may not have the DNA and RNA analysis capability on par with a companion diagnostic to guide therapeutic treatments for certain customers. Further, the FDA requires a companion diagnostic test if a new drug works on a specific genetic or biological target that is present in some, but not all, patients with a certain cancer or disease. Even if it is shown to be on par with FDA-approved companion diagnostics, physicians and payors may still not choose to use our molecular analysis solutions. If physicians and payers utilize and pay for these FDA-approved companion diagnostic tests instead of our solutions, our business may be adversely affected.

Any of these competitors could have technological, financial and market access advantages that are not currently available to us.

The molecular diagnostics industry is subject to rapidly changing technology, which could make sequencing and molecular analysis solutions and other products we may develop or license in the future obsolete.

Our industry is characterized by rapid technological changes, frequent new product introductions and enhancements and evolving industry standards, all of which could make our sequencing and molecular analysis solutions or other products we develop or license obsolete. Our future success will depend on our ability to keep pace with the evolving needs of our clients on a timely and cost-effective basis and to pursue new market opportunities that develop as a result of technological and scientific advances. In recent years, there have been numerous advances in technologies relating to the diagnosis and treatment of cancer. There have also been advances in methods used to analyze very large amounts of genomic information. We must continuously enhance our products and solutions, and we may also need to develop or license new technologies, to keep pace with evolving standards of care. If we do not update our products and solutions to reflect new scientific knowledge about cancer biology, information about new cancer therapies, or relevant clinical trials, our solutions could become obsolete and our molecular analysis revenue growth would be limited or eliminated, which would have a material adverse effect on our business, financial condition and results of operations.

If we are not able to establish relationships with, or lose the support of, key thought leaders or payers' key decision makers, it may be difficult to establish products and solutions as a standard of care for patients with cancer, which may limit our revenue growth and ability to achieve profitability.

We are establishing relationships with leading oncology thought leaders and payors' key decision makers. If we are unable to establish these relationships, or these key thought leaders or payers' key decision makers determine that the products or services that we develop or license are not clinically or operationally effective or that alternative technologies and services are more effective or cost-efficient, or if they elect to use and promote internally developed products, we would encounter significant difficulty driving adoption of our products and solutions and/or validating them as a standard of care, which would limit our revenue growth and our ability to achieve profitability.

Ethical, legal and social concerns related to the use of genomic information could reduce demand for our sequencing and molecular analysis solutions.

Genomic testing, like that conducted using GPS Cancer, has raised ethical, legal and social issues regarding privacy and the appropriate uses of the resulting information. Governmental authorities could, for social or other purposes, limit or regulate the use of genomic information or genomic testing, particularly for those diseases that have no known cure. These concerns may lead patients to refuse to use, or clinicians to be reluctant to order, whole genome/exome genomic tests even if permissible.

Ethical and social concerns may also influence U.S. and foreign patent offices and courts with regard to patent protection for technology relevant to our business. These and other ethical, legal and social concerns may limit market acceptance of our products or reduce the potential markets for products enabled by our sequencing and molecular analysis solutions, either of which could have an adverse effect on our business, financial condition or results of operations.

Clinical studies (including clinical trials) involve a lengthy and expensive process with an uncertain outcome, results of earlier studies and clinical trials may not be predictive of future clinical study results and our clinical studies may fail to adequately demonstrate substantial evidence of safety and efficacy of our product candidates.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. A failure of one or more of our clinical studies, including our clinical studies for our liquid biopsy platform, can occur at any time during the clinical study process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. There is a high failure rate for product candidates proceeding through clinical trials, and product candidates in later stages of clinical trials may fail to show the required safety and efficacy despite having progressed through preclinical studies and initial clinical trials. A number of companies in the medical device industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier clinical trials, and we cannot be certain that we will not face similar setbacks. Even if our clinical studies are completed, the results may not be sufficient to support a commercial product offering or obtaining regulatory approval for our product candidates.

We may experience additional delays in our clinical studies. We do not know whether future clinical studies, if any, will begin on time, need to be redesigned, enroll an adequate number of patients on time or be completed on schedule, if at all. Clinical studies can be delayed, suspended or terminated by us, regulatory authorities, clinical trial investigators, and ethics committees for a variety of reasons, including failure to:

- generate sufficient preclinical or other data to support the initiation or continuation of clinical studies;
- obtain regulatory authorization, or feedback on clinical study design, to commence a clinical study;
- identify, recruit and train suitable clinical investigators;
- reach agreement on acceptable terms with prospective Contract Research Organizations, or CROs, and clinical study sites;
- obtain and maintain institutional review board, or IRB, approval at each clinical study site (where required);
- identify, recruit and enroll suitable patients to participate in a clinical study;
- have a sufficient number of patients complete a clinical study or return for post-treatment follow-up;
- ensure clinical investigators observe clinical study protocol or continue to participate in a clinical study;
- address any patient safety concerns that arise during the course of a clinical study;
- address any conflicts with new or existing laws or regulations;
- add a sufficient number of clinical study sites;
- timely manufacture sufficient quantities of product candidate for use in clinical trials; or
- raise sufficient capital to fund a clinical study.

Patient enrollment is a significant factor in the timing of clinical studies and is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the clinical study, the design of the clinical study, competing clinical studies and clinicians' and patients' or caregivers' perceptions as to the potential advantages of the device candidate being studied in relation to other available therapies or tests, including any new tests or treatments that may be approved for the indications we are investigating.

We could also encounter delays if a clinical study is suspended or terminated by us, by the data safety monitoring board for such clinical study or by the FDA or any other regulatory authority, or if the IRBs of the institutions in which such clinical studies are being conducted suspend or terminate the participation of their clinical investigators and sites subject to their review. Such authorities may suspend or terminate a clinical study due to a number of factors, including failure to conduct the clinical study in accordance with regulatory requirements, including Good Clinical Practices, or GCPs, or our clinical protocols, inspection of the clinical study operations or clinical study site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical study.

If we experience delays in the completion of, or termination of, any clinical study of our product candidates for any reason, the commercial prospects of our product candidates may be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical studies will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates.

Risks related to our system infrastructure and software solutions business

The market for our systems infrastructure and software solutions is new and unproven and may not grow.

We believe our future success will depend in large part on establishing and growing a market for our systems infrastructure and that are able to provide operational intelligence, particularly designed to collect and index machine data. Our systems infrastructure is designed to address interoperability challenges across the healthcare continuum. It integrates big data with real time resources and applies machine learning algorithms to inform and optimize treatment decisions. In order to grow our business, we intend to expand the functionality of our offering to increase its acceptance and use by the broader market. In particular our systems infrastructure is targeted at those in the healthcare continuum that are transitioning from fee-for-service to a value-based reimbursement model. While we believe this to be the current trend in healthcare, this trend may not continue in the future. Our systems infrastructure is less effective with a traditional fee-for-service model and if there is a reversion in the industry towards fee-for-service, or a shift to another model, we would need to update our offerings and we may not be able to do so effectively or at all. It is difficult to predict client adoption and renewal rates, client demand for our software, the size and growth rate of the market for our solutions, the entry of competitive products or the success of existing competitive products. Many of our potential clients may already be party to existing agreements for competing offerings that may have lengthy terms or onerous termination provisions, and they may have already made substantial investments into those platforms which would result in high switching costs. Any expansion in our market depends on several factors, including the cost, performance and perceived value associated with such operating system and software applications particularly considering the shifting market dynamics. Although we have experienced rapid adoption of our systems infrastructure and software solutions, the rate may slow or decline in the future, which would harm our business and operating results. In addition, while many large hospital systems and payers use our solutions, many of these entities use only certain of our offerings, and we may not be successful in driving broader adoption of our solutions among these existing users, which would limit our revenue growth.

If the market for our offerings does not achieve widespread adoption or there is a reduction in demand for our offerings in our market caused by a lack of customer acceptance, technological challenges, lack of accessible machine data, competing technologies and products, decreases in corporate spending, weakening economic conditions, or otherwise, it could result in reduced customer orders, early terminations, reduced renewal rates or decreased revenues, any of which would adversely affect our business operations and financial results. You should consider our business and prospects in light of the risks and difficulties we may encounter in this new and unproven market.

The data and information that we provide to our clients, and their constituents, could be inaccurate or incomplete, which could harm both patients and our business, financial condition and results of operations.

Some of our software solutions store and display data from a variety of third-party sources for use in treating patients and to search and compare options for healthcare services and treatments. As part of our Eviti platform solutions, we provide up-to-date information regarding cancer research, along with a list of potential treatments and relevant clinical trials seeking enrollment. Most of this data comes from health plans, our clients, published guidelines, peer-reviewed journals and other third parties. Because data in the healthcare industry is often fragmented in origin, inconsistent in format and often incomplete, the overall quality of certain types of data we receive can be poor. If these data are incorrect or incomplete or if we make mistakes in the capture or input of their data, or in our interpretation or analysis of such data, adverse consequences, including patient death and serious injury, may occur and give rise to product liability and other claims against us. In addition, a court or government agency may take the position that our storage and display of health information exposes us to personal injury liability or other liability for wrongful delivery or handling of healthcare services or erroneous health information. While we maintain insurance coverage, we cannot assure that this coverage will prove to be adequate or will continue to be available on acceptable terms, if at all. Even unsuccessful claims could result in substantial costs, reputational damage, and diversion of management resources. A claim brought against us that is uninsured or under-insured could harm our business, financial condition and results of operations.

Our use of open source technology could impose limitations on our ability to commercialize our offerings.

Our offerings incorporate open source software components that are licensed to us under various public domain licenses. Some open source software licenses require users who distribute open source software as part of their software to publicly disclose all or part of the source code to such software or make available any derivative works of the open source code on unfavorable terms or at no cost. There is little or no legal precedent governing the interpretation of many of the terms of these licenses and therefore the potential impact of such terms on our business is not fully known or predictable. There is a risk that such licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market our software products and services. While we monitor our use of open source software and try to ensure that none is used in a manner that would require us to disclose our source code or that would otherwise breach the terms of an open source agreement, such use could inadvertently occur and we may be required to release our proprietary source code, pay damages for breach of contract, re-engineer one or more of our offerings, discontinue sales of one or more of our offerings in the event re-engineering cannot be accomplished on a timely basis or take other remedial action that may divert resources away from our development efforts, any of which could cause us to breach obligations to our clients, harm our reputation, result in customer losses or claims, increase our costs or otherwise adversely affect our business and operating results.

If we are not able to enhance our systems infrastructure or software solutions to achieve market acceptance and keep pace with technological developments, our business will be harmed.

Our ability to attract new subscribers and licensees, and increase revenue from existing subscribers and licensees, depends in large part on our ability to enhance and improve our existing offerings and to introduce new products and services, including products and services designed for a mobile user environment. To grow our business, we must develop products and services that reflect the changing nature of business management software and expand our offering. The success of any enhancements to our offerings depends on several factors, including timely completion, adequate quality testing and sufficient demand. Any new product or service that we develop may not be introduced in a timely or cost-effective manner, may contain defects or may not achieve the market acceptance necessary to generate sufficient revenue. If we are unable to successfully develop new products or services, enhance our existing offerings to meet subscriber requirements or otherwise gain market acceptance, our business and operating results will be harmed.

In addition, because many of our offerings are available over the Internet, we need to continuously modify and enhance them to keep pace with changes in Internet-related hardware, software, communications and database technologies and standards. If we are unable to respond in a timely and cost-effective manner to these rapid technological developments and changes in standards, our offerings may become less marketable, less competitive or obsolete, and our operating results will be harmed. If new technologies emerge that are able to deliver competitive products and applications at lower prices, more efficiently, more conveniently or more securely, such technologies could adversely impact our ability to compete. Our offerings must also integrate with a variety of network, hardware, mobile, and software platforms and technologies, and we need to continuously modify and enhance them to adapt to changes and innovation in these technologies. Any failure of our offerings to operate effectively with future infrastructure platforms and technologies could reduce the demand for such offerings. If we are unable to respond to these changes in a cost-effective manner, our offerings may become less marketable, less competitive or obsolete, and our operating results may be adversely affected.

Our data suppliers might restrict our use of or refuse to license data, which could lead to our inability to provide certain products or services.

A portion of the data that we use is either purchased or licensed from third parties or is obtained from our customers for specific customer engagements. Although we typically enter into long-term contractual arrangements with many of these suppliers of data, at the time of entry into a new contract or renewal of an existing contract, suppliers may increase restrictions on our use of such data, increase the price they charge us for data or refuse altogether to license the data to us. In addition, during the term of any data supply contract, suppliers may fail to adhere to our data quality control standards or fail to deliver data. Further, although no single individual data supplier is material to our business, if a number of suppliers collectively representing a significant amount of data that we use for one or more of our services were to impose additional contractual restrictions on our use of or access to data, fail to adhere to our quality-control standards, repeatedly fail to deliver data or refuse to provide data, now or in the future, our ability to provide those services to our clients could be materially adversely impacted, which may harm our operating results and financial condition.

We believe that we have rights necessary to use the data that is incorporated into our offerings. However, in the future, data providers could withdraw their data from us if there is a competitive reason to do so, or if legislation is passed restricting the use of the data, or if judicial interpretations are issued restricting use of the data that we currently use in our products and services. If a substantial number of data providers were to withdraw their data, our ability to provide our offerings to our clients could be materially adversely impacted.

For example, in order to deliver the full functionality offered by some of our solutions, we need access, on behalf of our customers, to sources of pricing and claims data, much of which is managed by a limited number of health plans and other third parties. We have developed various long-term and short-term data sharing relationships with certain health plans and other third parties, including many of the largest health plans in the United States. The health plans and other third parties that we currently work with may, in the future, change their position and limit or eliminate our access to pricing and claims data, increase the costs charged to us for access to data, provide data to us in more limited or less useful formats, or restrict our permitted uses of data. Furthermore, some health plans have developed or are developing their own proprietary price and quality estimation tools and may perceive continued cooperation with us as a competitive disadvantage and choose to limit or discontinue our access to pricing and claims data. Failure to continue to maintain and expand our access to pricing and claims data will adversely impact our ability to continue to serve existing clients and expand our offerings to new clients.

If the validity of an informed consent from a patient enrolled in a clinical trial with one of our clients was challenged, we could be forced to stop using some of our resources, which would hinder the development efforts for our sequencing and molecular analysis solutions.

We have implemented measures designed to ensure that clinical data and genetic and other biological samples that we receive from our customers have been collected from subjects who have provided appropriate informed consent for purposes which extend to our product development activities. We seek to ensure that these data and samples are provided for processing via our molecular profiling solution in a manner that does not use readily individually identifiable information of the subject. We also have measures in place to ensure that the subjects from whom the data and samples are collected do not retain or have conferred on them any proprietary or commercial rights to the data or any discoveries derived from them. Further, our clients may conduct clinical trials in several different countries, and, to a large extent, we rely upon them to comply with the subject's informed consent and with local law and international regulation. The collection of data and samples in many different countries results in complex legal questions regarding the adequacy of informed consent and the status of genetic material under many different legal systems. The subject's informed consent obtained in any country could be challenged in the future, and those informed consents could prove invalid, unlawful, or otherwise inadequate for our purposes. Any findings against us, or our clients, could deny us access to or force us to stop using some of our clinical samples, which would hinder our molecular profiling solution development efforts. We could become involved in legal challenges, which could consume our management and financial resources.

Failure by our clients to obtain proper permissions and waivers may result in claims against us or may limit or prevent our use of data which could harm our business.

We require our clients and business associates to provide necessary notices and to obtain necessary permissions and waivers for use and disclosure of the information that we receive, and we require contractual assurances from them that they have done so and will do so. If they do not obtain necessary permissions and waivers, then our use and disclosure of information that we receive from them or on their behalf may be limited or prohibited by state or federal privacy laws or other laws. This could impair our functions, processes and databases that reflect, contain or are based upon such data and may prevent use of such data. In addition, this could interfere with or prevent creation or use of rules, analyses or other data-driven activities that benefit us. Moreover, we may be subject to claims or liability for use or disclosure of information by reason of lack of valid notice, permission or waiver. These claims or liabilities could subject us to unexpected costs and adversely affect our operating results.

Our sales cycle can be lengthy and unpredictable, which may cause our revenue and operating results to fluctuate significantly.

Our sales cycle can be lengthy and unpredictable. Our sales efforts involve educating our customers about the use and benefits of our offerings and solutions, including the technical capabilities of our solutions and the potential cost savings and productivity gains achievable by deploying them. Additionally, many of our potential clients are typically already in long-term contracts with their current providers and face significant costs associated with transitioning to our offerings and solutions. As a result, potential customers typically undertake a significant evaluation process, which frequently involves not only NantHealth solutions and component systems infrastructure and platforms but also their existing capabilities and solutions and can result in a lengthy sales cycle. We spend substantial time, effort and money on our sales efforts without any assurance that our efforts will produce any sales. In addition, purchases of NantHealth solutions and component systems infrastructure are frequently subject to budget constraints, multiple approvals and unplanned administrative, processing and other delays. For example, currently, hospitals in the United States face significant uncertainty over the continuing impact of federal government budgets, and continuing changes in the implementation and deadlines for compliance with the Patient Protection and Affordable Care Act of 2010, or ACA, and other healthcare reform legislation, as well as potential future statutes and rulemaking. Many of our potential hospital clients have used all or a significant portion of their revenues to comply with federal mandates to adopt electronic medical records to maintain their Medicaid and Medicare reimbursement levels. In the event we are unable to manage our lengthy and unpredictable sales cycle, our business may be adversely affected.

We bill our clients and recognize revenue over the term of the contract for certain of our products. As a result, near term declines in new or renewed agreements for these products may not be reflected immediately in our operating results and may be difficult to discern.

A portion of our revenue in each quarter is derived from agreements entered with our clients during previous quarters. Consequently, a decline in new or renewed agreements in any one quarter may not be fully reflected in our revenue for that quarter. Such declines, however, would negatively affect our revenue in future periods and the effect of significant downturns in sales of and market demand for certain of our solutions, and potential changes in our rate of renewals or renewal terms, may not be fully reflected in our results of operations until future periods. In addition, we may be unable to adjust our cost structure rapidly, or at all, to take account for reduced revenue. Our subscription model for certain of our solutions also makes it difficult for us to increase our total revenue through additional sales in any quarterly period, as revenue from new clients for those products must be recognized over the applicable term of the agreement. Accordingly, the effect of changes in the industry impacting our business or changes we experience in our new sales may not be reflected in our short-term results of operations.

A large portion of our revenue is derived from a small group of our clients, and the loss of such clients could adversely affect our business.

During the year ended December 31, 2018, we derived 15.3% of our revenue through a single reseller, who contracts with various health plans and other healthcare entities to manage the utilization of specialty health services for their covered members, and another 12.8% and 11.8% of our revenue through two of NaviNet's major customers. During the year ended December 31, 2019, we derived 13.5% of our revenue through this reseller and another 11.1% and 10.4% of our revenue through two of NaviNet's major customers. We cannot guarantee that these clients will continue to contract for our services or acquire new services. The contract governing the reseller relationship is terminable without cause upon 12 months' written notice, but the health plan customer cannot terminate without cause. Additionally, the reseller may not be successful in reselling our products to its covered members, or covered members may reduce their orders for our products for a number of reasons. If this happens, our revenue could be greatly reduced, which would materially and adversely affect our business.

If our existing clients do not continue or renew their agreements with us, renew at lower fee levels or decline to purchase additional applications and services from us, our business and operating results will suffer.

We expect to derive a significant portion of our revenue from renewal of existing customer agreements, and sales of additional applications and services to existing clients. As a result, achieving high customer satisfaction to keep existing clients and sell additional platform offerings is critical to our future operating results.

Factors that may affect the renewal rate for our offerings and our ability to sell additional solutions include:

- the price, performance and functionality of our offerings;
- the availability, price, performance and functionality of competing solutions;
- our ability to develop complementary applications and services;
- our continued ability to access the pricing and claims data necessary to enable us to deliver reliable data in our cost estimation and price transparency offering to customers;
- the stability, performance and security of our hosting infrastructure and hosting services;
- changes in healthcare laws, regulations or trends; and
- the business environment of our clients, in particular, headcount reductions by our clients.

For our SaaS solutions, we typically enter into master services agreements with our clients. These agreements generally have stated terms of three to five years. Our clients have no obligation to renew their subscriptions for our offering after the term expires. In addition, our clients may negotiate terms less advantageous to us upon renewal, which may reduce our revenue from these clients. Factors that are not within our control may contribute to a reduction in our contract revenue. For instance, our clients may reduce their number of employees, which would result in a corresponding reduction in the number of employee users eligible for our offering and thus a lower aggregate monthly services fee. Our future operating results also depend, in part, on our ability to sell new solutions to our existing customers. If our clients fail to renew their agreements, renew their agreements upon less favorable terms or at lower fee levels, or fail to purchase new solutions from us, our revenue may decline, or our future revenue may be constrained.

In addition, a significant number of our customer agreements allow our clients to terminate such agreements for convenience at certain times, typically with one to three months advance notice. Any cancellations of such agreements would have a negative result on our business and results of operations.

If any new applications and services we may develop or acquire are not adopted by our customers, or if we fail to continue to innovate and develop or acquire new applications and services that are adopted by customers, then our revenue and operating results will be adversely affected.

In addition to past investments made in NantHealth solutions, and component systems infrastructure and platforms, we have invested, and will continue to invest, significant resources in research and development and in acquisitions to enhance our existing offerings and introduce new high-quality applications and services. If existing clients are not willing to make additional payments for such new applications or services, or if new clients do not value such new applications or services, our business and operating results will be harmed. If we are unable to predict user preferences or our industry changes, or if we are unable to modify our offering and services on a timely basis, we might lose clients. Our operating results would also suffer if our innovations and acquisitions are not responsive to the needs of our clients, are not appropriately timed with market opportunity or are not effectively brought to market.

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

In the ordinary course of our business, we and our clients, consultants, contractors and business associates collect and store petabytes of sensitive data, including legally protected health information, personally identifiable information, intellectual property and proprietary business information owned or controlled by ourselves or our clients, payers, providers and partners. We manage and maintain our applications and data by utilizing a combination of on-site systems, managed data center systems, and cloud-based data center systems. These applications and data encompass a wide variety of business-critical information, including research and development information, commercial information and business and financial information. We face four primary risks relative to protecting this critical information, including loss of access risk, inappropriate disclosure risk, inappropriate modification risk and the risk of being unable to adequately monitor our controls over the first three risks.

The secure processing, storage, maintenance and transmission of this critical information is vital to our operations and business strategy, and we devote significant resources to protecting such information. Although we take measures to protect sensitive information from unauthorized access or disclosure, our information technology and infrastructure, and that of our third-party billing and collections provider, may be vulnerable to attacks by hackers or viruses or breached due to employee error, malfeasance or other disruptions. Any such breach or interruption could compromise our networks and the information stored there could be accessed by unauthorized parties, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, such as the Health Insurance Portability and Accountability Act, or HIPAA, and regulatory penalties. Although we have implemented security measures and a formal, dedicated enterprise security program to prevent unauthorized access to patient data, there is no guarantee we can continue to protect our online portal or will be able to protect our mobile applications from breach. Unauthorized access, loss or dissemination could also disrupt our operations, including our ability to conduct our analyses, provide test results, bill payers, providers or patients, process claims and appeals, provide customer assistance services, conduct research and development activities, collect, process and prepare company financial information, provide information about our products and other patient and physician education and outreach efforts through our website, manage the administrative aspects of our business and damage our reputation, any of which could adversely affect our business.

The U.S. Office of Civil Rights may impose penalties on us if we do not fully comply with requirements of HIPAA. Penalties will vary significantly depending on factors such as whether we knew or should have known of the failure to comply, or whether our failure to comply was due to willful neglect. These penalties include civil monetary penalties of \$100 to \$50,000 per violation, up to an annual cap of \$1,500,000 for identical violations. A person who knowingly obtains or discloses individually identifiable health information in violation of HIPAA may face a criminal penalty of up to \$50,000 per violation and up to one-year imprisonment. The criminal penalties increase to \$100,000 per violation and up to five years imprisonment if the wrongful conduct involves false pretenses, and to \$250,000 per violation and up to 10 years imprisonment if the wrongful conduct involves the intent to sell, transfer, or use identifiable health information for commercial advantage, personal gain, or malicious harm. The U.S. Department of Justice is responsible for criminal prosecutions under HIPAA. Furthermore, in the event of a breach as defined by HIPAA, we have specific reporting requirements to the Office of Civil Rights under the HIPAA regulations as well as to affected individuals, and we may also have additional reporting requirements to other state and federal regulators, including the Federal Trade Commission, and/or to the media. Issuing such notifications can be costly, time and resource intensive, and can generate significant negative publicity. Breaches of HIPAA may also constitute contractual violations that could lead to contractual damages or terminations.

In addition, the interpretation and application of consumer, health-related and data protection laws in the United States, Europe and elsewhere are often uncertain, contradictory and in flux. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our practices. If so, this could result in government-imposed fines or orders requiring that we change our practices, which could adversely affect our business. In addition, these privacy regulations vary between states, may differ from country to country, and may vary based on whether testing is performed in the United States or in the local country. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business.

We rely on Internet infrastructure, bandwidth providers, data center providers, other third parties and our own systems for providing services to our users, and any failure or interruption in the services provided by these third parties or our own systems could expose us to litigation and negatively impact our relationships with clients, adversely affecting our brand and our business.

Our ability to deliver our internet-based services is dependent on the development and maintenance of the infrastructure of the Internet by third parties. This includes maintenance of a reliable network backbone with the necessary speed, data capacity and security for providing reliable Internet access and services. Our services are designed to operate without interruption in accordance with our service level commitments. However, we expect that we will in the future experience interruptions and delays in services and availability from time to time. We rely on internal systems as well as third-party vendors, including data center providers and bandwidth providers, to provide our services. We store, process and transport petabytes of data and the nature of our business requires us to scale our storage capacity. In the event we are unable to scale appropriately, we may lose clients or fail to realize the network effects of our system and our business may be impaired. We do not maintain redundant systems or facilities for some of these services. In the event of a catastrophic event with respect to one or more of these systems or facilities, we may experience an extended period of system unavailability, which could negatively impact our relationship with users. To operate without interruption, both we and our service providers must guard against:

- damage from fire, power loss and other natural disasters;
- communications failures;
- software and hardware errors, failures and crashes;
- security breaches, computer viruses and similar disruptive problems; and
- other potential interruptions.

Any disruption in the network access or co-location services provided by third-party providers or any failure of or by third-party providers or our own systems to handle current or higher volume of use could significantly harm our business. We exercise limited control over third-party vendors, which increases our vulnerability to problems with services they provide.

Any errors, failures, interruptions or delays experienced in connection with third-party technologies and information services or our own systems could negatively impact our relationships with clients and adversely affect our business and could expose us to third-party liabilities. Although we maintain insurance for our business, the coverage under our policies may not be adequate to compensate us for all losses that may occur. In addition, we cannot provide assurance that we will continue to be able to obtain adequate insurance coverage at an acceptable cost.

The reliability and performance of the Internet may be harmed by increased usage or by denial-of-service attacks. The Internet has experienced a variety of outages and other delays as a result of damages to portions of its infrastructure, and it could face outages and delays in the future. These outages and delays could reduce the level of Internet usage as well as the availability of the Internet to us for delivery of our internet-based services. Any failure to offer high-quality technical support services may adversely affect our relationships with our clients and harm our financial results.

Because of the complexity of the issues facing healthcare providers and payers and the inherent complexity of our solutions to such issues, our clients depend on our support organization to resolve any technical issues relating to our offering. In addition, our sales process is highly dependent on the quality of our offerings, our business reputation and on strong recommendations from our existing clients. Any failure to maintain high-quality and highly responsive technical support, or a market perception that we do not maintain high-quality and highly responsive support, could harm our reputation, adversely affect our ability to sell our offering to existing and prospective clients, and harm our business, operating results and financial condition.

We offer technical support services with our offerings and we may be unable to respond quickly enough to accommodate short-term increases in customer demand for support services, particularly as we increase the size of our customer base. We also may be unable to modify the format of our support services to compete with changes in support services provided by competitors. It is difficult to predict customer demand for technical support services and if customer demand increases significantly, we may be unable to provide satisfactory support services to our clients and their constituents. Additionally, increased customer demand for these services, without corresponding revenue, could increase costs and adversely affect our operating results.

If we cannot implement NantHealth solutions and component systems infrastructure and platforms for customers in a timely manner, we may lose customers and our reputation may be harmed.

Our clients have a variety of different data formats, enterprise applications and infrastructures, and NantHealth solutions and component systems infrastructure and platforms, must support our clients' data formats and integrate with complex enterprise applications and infrastructures. Similarly, our connectivity devices and applications must interact with a wide variety of devices and data formats. If our platforms do not currently support a customer's required data format or appropriately integrate with a customer's applications and infrastructure, then we must configure our systems infrastructure to do so, which increases our expenses. Additionally, we do not control our clients' implementation schedules. As a result, if our clients do not allocate internal resources necessary to meet their implementation responsibilities or if we face unanticipated implementation difficulties, the implementation may be delayed. Further, our implementation capacity has at times constrained our ability to successfully implement our offering for our clients in a timely manner, particularly during periods of high demand. If the customer implementation process is not executed successfully or if execution is delayed, we could incur significant costs, customers could become dissatisfied and decide not to increase usage of our offering, or not to use our offering beyond an initial period prior to their term commitment or, in some cases, revenue recognition could be delayed. In addition, competitors with more efficient operating models with lower implementation costs could penetrate our customer relationships.

Additionally, large and demanding enterprise clients, who currently comprise most of our customer base, may request or require specific features or functions unique to their business processes, which increase our upfront investment in sales and deployment efforts and the revenue resulting from the clients under our typical contract length may not cover the upfront investments. If prospective large customers require specific features or functions that we do not offer, then the market for our offering will be more limited and our business could suffer.

In addition, supporting large clients could require us to devote significant development services and support personnel and strain our personnel resources and infrastructure. Furthermore, if we are unable to address the needs of these clients in a timely fashion or further develop and enhance our offering, or if a client or its constituents are not satisfied with the quality of work performed by us or with the offerings delivered or professional services rendered, then we could incur additional costs to address the situation, we may be required to issue credits or refunds for pre-paid amounts related to unused services, the profitability of that work might be impaired and the client's dissatisfaction with our offerings could damage our ability to expand the number of applications and services purchased by that client. Furthermore, if a client or its constituents do not opt into or need certain aspects of our offering, there may not be enough demand for that aspect of our offering to warrant future purchases by that client, or the client may seek to terminate their relationship with us. These clients may not renew their agreements, seek to terminate their relationship with us or renew on less favorable terms. Moreover, negative publicity related to our client relationships, regardless of its accuracy, may further damage our business by affecting our ability to compete for new business with current and prospective clients. If any of these were to occur, our revenue may decline, and our operating results could be adversely affected.

We face intense competition in our markets, and we may be unable to compete effectively for new clients.

Although our product offerings target the new and emerging market for evidence-based personalized healthcare technology solutions, we compete against a variety of large software vendors and smaller specialized companies, open source initiatives and custom development efforts, which provide solutions in the specific markets we address. Our principal competitors include:

- Payer-provider collaboration vendors such as Availity, LLC, Change Healthcare, Inc. (formerly Emdeon), Experian Information Solutions, Inc. (including its Passport division), Healthx, Inc. and HealthTrio, LLC;
- Medical device data system and device connectivity vendors, such as Capsule Technologies, Inc., Cerner Corporation, Koninklijke Philips N.V. and Excel Medical Electronics LLC; and
- Healthcare information technology decision support vendors such as The Advisory Board Company, Castlight Health, Inc., or Castlight Health, eviCore healthcare, HealthCatalyst, Inc., or HealthCatalyst, International Business Machines Corporation, or IBM, Inovalon Holdings, Inc., or Inovalon, and Truven Health Analytics, or Truven (acquired by IBM).

The principal competitive factors in our markets include product features, performance and support, product scalability and flexibility, ease of deployment and use, total cost of ownership and time to value. Some of our actual and potential competitors have advantages over us, such as longer operating histories, significantly greater financial, technical, marketing or other resources, stronger brand and business user recognition, larger intellectual property portfolios and broader global distribution and presence. Further, competitors may be able to offer products or functionality similar to ours at a more attractive price than we can by integrating or bundling their software products with their other product offerings. In addition, our industry is evolving rapidly and is becoming increasingly competitive. Larger and more established companies may focus on creating a learning system or solutions that could directly compete with one or more of our offerings. If companies move a greater proportion of their data and computational needs to the cloud, new competitors may emerge which offer services comparable to ours or that are better suited for cloud-based data, and the demand for one or more of our offerings may decrease. Smaller companies could also launch new products and services that we do not offer and that could gain market acceptance quickly.

In recent years, there have been significant acquisitions and consolidation by and among our actual and potential competitors. We anticipate this trend of consolidation will continue, which will present heightened competitive challenges to our business. In particular, consolidation in our industry increases the likelihood of our competitors offering bundled or integrated products, and we believe that it may increase the competitive pressures we face with respect to our solutions. If we are unable to differentiate one or more of our offerings from the integrated or bundled products of our competitors, such as by offering enhanced functionality, performance or value, we may see decreased demand for those solutions, which would adversely affect our business, results of operations, financial condition and cash flows. Further, it is possible that continued industry consolidation may impact our clients' and prospective clients' perceptions of the viability of smaller or even medium-sized software firms and, consequently, their willingness to use technology solutions from such firms. Similarly, if customers seek to concentrate their technology purchases in the product portfolios of a few large providers, we may be at a competitive disadvantage regardless of the performance and features of our offerings. We believe that in order to remain competitive at the large enterprise level, we will need to develop and expand relationships with resellers and large system integrators that provide a broad range of products and services. If we are unable to compete effectively, our business, results of operations, financial condition and cash flows could be materially and adversely affected.

The healthcare technology industry in which we operate is subject to rapidly changing technologies and trends, each of which could contribute to making our products obsolete.

The markets for cloud-based data platforms and internet-based business services such as NantHealth solutions and component systems infrastructure and platforms and their associated offerings, are in the early stages of development, but the market is competitive even at this stage, and we expect it to attract increased competition, which could make it hard for us to succeed. We currently face competition for one or more of our offerings from a range of companies, including EHR vendors such as Allscripts, Cerner, Epic, and GE Healthcare, and healthcare IT decision support vendors such as Castlight Health, IBM, Inovalon and Truven (acquired by IBM). In addition, large, well-financed health plans, with whom we cooperate and on whom we depend in order to obtain the pricing and claims data we need to deliver our offerings to customers have in some cases developed their own cost and quality estimation tools and provide these solutions to their customers at discounted prices or often for free. If enterprises do not perceive the benefits of our services, then the market for these services may not develop at all, or it may develop more slowly than we expect, either of which would materially adversely affect our operating results. In addition, as a new company in this unproven market, we have limited insight into trends that may develop and affect our business. We may make errors in predicting and reacting to relevant business trends, which could harm our business. If any of these risks occur, it could materially adversely affect our business, financial condition or results of operations.

Healthcare industry consolidation could impose pressure on our prices, reduce our potential client base and reduce demand for one or more of our offerings.

Many hospitals, imaging centers and third-party payers have consolidated to create larger healthcare enterprises with greater market and purchasing power. In addition, group purchasing organizations and managed care organizations could increase pressure on providers of healthcare related services to reduce prices. If this consolidation trend continues, it could reduce the size of our potential customer base and give the resulting enterprises greater bargaining or purchasing power, which may lead to erosion of the prices for our software or decreased margins for our offerings.

Our offerings may experience quality problems from time to time that can result in decreased sales, decreased operating margins and harm to our reputation.

We sell and/or rely upon complex software and hardware products and services that may contain design and manufacturing defects. Sophisticated operating system software and applications, such as those sold by us, often contain “bugs” that can unexpectedly interfere with the software’s intended operation. Our online services may from time to time experience outages, service slowdowns, or errors. Defects may also occur in components and products we purchase from third parties. There can be no assurance we will be able to detect and fix all defects in the hardware, software and services third parties sell to us. Failure to do so could result in lost revenue, significant warranty and other expenses and harm to our reputation.

Risks related to our software and medical device solutions

Our solutions may experience design or manufacturing defects from time to time that can result in reduced network effects to NantHealth solutions and component systems infrastructure and platforms which could materially and adversely affect our business.

We sell and/or rely upon software and hardware solutions, that could contain design or manufacturing defects in their materials, hardware, or software. These defects could include defective materials or components, or “bugs” that can unexpectedly interfere with the products’ intended operations or result in inaccurate data. Failure to detect, prevent, or fix defects could result in a variety of consequences, including returns of products, regulatory proceedings, product recalls, and litigation, which could harm our revenue and operating results. If our products fail to provide accurate measurements and data to users, then the network effects of our adaptive clinical learning system may be materially and adversely impacted.

Our solutions could give rise to product liability claims and product recall events that could materially and adversely affect our financial condition and results of operations.

The development, manufacturing and sale of lmedical devices and/or test services that utilize medical devices expose us to significant risk of product liability claims, product recalls and, occasionally, product failure claims. We face an inherent business risk of financial exposure to product liability claims if the use of our solutions or services, including lab testing services, results in personal injury or death. Substantial product liability litigation currently exists within the medical device industry. Some of our solutions or services may become subject to product liability claims and/or product recalls. Future product liability claims and/or product recall costs may exceed the limits of our insurance coverages or such insurance may not continue to be available to us on commercially reasonable terms, or at all. In addition, a significant product liability claim, or product recall could significantly damage our reputation for producing safe, reliable and effective products, making it more difficult for us to market and sell our products in the future. Consequently, a product liability claim, product recall or other claim could have a material adverse effect on our business, financial condition, operating results and cash flows.

The sale of test services and medical device products in the United States is subject to government regulations and we may not be able to obtain certain necessary clearances or approvals.

The design, manufacturing, labeling, distribution and marketing of medical devices in the United States are subject to extensive and rigorous regulation by the FDA and applicable state agencies. Unless an exemption applies, we or our collaborative partners must obtain prior clearance or approval from the FDA for medical devices we intend to commercialize, which can be expensive, time consuming, and uncertain and can cause lengthy delays before we can begin selling our products. We cannot be sure that:

- we or any collaborative partner will make timely filings with the FDA;
- the FDA will act favorably or quickly on these submissions;
- we or any collaborative partner will not be required to submit additional information, including extensive clinical data;
- we or any collaborative partner will not be required to submit an application for premarket approval, rather than a 510(k) premarket notification submission or a de novo application as described herein;
- government regulations of IVDs or LDTs may change over time, imposing additional regulatory requirements and/or regulatory clearances, approvals or authorizations before we can market or distribute our products or product candidates; or
- other significant difficulties and costs related to obtaining FDA clearance or approval will not be encountered.

The FDA imposes strict labeling and other regulatory requirements as a condition of its clearance or approval, any of which could limit our ability to market our products. Further, if we or our collaborative partners wish to modify a product after FDA clearance of a premarket notification or approval of a premarket approval application, including changes in indications or other modifications that could affect safety or efficacy, additional clearances or approvals will be required from the FDA. Any request by the FDA for additional data, or any requirement by the FDA that we or our collaborative partners conduct clinical studies or submit to the more rigorous and lengthier premarket approval process, could result in substantial expenses and significant delays in bringing our products to market. Similarly, any labeling or other conditions or restrictions imposed by the FDA on the marketing of our products could hinder our ability to effectively market our products. Any of the above actions by the FDA could delay or prevent altogether our ability to market and distribute our products. Further, there may be new FDA policies or changes in FDA policies that could be adverse to us.

Even if we obtain clearance or approval to sell medical device products, we are subject to ongoing requirements and inspections that could lead to the restriction, suspension or revocation of our clearance or approval.

Ongoing compliance with applicable regulatory requirements is enforced in the United States, in part, through periodic inspections by state and federal agencies, including the FDA, and in international jurisdictions by comparable regulatory authorities, including Notified Bodies. In the past, we have conducted investigations designed to determine whether we meet such regulatory requirements and have identified non-conformances and areas that need improvement. Though we strive to comply with such regulations, there can be no guarantee that the applicable regulators will find that we are in compliance with such regulations in the future. Failure to comply with these regulatory requirements could result in adverse administrative and enforcement actions, including, among other things, warning letters, fines, injunctions, civil penalties, recall or seizure of products, total or partial suspension of production, failure to obtain premarket clearance or premarket approval for devices, withdrawal of approvals previously obtained, and criminal prosecution. The restriction, suspension or revocation of regulatory clearances and approvals or any other failure to comply with regulatory requirements would limit our ability to operate and could increase our costs.

Risks related to our relationships with other companies

Our ability to achieve profitability is dependent upon the success of NantOmics.

We currently secure all of our rights to our sequencing and molecular analysis solutions, including GPS Cancer, from NantOmics. The prospects for these offerings depend in part on the expertise and financial strength of NantOmics, which is controlled by Dr. Patrick Soon-Shiong, our Chairman and Chief Executive Officer. We rely on NantOmics to handle certain aspects of our sequencing and molecular analysis solutions, including GPS Cancer, including but not limited to:

- acquiring appropriate and cost-efficient supplies to produce our sequencing and molecular analysis solutions;
- delivering our sequencing and molecular analysis solutions in a timely manner to us;
- continuing to keep our sequencing and molecular analysis solutions up to date and on pace with current clinical and market developments;
- filing, prosecuting and maintaining patents that cover our sequencing and molecular analysis solutions;
- complying with CLIA regulations and maintaining a CLIA license and all other applicable state laboratory licenses, including through periodic inspections;
- obtaining required regulatory authorizations, clearances, or approvals for diagnostic tests;
- complying with applicable federal, state, and local laws and regulations pertaining to testing human samples; and
- hiring qualified personnel experienced in completing highly complex laboratory tests.

We are responsible for various aspects of delivering our sequencing and molecular analysis solutions, including but not limited to communications with patients and providers such as providing interpretations of the GPS Cancer reports and resolving any disputes, ensuring customer satisfaction, billing and collections and patient and physician engagement. At December 31, 2018, September 30, 2018, June 30, 2017 and December 31, 2016, we determined that other than temporary impairments of \$14.8 million, \$80.4 million, \$33.9 million and \$29.8 million, respectively, in the value of the investment in NantOmics had occurred, predominantly attributed to declines in the value of goodwill. The estimated decline in fair value at December 31, 2018 was primarily due to altered pricing assumptions for the reseller agreement between the Company and NantOmics. The estimated declines in fair value at September 30, 2018, June 30, 2017 and December 31, 2016 were primarily caused by changes in projected GPS Cancer revenue, due to delays in the Company's GPS Cancer revenue growth and changes in the risk profile of our financial projections for NantOmics. If NantOmics is unable to successfully handle its aspects of our sequencing and molecular analysis solutions or we are unable to successfully handle our aspects of delivering our sequencing and molecular analysis solutions, our business will be adversely affected.

If we are unable to renew our agreement with NantOmics or locate a suitable replacement upon expiration of such agreement at comparable prices, our business would be materially and adversely affected.

Our second amended and restated exclusive reseller agreement with NantOmics, as amended, or the Reseller Agreement, expires on December 31, 2020, subject to three potential three-year renewal options if we complete specified projected GPS Cancer test thresholds. Although NantOmics generally does not have the right to terminate prior to that date, we may be unable to renew such agreement or execute a new arrangement at comparable favorable prices to provide us with molecular profiling tests. In addition, we may not be able to achieve our projected renewal thresholds. Furthermore, NantOmics currently has what we believe is the most comprehensive and clinically validated CAP- and CLIA-certified whole genome/exome and RNA laboratory. If we were unable to fulfill our delivery requirements for our sequencing and molecular analysis solutions to our clients, our business would be materially and adversely affected.

Additionally, through our agreement with NantOmics, we purchase our sequencing and molecular analysis solutions, including GPS Cancer, at a discount to market price. We also receive revenue from our sale of NantOmics' whole genome/exome sequencing and RNA analysis. If we are reimbursed at an amount equal to or less than a certain threshold, our GPS Cancer solution will not be profitable and our business will be materially and adversely affected. Since we expect that pricing pressure from government and third party payers, increasing competition from companies and others offering whole genome/exome sequencing and reductions in the costs of providing whole genome/exome sequencing as technologies mature, will combine to drive the price of whole genome/exome sequencing down, we cannot guarantee that the price we are able to charge for our GPS Cancer solution will continue to yield a profit under the terms of the exclusive reseller agreement.

We rely on third-party computer hardware and software that may be difficult to replace or which could cause errors or failures of our service which could damage our reputation, harm our ability to attract and maintain clients and decrease our revenue.

We rely on computer hardware purchased or leased and software licensed from third parties in order to offer our service. These licenses are generally commercially available on varying terms; however, it is possible that this hardware and software may not continue to be available on commercially reasonable terms, or at all. Any loss of the right to use any of this hardware or software could result in delays in providing NantHealth solutions (including Eviti, NaviNet apps, Connected Care solutions, and our sequencing and molecular analysis solutions) until equivalent technology is either developed by us, or, if available, is identified, obtained and integrated, which could harm our business. Any errors or defects in third-party hardware or software could result in errors or a failure of our service which could damage our reputation, harm our ability to attract and maintain clients and decrease our revenue.

We are heavily dependent on our senior management, particularly Dr. Patrick Soon-Shiong, and a loss of a member of our senior management team in the future could harm our business.

If we lose members of our senior management, we may not be able to find appropriate replacements on a timely basis, and our business could be adversely affected. Our existing operations and continued future development depend to a significant extent upon the continued performance and active participation of certain key individuals, including Dr. Patrick Soon-Shiong, our Chairman, Chief Executive Officer and our principal stockholder. Although we expect Dr. Patrick Soon-Shiong will continue to devote on average at least 20 hours per week to our company, he will continue to primarily focus on NantKwest, Inc., or NantKwest, a publicly-traded, clinical-stage immunotherapy company, of which he is Chairman and Chief Executive Officer. Dr. Patrick Soon-Shiong will also devote time to other companies operating under NantWorks, a collection of multiple companies in the healthcare and technology space that Dr. Patrick Soon-Shiong founded in 2011. We do not believe Dr. Patrick Soon-Shiong has any material conflicting obligations as a result of his involvement with other companies. Additionally, we are dependent on commercial relationships with various other parties affiliated with NantWorks and with Dr. Patrick Soon-Shiong, including NantOmics, as described in Note 20 of the accompanying notes to the Consolidated Financial Statements, and we may enter into additional relationships in the future. If Dr. Patrick Soon-Shiong was to cease his affiliation with us or with NantWorks, these entities may be unwilling to continue these relationships with us on commercially reasonable terms, or at all. The risks related to our dependence upon Dr. Patrick Soon-Shiong are particularly acute given his ownership percentage and role in our company. If we were to lose Dr. Patrick Soon-Shiong, we may not be able to find appropriate replacements on a timely basis and our financial condition and results of operations could be materially adversely affected. We have not entered into, nor do we intend to enter into, an employment agreement with Dr. Patrick Soon-Shiong.

We face significant competition for employees from other healthcare-related companies, which include both publicly-traded and privately-held companies, and we may not be able to hire new employees quickly enough to meet our needs. To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided equity incentives that vest over time and, in some cases, upon the occurrence of certain events. The value to employees of these equity incentives that vest over time may be significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract more lucrative offers from other companies. Although we have employment agreements with certain of our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. We do not maintain "key man" insurance policies on the lives of these individuals or the lives of any of our other employees.

If we and NantOmics are unable to support demand for our sequencing and molecular analysis solutions, including GPS Cancer, including ensuring that we have adequate capacity to meet increased demand, or we or NantOmics are unable to successfully manage the evolution of its molecular information platform, our business could suffer.

As our volume grows, we and NantOmics will need to increase capacity and improve processes to support growing demand. Our sequencing and molecular analysis solutions will need additional certified laboratory scientists and other scientific and technical personnel to process higher volumes of our molecular information products. Portions of our process are not automated and will require additional personnel to scale. We and NantOmics will also need to purchase additional equipment, some of which can take several months or more to procure, setup and validate, and will need to increase our software and computing capacity to meet increased demand. There is no assurance that any of these increases in scale, expansion of personnel, equipment, software and computing capacities, or process enhancements will be successfully implemented.

As additional products are commercialized, including molecular profiling solutions for additional disease indications, we and NantOmics will need to incorporate new equipment, implement new technology systems and laboratory processes, and hire new personnel with different qualifications. Failure to manage growth or a transition to new technologies or processes could result in turnaround time delays, higher product costs, declining product quality, deteriorating customer service, and slower responses to competitive challenges. A failure in any one of these areas could make it difficult for us to meet market expectations for our products and could damage our reputation and the prospects for our business.

Risks related to our business generally

We have in the past and may in the future acquire other companies or technologies, which could divert our management's attention, result in dilution to our stockholders and otherwise disrupt our operations and adversely affect our operating results.

Part of our business model is the acquisition of technologies and businesses that promote our transformational vision for personalized healthcare. We have in the past and may in the future seek to acquire or invest in additional businesses, applications, services and/or technologies that we believe complement or expand our offerings, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated.

For example, in January 2016, we acquired NaviNet to bolster our payer platform and, in February 2018, we acquired NantHealth Labs to expand into the liquid tumor profiling market and sold a commercial liquid biopsy test product (marketed as Liquid GPS). In the second quarter of 2019, we ceased commercial sales of the Liquid GPS product and intend to explore strategically aligned clinical studies for our liquid biopsy platform. Realizing the benefits of these acquisitions and any future acquisition depend upon the successful integration into our existing operations, and we may not be able to integrate the acquired personnel, operations and technologies successfully, or effectively manage the combined business following the acquisition. We also may not realize the anticipated benefits from any acquired business due to several factors, including:

- inability to integrate or benefit from acquired technologies or services in a profitable manner;
- unanticipated costs or liabilities associated with the acquisition;
- difficulty integrating the accounting systems, operations and personnel of the acquired business;
- difficulties and additional expenses associated with supporting legacy products and hosting infrastructure of the acquired business;
- difficulty converting the customers of the acquired business onto our platform and contract terms, including disparities in the revenue, licensing, support or professional services model of the acquired company;
- difficulty in cross-selling our existing solutions and offerings to the acquired business' customers;
- diversion of management's attention from other business concerns;
- adverse effects to our existing business relationships with business partners and customers as a result of the acquisition;

- the potential loss of key employees;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. As of December 31, 2019, the total value of our goodwill and intangible assets, net of accumulated amortization was \$167.8 million. If our acquisitions do not yield expected returns, we have in the past, and may in the future, be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations.

Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if the acquisition of NaviNet, NantHealth Labs, or any other business we may acquire in the future fails to meet our expectations, our operating results, business and financial position may suffer.

We cannot assure you that we will be successful in integrating certain assets of NaviNet, NantHealth Labs, or any other businesses or technologies we may acquire. The failure to successfully integrate these businesses could have a material adverse effect on our business, financial condition, or results of operations.

If our new components and enhancements to our test platform do not achieve sufficient market acceptance, our financial results and competitive position will suffer.

We and NantOmics spend substantial amounts of time and money to research and develop new tests and to optimize the utility and value of our tests for physicians and their patients. When we develop a new component or enhancement to our test platform, we typically incur expenses and expend resources upfront to develop, market and promote the new component. Therefore, when we develop and introduce new components or enhancements to our test platform, they must achieve high levels of market acceptance in order to justify the amount of our investment in developing and bringing them to market. For example, if GPS Cancer does not garner widespread market adoption and implementation, our growth prospects, future financial results and competitive position could suffer.

Our new components or enhancements to our test platform and changes to our test platform could fail to attain sufficient market acceptance for many reasons, including:

- our failure to predict physician and patient market demand accurately in terms of test platform functionality and to supply a test platform that meets this demand in a timely fashion;
- delays in releasing to the market our new components or enhancements to our test platform to the market;
- failing to keep our sequencing and molecular analysis solutions up to date and on pace with current clinical and market developments;
- complexity in the implementation or utilization of the new components and enhancements;
- negative publicity about their performance or effectiveness;
- introduction or anticipated introduction of competing test platforms and products by our competitors;
- poor business conditions for our physician customers, causing them to delay IT purchases.

If our new components or enhancements and changes do not achieve adequate acceptance in the market, physician customers and their patients may choose to use a competitor's platform instead, our competitive position would be impaired, and our revenue would be diminished. The adverse effect on our financial results may be particularly acute because of the significant research, development, marketing, sales and other expenses we would have incurred in connection with the new components or enhancements.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics, acts of terrorism, acts of war and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. Our corporate headquarters are in Culver City, California near major earthquake faults and fire zones. We attempt to mitigate these risks through various means including redundant infrastructure, disaster recovery plans, separate test systems and change control and system security measures, but our precautions will not protect against all potential problems. If our clients' access is interrupted because of problems in the operation of our facilities, we could be exposed to significant claims by clients or their patients, particularly if the access interruption is associated with problems in the timely delivery of funds due to clients or medical information relevant to patient care. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.

As of the date of this Annual Report on Form 10-K, we serve our clients primarily from third-party data hosting facilities. We do not control the operation of these third-party facilities, and they are vulnerable to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures and similar events. They are also subject to break-ins, sabotage, intentional acts of vandalism and similar misconduct. Despite precautions taken at these facilities, the occurrence of a natural disaster or a crime, a decision to close the facilities without adequate notice or other unanticipated problems at these facilities could result in lengthy interruptions in our service. Even with the disaster recovery arrangements, our service could be interrupted.

We may, from time to time, transition our data hosting to new or alternative providers. In connection with these transitions, we will be moving, transferring or installing some of our equipment, data and software to and in other facilities. Despite precautions taken during this process, any unsuccessful transfers may impair the delivery of our one or more of our offerings. Further, any damage to, or failure of, our systems generally could result in interruptions in one or more of our offerings. Interruptions in our service may reduce our revenue, cause us to issue credits or pay penalties, may cause clients to terminate one or more of our offerings and may adversely affect our renewal rates and our ability to attract new clients. Our business may also be harmed if our clients and potential clients believe one or more of our offerings are unreliable.

If we fail to develop widespread brand awareness, our business may suffer.

We believe that developing and maintaining widespread awareness of our brand is critical to achieving widespread adoption of our offering and attracting new customers. Brand promotion activities may not generate customer awareness or increase revenue, and even if they do, any increase in revenue may not offset the expenses we incur in building our brand. If we fail to successfully promote and maintain our brand, or incur substantial expenses in doing so, we may fail to attract or retain customers necessary to realize a sufficient return on our brand-building efforts, or to achieve the widespread brand awareness that is critical for broad customer adoption of our offerings.

Our marketing efforts depend significantly on our ability to receive positive references from our existing customers.

Our marketing efforts depend significantly on our ability to call on our current customers to provide positive references to new, potential customers. Given our limited number of long-term customers, the loss or dissatisfaction of any customer could substantially harm our brand and reputation, inhibit the market adoption of our offerings and impair our ability to attract new customers and maintain existing customers. Any of these consequences could have a material adverse effect on our business, financial condition and results of operations.

If we become subject to product liability or other litigation, we may incur substantial liabilities and may be required to limit commercialization of our current and any future products.

We are from time to time subject to legal proceedings and claims that arise in the ordinary course of business, such as claims brought by our clients in connection with commercial disputes and employment claims made by our current or former employees. Litigation, regardless of merit, may result in substantial costs and may divert management's attention and resources, which may harm our business.

Our services, some of which involve recommendations and advice to healthcare providers regarding complex business and operational processes, regulatory and compliance issues and patient treatment options, may give rise to liability claims by our members or by third parties who bring claims against us. In addition, third parties, including former employees, have in the past, and may in the future, file lawsuits alleging non-compliance with government regulations. Investigating and defending such claims, even if they lack merit, may require significant time and resources and could damage our reputation and harm our business.

We maintain product and other insurance, but this insurance may not fully protect us from the financial impact of defending against product liability or other claims. Any product liability or other claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability lawsuit could damage our reputation, or cause current clients to terminate existing agreements and potential clients to seek other vendors, any of which could impact our results of operations.

We are subject to changes in and interpretations of financial accounting matters that govern the measurement of our performance, one or more of which could adversely affect our business.

Based on our reading and interpretations of relevant guidance, principles or concepts issued by, among other authorities, the American Institute of Certified Public Accountants, the Financial Accounting Standards Board and the Securities and Exchange Commission, or SEC, we believe our current sales and licensing contract terms and business arrangements have been properly reported. However, this guidance involves interpretations, and there continue to be issued interpretations and guidance for applying the relevant standards to a wide range of sales and licensing contract terms and business arrangements that are prevalent in the software industry. For example, we must apply significant judgment to determine whether revenue should be recognized on a gross or net basis for our reseller arrangements, including revenue under our reseller agreement with NantOmics. Disagreement with the regulators as to our current interpretations and any future changes by the regulators of existing accounting standards or changes in our business practices could result in changes in our revenue recognition and/or other accounting policies and practices that could adversely affect our business.

Failure to manage our future growth effectively could increase our expenses, decrease our revenue and prevent us from implementing our business strategy.

To manage our anticipated future growth effectively, we must continue to maintain and may need to enhance our information technology infrastructure, financial and accounting systems and controls and manage expanded operations in geographically-diverse locations. We also must attract, train and retain a significant number of qualified sales and marketing personnel, professional services personnel, software engineers, technical personnel and management personnel. Failure to manage our rapid growth effectively could lead us to over invest or under invest in technology and operations, could result in weaknesses in our infrastructure, systems or controls, could give rise to operational mistakes, losses, loss of productivity or business opportunities, and could result in loss of employees and reduced productivity of remaining employees. Our growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of new services. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our revenue could decline or may grow more slowly than expected, and we may be unable to implement our business strategy.

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

Our market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. Our estimates and forecasts regarding the size and expected growth of the healthcare information technology and molecular analysis markets may prove to be inaccurate. Even if the markets in which we compete meet our size estimates and forecasted growth, our business could fail to grow at similar rates, if at all.

The industry-and market-related estimates we rely upon are based on various assumptions and may prove to be inaccurate.

Industry-and market-related estimates we rely upon, including, without limitation, estimates related to our market size and industry data, are subject to uncertainty and are based on assumptions which may not prove to be accurate. This may have negative consequences, such as us overestimating our potential market opportunity.

We are exposed to risks related to our international operations and failure to manage these risks may adversely affect our operating results and financial condition.

We are a global company with operations both inside and outside the United States. For example, we have foreign wholly owned subsidiaries, including NantHealth Singapore Pte Ltd., New NantHealth Canada, Inc. and NaviNet Limited. As a result, a portion of our operations are conducted by and/or rely on entities outside the United States. We may therefore be denied access to our customers or suppliers as a result of economic, legislative, political and military conditions in such countries.

International operations are subject to several other inherent risks, and our future results could be adversely affected by several factors, including:

- requirements or preferences for domestic products or solutions, which could reduce demand for our products;
- differing existing or future regulatory and certification requirements;
- management communication and integration problems resulting from cultural and geographic dispersion;
- greater difficulty in collecting accounts receivable and longer collection periods;
- difficulties in enforcing contracts;
- difficulties and costs of staffing and managing non-U.S. operations;

- the uncertainty of protection for intellectual property rights in some countries;
- tariffs and trade barriers, export regulations and other regulatory and contractual limitations on our ability to sell our products;
- greater risk of a failure of foreign employees to comply with both U.S. and foreign laws, including export and antitrust regulations, the FCPA and any trade regulations ensuring fair trade practices;
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements;
- potentially adverse tax consequences, including multiple and possibly overlapping tax structures;
- the impact of public health epidemics on our employees and suppliers as well as the global economy such as the coronavirus currently impacting China; and
- political and economic instability, political unrest and terrorism.

In addition, the expansion of our existing international operations and entry into additional international markets has required, and will continue to require, significant management attention and financial resources. These factors and other factors could harm our ability to gain future revenues and, consequently, materially impact our business, financial condition and results of operations.

The United Kingdom's vote to leave the European Union will have uncertain effects and could adversely affect us.

On June 23, 2016, a referendum was held on the UK's membership in the European Union, or the EU, the outcome of which was a vote in favor of leaving the EU, or the Brexit.

On June 23, 2016, the electorate in the United Kingdom, or UK, voted in favor of leaving the European Union, or EU, (commonly referred to as the "Brexit"). The UK held an election in December 2019, resulting in a majority government that is expected to complete its departure from the UE whether or not a formal withdrawal agreement is in place with the European Union. Following the United Kingdom's departure from the EU on January 31, 2020 under the terms of the Withdrawal Agreement, there will be a "transition period" ending December 31, 2020 during which the United Kingdom will essentially be treated as a Member State of the EU and the regulatory regime will remain the same across the United Kingdom and the EU. The U.K. government is currently legislating to require the transition period to end on December 31, 2020 without the possibility to extend further. It is unclear whether there would be any formal regulatory alignment between United Kingdom and EU rules after January 1, 2021. Since the regulatory framework for medical device or in vitro diagnostic products in the United Kingdom relating to safety and efficacy of such products, clinical trials, marketing authorization, commercial sales and distribution of such products is derived from EU directives and regulations, Brexit will materially impact the future regulatory regime which applies to products and the approval of product candidates in the United Kingdom. Brexit creates an uncertain political and economic environment in the UK and potentially across other EU member states for the foreseeable future, including during any period while the terms of Brexit are being negotiated and such uncertainties could impair or limit our ability to transact business in the member EU states. In the long term, the United Kingdom may develop its own legislation that diverges from that in the EU.

Further, Brexit could adversely affect European and worldwide economic or market conditions and could contribute to instability in global financial markets, and the value of the Pound Sterling currency or other currencies, including the Euro. We are exposed to the economic, market and fiscal conditions in the UK and the EU and to changes in any of these conditions. Brexit could change the legal and regulatory framework within the UK where we operate and is likely to lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which EU laws to replace or replicate. Consequently, no assurance can be given as to the impact of Brexit and, in particular, no assurance can be given that our operating results, financial condition and prospects would not be adversely impacted by the result.

Risks related to intellectual property

We may be unable to adequately protect, and we may incur significant costs in enforcing, our intellectual property and other proprietary rights.

Our success depends in part on our ability to enforce our intellectual property and other proprietary rights. We rely upon a combination of trademark, trade secret, copyright, patent and unfair competition laws, as well as license and access agreements and other contractual provisions, to protect our intellectual property and other proprietary rights. In addition, we attempt to protect our intellectual property and proprietary information by requiring certain of our employees and consultants to enter into confidentiality, noncompetition and assignment of inventions agreements. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, eroding our competitive position in the market. Moreover, we do not have any written contractual agreements with respect to any intellectual property and technology that relate to our business developed in the future by our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong. In the event we are unable to protect our intellectual property and proprietary information, including in particular with respect to such property or information created by Dr. Patrick Soon-Shiong, our business would be adversely affected. In addition, our attempts to protect our intellectual property may be challenged by others or invalidated through administrative process or litigation.

We have developed, acquired, and licensed numerous patents and patent applications and we possess substantial know-how and trade secrets relating to the development and commercialization of healthcare technology products and services. In January 2016, we acquired NaviNet, a leading payer-provider collaboration platform, and in February 2018 we acquired NantHealth Labs, Inc. (formerly Liquid Genomics, Inc.) a liquid tumor profiling company. As part of these and other acquisitions, we acquired patents and other intellectual property. As of December 31, 2019, our patent portfolio consists of the following matters relating to our proprietary technology and inventions: (i) thirteen (13) issued U.S. patents, of which twelve (12) are U.S. utility patents and one (1) is a U.S. design patent; (ii) twenty-one (21) pending U.S. patent applications, of which nineteen (19) are U.S. utility patent applications and two (2) are U.S. design patent applications; (iii) four (4) issued patents outside the United States; and (iv) seventeen (17) patent applications pending in jurisdictions outside the United States. Of these U.S. and non-U.S. patents and applications, five (5) patents and eight (8) applications are jointly owned. As of February 11, 2020, following the sale of the Company's "Connected Care" business, our patent portfolio consisted of the following matters relating to our proprietary technology and inventions: (i) seven (7) issued U.S. utility patents; (ii) fifteen (15) pending U.S. patent applications, of which thirteen (13) are U.S. utility patent applications and two (2) are U.S. design patent applications; (iii) four (4) issued patents outside the United States; and (iv) seventeen (17) patent applications pending in jurisdictions outside the United States. Of these U.S. and non-U.S. patents and applications, five (5) patents and eight (8) applications are jointly owned. We believe we have intellectual property rights that are necessary to commercialize our healthcare technology products and services. However, our patent applications may not result in issued patents, and, even if issued, the patents may be challenged and invalidated. Moreover, our patents and patent applications may not be sufficiently broad to prevent others from practicing our technologies or developing competing products. We also face the risk that others may independently develop similar or alternative technologies or may design around our proprietary property.

If any patents are issued in the future, they may not provide us with any competitive advantages, or may be successfully challenged by third parties. Agreement terms that address non-competition are difficult to enforce in many jurisdictions and may not be enforceable in any particular case. To the extent that our intellectual property and other proprietary rights are not adequately protected, third parties might gain access to our proprietary information, develop and market products or services similar to ours, or use trademarks similar to ours, each of which could materially harm our business. Existing United States federal and state intellectual property laws offer only limited protection. Moreover, the laws of other countries in which we now, or may in the future, conduct operations or contract for services may afford little or no effective protection of our intellectual property. Further, our platforms incorporate open source software components that are licensed to us under various public domain licenses. While we believe we have complied with our obligations under the various applicable licenses for open source software that we use, there is little or no legal precedent governing the interpretation of many of the terms of certain of these licenses and therefore the potential impact of such terms on our business is somewhat unknown. The failure to adequately protect our intellectual property and other proprietary rights could materially harm our business.

The patent application process, also known as patent prosecution, is expensive and time consuming, and we and any current or future licensors and licensees may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or any current or future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are therefore reliant on our licensors or licensees. Therefore, these and any of our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, for example, with respect to proper priority claims, inventorship, and the like, although we are unaware of any such defects that we believe are of material importance. If we or any current or future licensors or licensees, fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If any current or future licensors or licensees are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form, preparation or prosecution of our patents or patent applications, such patents or applications may be invalid and unenforceable. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The strength of patent rights involves complex legal and scientific questions and can be uncertain. This uncertainty includes changes to the patent laws through either legislative action to change statutory patent law or court action that may reinterpret existing law or rules in ways affecting the scope or validity of issued patents. The patent applications that we own or license may fail to result in issued patents in the United States or foreign countries with claims that cover our products or services. Even if patents do successfully issue from the patent applications that we own or license, third parties may challenge the validity, enforceability or scope of such patents, which may result in such patents being narrowed, invalidated or held unenforceable. Any successful challenge to our patents could deprive us of exclusive rights necessary for the successful commercialization of our products and services. Furthermore, even if they are unchallenged, our patents may not adequately protect our products and services, provide exclusivity for our products and services, or prevent others from designing around our claims. If the breadth or strength of protection provided by the patents we hold or pursue with respect to our products and services is challenged, it could dissuade companies from collaborating with us to develop, or threaten our ability to commercialize, our products and services.

Patents have a limited lifespan. In the United States, the natural expiration of a utility patent is generally 20 years after its effective filing date and the natural expiration of a design patent is generally 14 years after its issue date, unless the filing date occurred on or after May 13, 2015, in which case the natural expiration of a design patent is generally 15 years after its issue date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our products and services, we may be open to competition. Further, if we encounter delays in our development efforts, the period of time during which we could market our products and services under patent protection would be reduced.

In addition to the protection afforded by patents, we also rely on trade secret protection to protect proprietary know-how that may not be patentable or that we elect not to patent, processes for which patents may be difficult to obtain or enforce, and any other elements of our products and services that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. We cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed despite having such confidentiality agreements. If the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating any trade secrets. In addition, in some situations, any confidentiality agreement we may have with an employee, consultant, advisor, or others may conflict with, or be subject to, the rights of third parties with whom our employees, consultants, or advisors have previous employment or consulting relationships. To the extent that our employees, consultants, advisors, or contractors use any intellectual property owned by third parties in their work for us, disputes may arise as to the rights in any related or resulting know-how and inventions. Misappropriation or unauthorized disclosure of our trade secrets could significantly affect our competitive position and may have a material adverse effect on our business. Furthermore, trade secret protection does not prevent competitors from independently developing substantially equivalent information and techniques and we cannot guarantee that our competitors will not independently develop substantially equivalent information and techniques. The FDA, as part of its Transparency Initiative, is currently considering whether to make additional information of life science companies publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The United States Patent and Trademark Office, or USPTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent prosecution process. Periodic maintenance fees and various other governmental fees on any issued patent and/or pending patent applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of a patent or patent application. We have systems in place to remind us to pay these fees, and we employ an outside firm and rely on our outside counsel to pay these fees. While an inadvertent lapse may sometimes be cured by payment of a late fee or by other means in accordance with the applicable rules, there are many situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If we fail to maintain the patents and patent applications directed to our products and services, our competitors might be able to enter the market earlier than should otherwise have been the case, which would have a material adverse effect on our business.

Litigation or other proceedings or third-party claims of intellectual property infringement could require us to spend significant time and money and could prevent us from selling our products and services.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties, for example, the intellectual property rights of competitors. Our research, development and commercialization activities may be subject to claims that we infringe or otherwise violate patents owned or controlled by third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our products and services. As the healthcare technology industry expands and more patents are issued, the risk increases that our activities related to our products and services may give rise to claims of infringement of the patent rights of others. We cannot assure you that our products and services will not infringe existing or future patents. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. We may not be aware of patents that have already issued that a third party, for example, a competitor in our market, might assert are infringed by our products and services. It is also possible that patents of which we are aware, but which we do not believe are relevant to our products and services, could nevertheless be found to be infringed by our product candidates. Nevertheless, we are not aware of any issued patents that we believe would prevent us from marketing our healthcare products and services. There may also be patent applications that have been filed but not published that, when issued as patents, could be asserted against us.

Third parties have asserted and may in the future assert that we are employing their proprietary technology without authorization. As we continue to commercialize our products and services in their current or updated forms, launch new products and services and enter new markets, we expect that competitors will claim that our products and services infringe their intellectual property rights as part of business strategies designed to impede our successful commercialization and entry into new markets. We occasionally receive letters from third parties inviting us to take licenses under, or alleging that we infringe, their patents or trademarks. Third parties may have obtained, and may in the future obtain, patents under which such third parties may claim that the use of our technologies constitutes patent infringement.

If we are sued for patent infringement, we would need to demonstrate that our products or services either do not infringe the patent claims of the relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Proving that a patent is invalid and/or unenforceable is difficult. For example, in the United States, providing invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. We could incur substantial costs and divert the attention of our management and technical personnel in defending ourselves or our licensors against any of these claims. Defense of these claims, regardless of their merit, would cause us to incur substantial expenses and, would be a substantial diversion of employee resources from our business. Any adverse ruling or perception of an adverse ruling in defending ourselves against these claims could have a material adverse impact on our business. Furthermore, parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize, and sell products or services, and could result in the award of substantial damages against us, potentially including treble damages and attorneys' fees if we are found to have willfully infringed a patent. In the event of a successful claim of infringement or misappropriation against us, we may be required to pay damages and obtain one or more licenses from third parties, pay royalties to the third party, redesign any infringing product, or be prohibited from selling certain products or services, all of which could have a material adverse impact on our business. Redesigning any infringing products may be commercially impractical, not readily feasible, and/ or require substantial time and monetary expenditure. Further, we cannot predict whether any required license would be available at all or whether it would be available on commercially reasonable terms.

In addition, we may be unable to obtain these licenses at a reasonable cost, if at all. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms. Moreover, we could encounter delays in product or service introductions while we attempt to develop alternative products or services. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing products and services, and the prohibition of sale of any of our products and services would materially affect our ability to grow and maintain profitability and have a material adverse impact on our business.

Defending ourselves in litigation is very expensive, particularly for a company of our size, and time-consuming. In addition to infringement claims against us, we may become a party to other patent litigation and other proceedings, including interference, derivation, or post-grant proceedings declared or granted by the USPTO and similar proceedings in foreign countries, regarding intellectual property rights with respect to our current or future products. The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition, or results of operations.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, or the patents of our licensors, which could be expensive, time consuming and ultimately unsuccessful.

Competitors may infringe or misappropriate our patents, trademarks, copyrights or other intellectual property, including our existing patents or patents that may issue to us in the future, or the patents of our licensors to which we have a license. To counter infringement or unauthorized use, we may be required to file infringement or inventorship claims to stop third party infringement, unauthorized use, or to correct inventorship, which can be expensive and time consuming and divert the time and attention of our management and scientific personnel. Any claims that we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents, in addition to counterclaims asserting that our patents are invalid or unenforceable, or both. These competitors may further challenge the scope, validity or enforceability of our licensors' patents, requiring our licensors to engage in complex, lengthy and costly litigation or other proceedings. In any patent infringement proceeding, there is a risk that a court will decide that a patent of ours or of our licensors' is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover the invention. An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against those parties or other competitors and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks. An adverse determination of any litigation or other proceedings could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference, derivation or other proceedings, brought at the USPTO or any foreign patent authority may be necessary to determine the priority or patentability of inventions with respect to our patent applications or those our collaborators. Litigation or USPTO proceedings brought by us may fail. An unfavorable outcome in any such proceeding could require us to cease using the related technology or to attempt to license rights to it from the prevailing party or could cause us to lose valuable intellectual property rights. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, if any license is offered at all. Even if we are successful, domestic or foreign litigation, or USPTO or foreign patent office proceedings may result in substantial costs and distraction to our management. We may not be able, alone or with collaborators, to prevent misappropriation of our trade secrets, confidential information or proprietary rights, particularly in countries where the laws may not protect such rights as fully as in the United States.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares of our common stock. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings.

Enforcing our intellectual property rights through litigation is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition, or results of operations.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be comprised by disclosure. In addition, during the course of litigation or administrative proceedings, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments or public access to related documents. If investors perceive these results to be negative, the market price for our common stock could be significantly harmed.

We may not be able to protect our intellectual property rights throughout the world.

Third parties may attempt to commercialize competitive products or services in foreign countries where we do not have any patents or patent applications where legal recourse may be limited. This may have a significant commercial impact on our foreign business operations.

Filing, prosecuting and defending patents on our products and services in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. The requirements for patentability may differ in certain countries, particularly developing countries. For example, Europe has a heightened requirement for patentability of software inventions. Thus, even in countries where we do pursue patent protection, there can be no assurance that any patents will issue with claims that cover our products. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the United States and in some cases may even force us to grant a compulsory license to competitors or other third parties. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States or from selling or importing products concerning our healthcare technology into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and services and further, may export otherwise infringing products and services to territories where we have patent protection, but enforcement on infringing activities is inadequate. These products or services may compete with ours, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. In addition, certain countries in Europe and certain developing countries, including India and China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we may have limited remedies if our patents are infringed or if we are compelled to grant a license to our patents to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license. Finally, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

Developments in U.S. patent law could have a negative impact on our business.

As is the case with other healthcare technology companies, our success is in part dependent on intellectual property, particularly on obtaining and enforcing patents. Obtaining and enforcing patents in the healthcare technology industry involves both technological and legal complexity, and therefore, is costly, time consuming, and inherently uncertain. In addition, the United States has recently enacted and has now implemented wide-ranging patent reform legislation. Further, recent United States Supreme Court rulings have either narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products and services.

For our United States patent applications containing a claim not entitled to priority before March 16, 2013, there is a greater level of uncertainty in the patent law. In September 2011, the Leahy-Smith America Invents Act, or the America Invents Act, or AIA, was signed into law. The AIA includes a number of significant changes to United States patent law, including provisions that affect the way patent applications will be prosecuted and enforced in any patent litigation. The USPTO developed regulations and procedures to govern administration of the AIA, and many of the substantive changes to patent law associated with the AIA. It is not clear what other, if any, impact the AIA will have on the operation of our business. Moreover, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a “first-to-file” system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application in the USPTO on or after March 16, 2013 before us could therefore be awarded a patent covering an invention of ours even if we were the first to conceive of the invention. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Furthermore, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our technology and the prior art allow our technology to be patentable over the prior art. Because patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to either file any patent application related to our products or services or invent any of the inventions claimed in our patents or patent applications.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and provide opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our United States patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings necessary to invalidate a patent claim compared to the evidentiary standard in United States federal court, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence may be insufficient to invalidate the claim if first presented in a district court action.

Two cases, one involving diagnostic method claims and the other involving “gene patents” were decided by the Supreme Court. On March 20, 2012, the Supreme Court issued a decision in *Mayo Collaborative v. Prometheus Laboratories*, or *Prometheus*, a case involving patent claims directed to optimizing the amount of drug administered to a specific patient. According to that decision, *Prometheus*’ claims failed to incorporate sufficient inventive content above and beyond mere underlying natural correlations to allow the claimed processes to qualify as patent-eligible processes that apply natural laws. On June 13, 2013, the Supreme Court subsequently decided *Association for Molecular Pathology v. Myriad Genetics*, or *Myriad*, a case brought by multiple plaintiffs challenging the validity of patent claims held by Myriad Genetics, Inc. relating to the breast cancer susceptibility genes BRCA1 and BRCA2, holding that isolated genomic DNA that exists in nature, such as the DNA constituting the BRCA1 and BRCA2 genes, is not patentable subject matter, but that cDNA, which is an artificial construct created from RNA transcripts of genes, may be patent eligible.

On July 3, 2012, the USPTO issued a memorandum to patent examiners providing interim guidelines for examining process claims for patent eligibility in view of the Supreme Court decision in *Prometheus*. The guidance indicates that claims directed to a law of nature, a natural phenomenon, or an abstract idea that do not meet the eligibility requirements should be rejected as non-statutory subject matter. Furthermore, a case involving financial software was even more recently decided by the Supreme Court. On June 19, 2014, the Supreme Court issued a decision in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, or *Alice*, a case involving patent claims directed to methods of exchanging obligations as between parties so as to mitigate settlement risk in financial transactions, computer systems configured to carry out the method, and computer-readable media containing program code for performing the method. In *Alice*, the Court applied the analytic framework from *Prometheus* and extended its application to all types of claims. According to that decision, *Alice Corp.*'s claims failed to incorporate sufficient inventive content above and beyond the mere idea of intermediated transaction to allow the claimed processes to qualify as patent-eligible processes that apply the idea in a particular way to solve a problem. On December 16, 2014, the USPTO issued interim guidelines for examining claims for patent eligibility in view of the Supreme Court decision in *Alice*. The guidance indicates that claims reciting an abstract idea that do not include significantly more than the idea itself should be rejected as non-statutory subject matter. We cannot assure you that our efforts to seek patent protection for our technology, products, and services will not be negatively impacted by the decision in *Alice*, rulings in other cases, or changes in guidance or procedures issued by the USPTO. Since then, the USPTO has issued several memoranda on the topic of patent eligible subject matter, including those dated May 4, 2016, May 19, 2016, July 14, 2016, November 2, 2016, and December 5, 2017.

More specifically, we cannot fully predict what impact the Supreme Court's decisions in *Prometheus*, *Myriad* and *Alice* may have on the ability of healthcare technology companies or other entities to obtain or enforce patents relating to genomic discoveries, diagnostic products and services or computer-implemented inventions in the future. Despite the USPTO's guidance described above, these contours of when certain claims allegedly directed to laws of nature, natural phenomenon or abstract ideas meet the patent eligibility requirements are not clear and may take many years to develop via interpretation in the courts.

There are many patents claiming diagnostic methods based on similar or related correlations that issued before *Prometheus*, and although some of these patents may be invalid under the standard set forth in *Prometheus*, until successfully challenged, these patents are presumed valid and enforceable, and certain third parties could allege that we infringe, or request that we obtain a license to, these patents. Whether based on patents issued prior to or after *Prometheus*, we could have to defend ourselves against claims of patent infringement, or choose to license rights, if available, under patents claiming such methods. Similarly, there are many patents claiming software and/or business methods that include an abstract idea that issued before *Alice*, and although some of these patents may be invalid under the standard set forth in *Prometheus* and *Alice*, until successfully challenged, these patents are presumed valid and enforceable, and certain third parties could allege that we infringe, or request that we obtain a license to, these patents. Whether based on patents issued prior to or after *Alice*, we could have to defend ourselves against claims of patent infringement, or choose to license rights, if available, under patents claiming such software or business methods. In any of the foregoing or in other situations involving third-party intellectual property rights, if we are unsuccessful in defending against claims of patent infringement, we could be forced to pay damages or be subjected to an injunction that would prevent us from utilizing the patented subject matter in question if we are unable to obtain a license on reasonable terms. Such outcomes could materially affect our ability to offer our products and have a material adverse impact on our business. Even if we are able to obtain a license or successfully defend against claims of patent infringement, the cost and distraction associated with the defense or settlement of these claims could have a material adverse impact on our business. Moreover, one or more of our pending United States patent applications may be rejected based on the changes in the law and the standards set forth in *Prometheus*, *Myriad*, *Alice*, or other cases. Our ability to secure United States patent rights could be impaired if we cannot overcome such rejections, which could have a material adverse impact on our business. In addition, one or more of our issued United States patents could be challenged on the basis of the law and the standards set forth in *Prometheus*, *Myriad*, *Alice*, or other cases, which could have a material adverse impact on our business. Further, on July 30, 2015, in response to the public comment on the Interim Eligibility Guidance, the USPTO issued an update pertaining to the Interim Eligibility Guidance. The Updated Eligibility Guidance includes additional examples from the case law and is intended to assist examiners in applying the Interim Eligibility Guidance during the patent examination process.

If we fail to comply with our obligation in any of the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

Licensing of intellectual property rights is important to our business and involves complex legal, business and scientific issues.

Disputes may arise between us and our licensors regarding intellectual property rights subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our right to sublicense intellectual property rights to third parties under collaborative development relationships; and
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations.

While we would expect to exercise all rights and remedies available to us, including seeking to cure any breach by us, and otherwise seek to preserve our rights under the patents licensed to us, we may not be able to do so in a timely manner, at an acceptable cost or at all. Generally, the loss of any one of our current licenses, or any other license we may acquire in the future, could materially harm our business, prospects, financial condition and results of operations.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.

Because we operate in the highly technical field of research and development, we rely in part on trade secret protection in order to protect our proprietary trade secrets and unpatented know-how. However, trade secrets are difficult to protect, and we cannot be certain that others will not develop the same or similar technologies on their own. Enforcing a claim that a party illegally obtained and is using our trade secrets or know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets or know-how. The failure to obtain or maintain trade secret protection could adversely affect our competitive position.

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

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other healthcare companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise improperly used or disclosed confidential information of these third parties or our employees' former employers. Further, we may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants or others who are involved in developing our products and services. We may also be subject to claims that former employees, consultants, independent contractors or other third parties have an ownership interest in our patents or other intellectual property. Litigation may be necessary to defend against these and other claims challenging our right to and use of confidential and proprietary information. If we fail in defending any such claims, in addition to paying monetary damages, we may lose our rights therein. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

We rely in part on trademarks to distinguish our products and services from those of other entities. Trademarks may be opposed or cancelled, and we may be involved in lawsuits or other proceedings to protect or enforce our trademarks.

We rely on trademarks, in the United States and in certain foreign jurisdictions, to distinguish our products and services in the minds of our customers and our business partners from those of other entities. Third parties may challenge our pending trademark applications through opposition proceedings in the United States, or comparable proceedings in foreign jurisdictions, in which they seek to prevent registration of a mark. Our registered trademarks may be subject to cancellation proceedings in the United States, or comparable proceedings in foreign jurisdictions, in which a third party seeks to cancel an existing registration. To enforce our trademark rights, we may be involved in lawsuits or other proceedings which could be expensive, time-consuming and uncertain.

Our corporate name, NantHealth, and the names of our products and services have not been trademarked in each market where we operate and plan to operate. Our trademark applications for our products and services may not be allowed for registration, and our registered trademarks may not be maintained or enforced. During trademark registration proceedings, we may receive rejections, which we may be unable to overcome in our responses. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would.

Risks related to reimbursement and government regulation

If we fail to comply with applicable health information privacy and security laws and other state and federal privacy and security laws, we may be subject to significant liabilities, reputational harm and other negative consequences, including decreasing the willingness of current and potential customers to work with us.

We are subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA established uniform federal standards for certain “covered entities,” which include certain healthcare providers, healthcare clearinghouses, and health plans, governing the conduct of specified electronic healthcare transactions and protecting the security and privacy of protected health information, or PHI. The Health Information Technology for Economic and Clinical Health Act, or HITECH Act, which became effective on February 17, 2010, makes HIPAA’s security standards directly applicable to “business associates,” which are independent contractors or agents of covered entities that create, receive, maintain, or transmit PHI in connection with providing a service for or on behalf of a covered entity. The HITECH Act also increased the civil and criminal penalties that may be imposed against covered entities, business associates and certain other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA’s requirements and seek attorney’s fees and costs associated with pursuing federal civil actions.

A portion of the data that we obtain and handle for or on behalf of our clients is considered PHI, subject to HIPAA. We are also required to maintain similar business associate agreements with our subcontractors that have access to PHI of our customers in rendering services to us or on our behalf. Under HIPAA and our contractual agreements with our HIPAA-covered entity health plan customers, we are considered a “business associate” to those customers and are required to maintain the privacy and security of PHI in accordance with HIPAA and the terms of our business associate agreements with our clients, including by implementing HIPAA-required administrative, technical and physical safeguards. We have incurred, and will continue to incur, significant costs to establish and maintain these safeguards and, if additional safeguards are required to comply with HIPAA regulations or our clients’ requirements, our costs could increase further, which would negatively affect our operating results. Furthermore, we cannot guarantee that such safeguards have been and will continue to be adequate. If we have failed, or fail in the future, to maintain adequate safeguards, or we or our agents or subcontractors use or disclose PHI in a manner prohibited or not permitted by HIPAA, our subcontractor business associate agreements, or our business associate agreements with our customers, or if the privacy or security of PHI that we obtain and handle is otherwise compromised, we could be subject to significant liabilities and consequences, including, without limitation:

- breach of our contractual obligations to clients, which may cause our clients to terminate their relationship with us and may result in potentially significant financial obligations to our clients;
- investigation by the federal and state regulatory authorities empowered to enforce HIPAA and other data privacy and security laws, which include the U.S. Department of Health and Human Services, or HHS, the Federal Trade Commission and state attorneys general, and the possible imposition of civil and criminal penalties;
- private litigation by individuals adversely affected by any misuse of their personal health information for which we are responsible; and
- negative publicity, which may decrease the willingness of current and potential future customers to work with us and negatively affect our sales and operating results.

Further, we publish statements to end users of our services that describe how we handle and protect personal information. If federal or state regulatory authorities or private litigants consider any portion of these statements to be untrue, we may be subject to claims of deceptive practices, which could lead to significant liabilities and consequences, including, without limitation, damage to our reputation and costs of responding to investigations, defending against litigation, settling claims and complying with regulatory or court orders.

Federal or state governmental authorities may impose additional data security standards or additional privacy or other restrictions on the collection, use, maintenance, transmission and other disclosures of health information. Legislation has been proposed at various times at both the federal and the state level that would limit, forbid or regulate the use or transmission of medical information outside of the United States. Such legislation, if adopted, may render our use of off-shore partners for work related to such data impracticable or substantially more expensive. Alternative processing of such information within the United States may involve substantial delay in implementation and increased cost.

We may be, or may become, subject to data protection laws and regulations, and our failure to comply with such laws and regulations could lead to government enforcement actions and significant penalties against us, and adversely impact our operating results.

The European Union, the EU, has adopted data protection laws and regulations which may apply to us in certain circumstances, or in the future. The laws impose significant compliance obligations on us and is commonly known as the GDPR, the General Data Protection Regulation. The GDPR, which is wide-ranging in scope and applicability, imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, the security and confidentiality of the personal data, data breach notification and the use of third party processors in connection with the processing of personal data, including clinical trials. The GDPR also imposes strict rules on the transfer of personal data out of the EU to the U.S., provides an enforcement authority and imposes large penalties for noncompliance, including the potential for fines of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. The recent implementation of the GDPR has increased our responsibility and liability in relation to personal data that we process, including with respect to our employees in the European Union, and we may in the future be required to put in place additional mechanisms to ensure compliance with the GDPR, which could divert management's attention and increase our cost of doing business. In addition, other new regulation or legislative actions regarding data privacy and security (together with applicable industry standards) may increase our costs of doing business. In this regard, we expect that there will continue to be new proposed laws, regulations and industry standards relating to privacy and data protection in the United States, the EU and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business.

If we, including our employees, suppliers, distributors, independent contractors, and agents acting on our behalf, fail to comply with federal and state healthcare laws and regulations, including those governing submissions of false or fraudulent claims to government healthcare programs and financial relationships with healthcare providers, we may be subject to significant civil and criminal penalties and/or loss of eligibility to participate in government healthcare programs.

We are subject to certain federal and state laws and regulations designed to protect patients, governmental healthcare programs, and private health plans from fraudulent and abusive activities. These laws include anti-kickback restrictions and laws prohibiting the submission of false or fraudulent claims. These laws are complex and their application to our specific products, services and relationships may not be clear and may be applied to our business in ways that we do not anticipate. Federal and state regulatory and law enforcement authorities have recently increased enforcement activities with respect to Medicare and Medicaid fraud and abuse regulations and other reimbursement laws and rules. From time to time in the future, we may receive inquiries or subpoenas to produce documents in connection with such activities. We could be required to expend significant time and resources to comply with these requests, and the attention of our management team could be diverted to these efforts. Furthermore, third parties have in the past alleged, and may in the future allege that we have sought federal funding in a manner that may violate federal or state law. Though we dispute such allegations, if we are found to be in violation of any federal or state fraud and abuse laws, we could be subject to civil and criminal penalties, and we could be excluded from participating in federal and state healthcare programs such as Medicare and Medicaid. The occurrence of any of these events could significantly harm our business and financial condition.

Provisions in Title XI of the Social Security Act, commonly referred to as the federal Anti-Kickback Statute, prohibit the knowing and willful offer, payment, solicitation or receipt of remuneration, directly or indirectly, in cash or in kind, in return for or to reward the referral of patients or arranging for the referral of patients, or in return for the recommendation, arrangement, purchase, lease or order of items or services that are covered, in whole or in part, by a federal healthcare program such as Medicare or Medicaid. The definition of "remuneration" has been broadly interpreted to include anything of value such as gifts, discounts, rebates, waiver of payments or providing anything inconsistent with the fair market value. Many states have adopted similar prohibitions against kickbacks and other practices that are intended to induce referrals which are applicable to all patients regardless of whether the patient is covered under a governmental health program or private health plan. We attempt to scrutinize our business relationships and activities to comply with the federal Anti-Kickback Statute and similar laws and we attempt to structure our sales and group purchasing arrangements in a manner that is consistent with the requirements of applicable safe harbors to these laws. We cannot assure you, however, that our arrangements will be protected by such safe harbors or that such increased enforcement activities will not directly or indirectly have an adverse effect on our business, financial condition or results of operations. Any determination by a state or federal agency that any of our activities or those of our vendors or customers violate any of these laws could subject us to civil or criminal penalties, monetary fines, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, could require us to change or terminate some portions of operations or business, could disqualify us from providing services to healthcare providers doing business with government programs and, thus, could have an adverse effect on our business.

Our business is also subject to numerous federal and state laws, including without limitation the civil False Claims Act, that prohibits the knowing submission or “causing the submission” of false or fraudulent information or the failure to disclose information in connection with the submission and payment of claims for reimbursement to Medicare, Medicaid, federal healthcare programs or private health plans. Analogous state laws and regulations may apply to our arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payers. Additionally, HIPAA also imposes criminal and civil liability for, among other things, executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters.

These laws and regulations may change rapidly, and it is frequently unclear how they apply to our business. Errors created by our products or consulting services that relate to entry, formatting, preparation or transmission of claim or cost report information may be determined or alleged to be in violation of these laws and regulations. Any failure of our products or services to comply with these laws and regulations could result in substantial civil or criminal liability, monetary fines, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, could adversely affect demand for our one or more of our offerings, could invalidate all or portions of some of our customer contracts, could require us to change or terminate some portions of our business, could require us to refund portions of our services fees, could cause us to be disqualified from serving clients doing business with government payers and could have an adverse effect on our business.

Our activities are also subject to state and federal self-referral laws, including the federal Physician Self-referral Law, commonly known as the Stark Law, which prohibits physicians from referring Medicare or Medicaid patients to providers of “designated health services” with whom the physician or a member of the physician’s immediate family has an ownership interest or compensation arrangement, unless a statutory or regulatory exception applies, and similar state equivalents that may apply regardless of payer. In addition, our activities may also implicate state laboratory licensure laws, as well as the corporate practice of medicine prohibition in certain states that maintain such laws or regulations. Our failure to abide by these state and federal laws could result in substantial fines and penalties.

Because of the far-reaching nature of these laws, we may be required to alter or discontinue one or more of our business practices to be in compliance with these laws. If we fail to adequately mitigate our operational risks or if we or our agents fail to comply with any of those regulations, laws and/or requirements, a range of actions could result, including, but not limited to, the termination of clinical trials, the failure to approve a product candidate, restrictions on our products or manufacturing processes, withdrawal of our products from the market, significant fines, exclusion from government healthcare programs or other sanctions or litigation. Such occurrences could have a material and adverse effect on our product sales, business and results of operations.

The scope and enforcement of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal or state regulatory authorities might challenge our current or future activities under these laws. Any such challenge could have a material adverse effect on our reputation, business, results of operations and financial condition. In addition, efforts to ensure that our business arrangements with third parties will comply with these laws and regulations and will involve substantial costs. Any state or federal regulatory review of us or the third parties with whom we contract, regardless of the outcome, would be costly and time-consuming. Further, it is not always possible to identify and deter misconduct by employees and third parties, and the precautions we take to detect and prevent misconduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with applicable healthcare laws. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

If commercial third-party payers or government payers fail to provide coverage or adequate reimbursement, or if there is a decrease in the amount of reimbursement for our sequencing and molecular analysis solutions, including GPS Cancer, or future products we develop, if any, our revenue and prospects for profitability would be harmed.

In both domestic and foreign markets, sales of our sequencing and molecular analysis solutions, including GPS Cancer, and other products and services we develop will depend, in large part, upon the availability of reimbursement from third-party payers. These third-party payers include government healthcare programs such as Medicare, managed care providers, private health insurers, and other organizations. In particular, we believe that obtaining a positive national coverage decision and favorable reimbursement rate from the Centers for Medicare and Medicaid Services, or CMS, for our sequencing and molecular analysis solutions, including GPS Cancer, will be a necessary element in achieving material commercial success. Physicians and patients may not order our sequencing and molecular analysis solutions unless commercial third-party payers and government payers pay for all, or a substantial portion, of the list price, and certain commercial third-party payers may not agree to reimburse our sequencing and molecular analysis solutions if CMS does not issue a positive coverage decision.

There is currently no national coverage decision that determines whether and how our sequencing and molecular analysis solutions, including GPS Cancer, are covered by Medicare. In the absence of a national coverage decision, local Medicare contractors, or MACs, that administer the Medicare program in various regions have some discretion in determining local coverage and therefore payment for tests. We do not currently receive any payment for our sequencing and molecular analysis solutions provided to patients covered by Medicare. If CMS or an applicable MAC does not issue a coverage decision with respect to our sequencing and molecular analysis solutions, or if CMS or an applicable MAC withdraws its coverage policies after reimbursement is obtained, reviews and adjusts the rate of reimbursement, or stops paying for our sequencing and molecular analysis solutions altogether, our revenue and results of operations would be adversely affected.

Commercial third-party payers and government payers are increasingly attempting to contain healthcare costs by demanding price discounts or rebates and limiting both coverage on which diagnostic products they will pay for and the amounts that they will pay for new molecular diagnostic products. Because of these cost-containment trends, commercial third-party payers and government payers that currently provide reimbursement for, or in the future cover, our sequencing and molecular analysis solutions, including GPS Cancer, may reduce, suspend, revoke, or discontinue payments or coverage at any time. Further, a payer's decision to provide coverage for a product or service does not imply that an adequate reimbursement rate will be approved. Additionally, one payer's determination to provide coverage does not assure that other payers will also provide coverage. Adequate third party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment.

As a result, there is significant uncertainty surrounding whether the use of products that incorporate new technology, such as our sequencing and molecular analysis solutions, including GPS Cancer, will be eligible for coverage by commercial third-party payers and government payers or, if eligible for coverage, what the reimbursement rates will be for those products. The fact that a diagnostic product has been approved for reimbursement in the past, for any particular indication or in any particular jurisdiction, does not guarantee that such a diagnostic product will remain approved for reimbursement or that similar or additional diagnostic products will be approved in the future. Reimbursement of NGS-based cancer products by commercial third-party payers and government payers may depend on a number of factors, including a payer's determination that products enabled by our molecular profiling solution are:

- not experimental or investigational;
- medically necessary;
- appropriate for the specific patient;
- cost-effective;
- supported by peer-reviewed publications;
- included in clinical practice guidelines; and
- supported by clinical utility studies.

As a result, our efforts to receive reimbursement on behalf of patients will take a substantial amount of time and may require the development of clinical data to demonstrate the clinical utility of our products and improve patient outcomes, or commercial third-party payers and government payers may never cover or provide adequate payment for our sequencing and molecular analysis solutions, including GPS Cancer, or future molecular profiling tools we license or develop. Our strategy to achieve broad reimbursement coverage is focused on demonstrating the clinical utility and economic benefits of our sequencing and molecular analysis solutions, engaging with thought leaders, oncologists and other caregivers, patient advocacy groups and other key oncology stakeholders and thereby increasing demand. For example, in January 2016, a large health plan announced that it would provide insurance coverage for GPS Cancer, representing the nation's first such insurance coverage for a whole genome/exome and RNA molecular diagnostic platform. Since that time, additional contracts with other large commercial payers have been signed, and efforts are now underway to pursue single case agreements which yield reimbursements from other non-contracted payers. Even in light of these developments, however, there is no assurance that we will continue to succeed in any of these areas or that, even if we do succeed, we will receive favorable reimbursement decisions. If adequate third-party reimbursement is unavailable we may not be able to maintain price levels sufficient to realize an appropriate return on investment in product development. Furthermore, if a commercial third-party payer or government payer denies coverage, it may be difficult for us to collect from the patient, and we may not be successful.

In addition, we are generally considered a "non-contracting provider" by commercial third-party payers because we generally have not entered into specific contracts to provide our molecular analysis services to their covered patients, and as a result we take on primary responsibility for obtaining reimbursement on behalf of patients. If we were to become a contracting provider with additional payers in the future, the amount of overall reimbursement we receive may decrease if we receive less revenue per product that is reimbursed at a contracted rate than at a non-contracted rate, which could have a negative impact on our revenue. Further, we may be unable to collect payments from patients beyond that which is paid by their coverage and will experience lost revenue as a result.

If we fail to comply with the way states and the FDA regulates tests that are developed, manufactured, validated and performed by laboratories like NantOmics, such failure could expose us to litigation or enforcement action by regulators, or result in delay or additional expense in offering our tests and tests that we may develop in the future.

Several states require that we and NantOmics hold laboratory licenses to test specimens from patients in those states. Other states may have similar requirements or may adopt similar requirements in the future. We may be subject to regulation in foreign jurisdictions as we seek to expand international distribution of our offerings, which may require review of our offerings in order to offer our services or may have other limitations such as prohibitions on the export of tissue necessary for us to use our GPS Cancer solution that may limit our ability to distribute outside of the United States.

In addition, NantOmics is subject to the Clinical Laboratory Improvement Amendments of 1988, or CLIA, a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention, or treatment of disease. CLIA regulations mandate specific standards in the areas of personnel qualifications, administration, and participation in proficiency testing, patient test management, quality control, quality assurance, and inspections. NantOmics has a current certificate of accreditation under CLIA to conduct our genomic sequencing and molecular analyses through our accreditation by the College of American Pathologists, or CAP. To renew this certificate, NantOmics is subject to survey and inspection every two years. Moreover, CLIA inspectors may make random inspections of NantOmics' clinical reference laboratory.

Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing licensure, or NantOmics' failure to renew a CLIA certificate, a state or foreign license, or accreditation, could have a material adverse effect on our business. Most CLIA deficiencies are not classified as "condition-level" deficiencies, and there are no adverse effects upon the laboratory operations as long as the deficiencies are corrected. Remediation of these deficiencies is a routine matter, with corrections occurring within several hours or weeks. More serious CLIA deficiencies could rise to the level of "condition-level" deficiencies, and CMS has the authority to impose a wide range of sanctions, including revocation of the CLIA certification along with a bar on the ownership or operation of a CLIA-certified laboratory by any owners or operators of the deficient laboratory. There is an administrative hearing procedure that can be pursued by the laboratory in the event of imposition of such sanctions, during which the sanctions are stayed, but the process can take a number of years to complete. If NantOmics was to lose its CLIA certification or CAP accreditation, we would not be able to offer our GPS Cancer solution services, which would result in material harm to our business and results of operations.

While the FDA has generally exercised its enforcement discretion for LDTs, the FDA has stated that it has a mandate to regulate in this field and that it intends to address LDT regulation using a risk-based, phased-in approach similar to the existing *in vitro* diagnostic framework.

More recently, the FDA has issued warning letters to genomics lab for illegally marketing genetic tests that claim to predict patients' responses to specific medications, noting that the FDA has not created a legal "carve-out" for LDTs and retains discretion to take action when appropriate, such as when certain genomic tests raise significant public health concerns. It is likely that the FDA will more actively regulate LDTs in the future, which will impose greater burdens on manufacturers to obtain the necessary premarket notification or approval from the FDA as well as comply with applicable post-market regulatory obligations.

NantHealth has obtained 510(k) clearance from FDA for its Omics Core Assay. To the extent FDA disagrees with our current position with respect to LDTs and our LDT services, FDA may require us or NantOmics to seek further clearance or approval for the sequencing services offered for clinical use. If the FDA requires us or NantOmics to seek clearance or approval to offer NantOmics' sequencing services for GPS Cancer or any of our future offerings for clinical use, we may not be able to obtain such approvals on a timely basis, or at all. Failure to comply with applicable regulatory requirements can increase our exposure to litigation government investigation, or result in enforcement action by the FDA, which may include any of the following sanctions: warning letters; fines; injunctions; civil or criminal penalties; recall or seizure of current or future products; operating restrictions; partial suspension or total shutdown of production; denial of applications; or challenges to clearances or approvals. We cannot provide any assurance that FDA regulation, including premarket review, will not be required for our GPS Cancer solution or any other molecular profiling solution we offer in the future. If premarket review is required, our business could be negatively impacted if we are required to stop selling our molecular profiling solution pending its clearance or approval or if such approval is delayed by new requirements. Changes in FDA's regulation, level of scrutiny applies to companies in the genomics testing space, and FDA's risk assessment of our products could increase our costs and subject us to additional regulatory requirements that may interrupt commercialization of our current and future solutions, or expose us to increased liability and litigation.

Healthcare policy changes, including legislation reforming the U.S. healthcare system, may have a material adverse effect on our financial condition, results of operations and cash flows.

In March 2010, the ACA was enacted in the United States, which made a number of substantial changes in the way healthcare is financed by both governmental and private insurers. Among other things, the ACA:

- requires each medical device manufacturer to pay an excise tax equal to 2.3% of the price for which such manufacturer sells its medical devices. This tax could have applied to GPS Cancer and some or all of our products which are in development. The excise tax was on a 4-year moratorium for calendar years 2016 through 2019. The Further Consolidated Appropriations Act, 2020, H.R. 1865 (Pub.L.116-94), signed into law on December 20, 2019, repealed the medical device excise tax previously imposed by Section 4191 of the Code for sales of medical devices after December 31, 2019.
- mandates a reduction in payments for clinical laboratory services paid under the Medicare Clinical Laboratory Fee Schedule of 1.75% for the years 2011 through 2015. In addition, a productivity adjustment is made to the fee schedule payment amount.
- creates initiatives to promote quality indicators in payment methodologies and the coordination and promotion of research on comparative clinical effectiveness of different technologies and procedures.

We cannot predict whether future healthcare initiatives will be implemented at the federal or state level, or how any future legislation or regulation may affect us. The taxes imposed by the new federal legislation and the expansion of government's role in the U.S. healthcare industry, as well as changes to the reimbursement amounts paid by payers for our current and future offerings or our medical procedure volumes, may reduce our profits and have a materially adverse effect on our business, financial condition, results of operations, and cash flows. Moreover, Congress has proposed on several occasions to impose a 20% coinsurance on patients for clinical laboratory tests reimbursed under the Medicare Clinical Laboratory Fee Schedule, which would require us to bill patients for these amounts. Because of the relatively low reimbursement for many clinical laboratory tests, in the event that Congress were to ever enact such legislation, the cost of billing and collecting for these tests would often exceed the amount actually received from the patient and effectively increase our costs of billing and collecting.

Furthermore, the current presidential administration and Congress are also expected to attempt broad sweeping changes to the current health care laws. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case to the District Court to determine whether the remaining provisions of the ACA are invalid. We face uncertainties that might result from modification or repeal of any of the provisions of the Affordable Care Act, including as a result of current and future executive orders and legislative actions. The impact of these changes, subsequent appeals, and other efforts to repeal and replace the ACA on us and potential effect on sequencing and related research tools and medical device manufacturing industry as a whole are currently unknown. But, any changes to the Affordable Care Act are likely to have an impact on our results of operations and may have a material adverse effect on our results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States may have on our business.

We are subject to U.S. and foreign anti-corruption and anti-money laundering laws with respect to our operations and non-compliance with such laws can subject us to criminal and/or civil liability and harm our business.

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, third-party intermediaries, joint venture partners and collaborators from authorizing, promising, offering, or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. We currently engage in business and sales with government and state-owned hospitals outside of the United States. In addition, we engage third-party intermediaries to promote and sell our products and solutions abroad and/or to obtain necessary permits, licenses, and other regulatory approvals. We or our third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities. We can be held liable for the corrupt or other illegal activities of these third-party intermediaries, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize or have actual knowledge of such activities.

We have adopted an anti-corruption policy that, mandates compliance with the FCPA and other anti-corruption laws applicable to our business throughout the world. However, we cannot assure you that our employees and third-party intermediaries will comply with this policy or such anti-corruption laws. Noncompliance with anti-corruption and anti-money laundering laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension and/or debarment from contracting with certain persons, the loss of export privileges, reputational harm, adverse media coverage, and other collateral consequences. If any subpoenas, investigations, or other enforcement actions are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, financial condition and results of operations could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense and compliance costs and other professional fees. In certain cases, enforcement authorities may even cause us to appoint an independent compliance monitor which can result in added costs and administrative burdens.

We are subject to governmental export and import controls that could impair our ability to compete in international markets due to licensing requirements and subject us to liability if we are not in compliance with applicable laws.

Our products and solutions are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. Exports of our products and solutions outside of the United States must be made in compliance with these laws and regulations. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including the possible loss of export or import privileges, fines, which may be imposed on us and responsible employees or managers and, in extreme cases, the incarceration of responsible employees or managers.

In addition, changes in our products or solutions or changes in applicable export or import laws and regulations may create delays in the introduction, provision, or sale of our products and solutions in international markets, prevent customers from using our products and solutions or, in some cases, prevent the export or import of our products and solutions to certain countries, governments or persons altogether. Any limitation on our ability to export, provide, or sell our products and solutions could adversely affect our business, financial condition and results of operations.

We may be subject to fines, penalties or legal liability, if it is determined that we are practicing medicine without a license through our Eviti or molecular analysis solutions.

State laws prohibit the practice of medicine without a license. Our Eviti reports delivered to physicians provide information regarding FDA-approved therapies and clinical trials that oncologists may use in making treatment decisions for their patients, and our molecular analysis reports provide detailed DNA and RNA data about a patient and can make personalized therapy recommendations based on that data. We make members of our organization available to clinicians to discuss the information provided in the report. Our customer service representatives provide support to our clients, including assistance in interpreting the results of Eviti and our molecular analysis reports. A governmental authority or third party could allege that the identification of available therapies and clinical trials in our reports and the related customer service we provide constitute the practice of medicine. A state may seek to have us discontinue the inclusion of certain aspects of our reports or the related services we provide or subject us to fines, penalties, or licensure requirements. Any determination that we are practicing medicine without a license may result in significant liability to us and harm to our reputation and/or our Eviti and molecular analysis businesses.

Errors, misconduct, or illegal activity on the part of our clients may result in claims against us.

We rely on our clients, and we contractually obligate them, to provide us with accurate and appropriate data and directives for our actions. We rely upon our clients, as users of our solutions and systems infrastructure, for key activities to produce proper claims for reimbursement. Failure of clients to provide these data and directives or to perform these activities may result in claims against us that our reliance was misplaced.

Our services present the potential for embezzlement, identity theft or other similar illegal behavior by our employees or subcontractors with respect to third parties.

Our services also involve the use and disclosure of personal and business information that could be used to impersonate third parties or otherwise gain access to their data or funds. If any of our employees or subcontractors takes, converts or misuses such funds, documents or data, we could be liable for damages, and our business reputation could be damaged or destroyed.

Risks related to our convertible notes

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.

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

We may pay any interest make-whole payment on our notes by delivering shares of our common stock, which could result in significant dilution to our stockholders.

Beginning on or after the date that is one year after the last date of original issuance of the notes, we will in certain circumstances make an interest make-whole payment to a converting holder, payable in cash or shares of our common stock. If we elect, or are deemed to have elected, to pay any interest make-whole payment by delivering shares of our common stock, the number of shares of common stock a converting holder of notes will receive will be the number of shares that have a value equal to the amount of the interest make-whole payment to be paid to such holder in shares of our common stock, divided by the product of (x) 95% and (y) the simple average of the daily VWAP of our common stock for the 10 trading days ending on and including the trading day immediately preceding the conversion date, which could result in significant dilution to our stockholders.

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

In May 2008, the Financial Accounting Standards Board, which we refer to as FASB, issued FASB Staff Position No. APB 14-1, Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement), which has subsequently been codified as Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20. Under ASC 470-20, an entity must separately account for the liability and equity components of the convertible debt instruments (such as the notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The effect of ASC 470-20 on the accounting for the notes is that the equity component is required to be included in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet, and the value of the equity component would be treated as original issue discount for purposes of accounting for the debt component of the notes. As a result, we will be required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying value of the notes to their face amount over the term of the notes. We will report lower net income in our financial results because ASC 470-20 will require interest to include both the current period's amortization of the debt discount and the instrument's coupon interest, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the notes.

In addition, under certain circumstances, convertible debt instruments (such as the notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the notes, then our diluted earnings per share would be adversely affected.

Risks related to our common stock

Our Chairman and Chief Executive Officer, and entities affiliated with him, collectively own a significant majority of our common stock and will exercise significant influence over matters requiring stockholder approval, regardless of the wishes of other stockholders.

As of February 28, 2020, our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong, and entities affiliated with him, collectively beneficially own approximately 59% of the voting power of our common stock. As a result, Dr. Patrick Soon-Shiong and his affiliates have significant influence over management and significant control over matters requiring stockholder approval, including the annual election of directors and significant corporate transactions, such as a merger or other sale of our company or assets, for the foreseeable future. This concentrated control will limit stockholders' ability to influence corporate matters and, as a result, we may take actions that our stockholders do not view as beneficial. As a result, the market price of our common stock could be adversely affected.

Dr. Patrick Soon-Shiong, our Chairman and Chief Executive Officer and our principal stockholder, has significant interests in other companies which may conflict with our interests.

Our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong, is the founder of NantWorks. The various NantWorks companies are currently exploring opportunities in the immunotherapy, infectious disease and inflammatory disease fields. In particular, NantOmics provides us with its sequencing and molecular analysis solution for our GPS Cancer solution. NantWorks is the largest member of NantOmics, holding approximately 85% of the outstanding equity and approximately 99% of the outstanding voting equity as of December 31, 2019. As a result, they or other companies affiliated with Dr. Patrick Soon-Shiong may compete with us for business opportunities or, in the future, develop products that are competitive with ours. As a result Dr. Patrick Soon-Shiong's interests may not be aligned with the interests of our other stockholders, and he may from time to time be incentivized to take certain actions that benefit his other interests and that our other stockholders do not view as being in their interest as investors in our company. Moreover, even if they do not directly relate to us, actions taken by Dr. Patrick Soon-Shiong and the companies and charitable organizations with which he is involved could have a negative impact on our business.

Our certificate of incorporation contains a waiver of the corporate opportunities doctrine for NantWorks and its affiliates, which includes our Chairman and Chief Executive Officer, and therefore covered persons have no obligations to make opportunities available to us.

NantWorks, which is controlled by our Chairman and Chief Executive Officer, and its affiliates, beneficially owns approximately 59% of the voting power of our common stock as of February 28, 2020.

NantWorks and its affiliates engage in a broad spectrum of activities across the life science, biopharmaceutical, healthcare information technology and technology sectors. In the ordinary course of their business activities, NantWorks and its affiliates may from time to time acquire and hold interests in businesses that compete directly or indirectly with us. Our certificate of incorporation provides that none of NantWorks, any of its affiliates and all of their respective partners, principals, directors, officers, members, managers and/or employees, including any of the foregoing who serve as officers or directors of our company, to the fullest extent permissible by law, have any duty to bring business opportunities to our attention or to refrain from engaging, directly or indirectly, in the same business activities or similar business activities or lines of business in which we operate. NantWorks or its affiliates may also pursue acquisition opportunities that may be complementary to our business and, as a result, those acquisition opportunities may not be available to us. In addition, NantWorks may have an interest in pursuing acquisitions, divestitures and other transactions that, in its judgment, could enhance its investment, even though such transactions might involve risks to you.

We can provide no assurances that we will be able to maintain an active, liquid and orderly trading market for our common stock or what the market price of our common stock will be and as a result it may be difficult for you to sell your common stock.

Prior to our initial public offering in June 2016, there was no public market for our common stock. Although our common stock is listed on The Nasdaq Global Select Market, the market for our shares has demonstrated varying levels of trading activity. Further, because a significant amount of our common stock following our initial public offering is and is expected to continue to be held by our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong, and entities affiliated with him, we have relatively small historic trading volumes. As a result of these and other factors, you may not be able to sell your common stock quickly or at or above the price you purchased your stock or at all. Further, an inactive market may also impair our ability to raise capital by selling additional common stock and may impair our ability to enter into strategic collaborations or acquire companies or products by using our common stock as consideration.

The trading price of our common stock has been and may continue to be volatile. This volatility may affect the price at which you could sell our common stock, the notes and any common stock you receive upon conversion of your notes.

The trading price of our common stock has been and may continue to be volatile and could be subject to wide fluctuations in response to various factors. The trading price of the notes and our common stock may fluctuate widely in response to various factors, some of which are beyond our control, including:

- announcements by us or our competitors of new products, significant contracts, commercial relationships or capital commitments and the timing of these introductions or announcements;
- adverse regulatory or reimbursement announcements;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures or capital commitments;
- the results of our efforts to develop additional offerings;
- our dependence on our customers, partners and collaborators;
- regulatory or legal developments in the United States or other countries;
- reimbursement decisions regarding our molecular profiling solutions, including GPS Cancer;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key management or other personnel;
- our ability to successfully commercialize our future products;
- the level of expenses related to any of our products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- actual or anticipated quarterly variations in our financial results or those of our competitors;
- any change to the composition of the board of directors or key personnel;
- sales of common stock by us or our stockholders in the future, as well as the overall trading volume of our common stock;
- changes in the structure of healthcare payment systems;
- commencement of, or our involvement in, litigation, including claims by our equityholders pertaining to our conversion from a Delaware limited liability company into a Delaware corporation or the pending class action litigation;
- general economic, industry and market conditions and other factors that may be unrelated to our operating performance or the operating performance of our competitors, including changes in market valuations of similar companies; and
- the other factors described in this "Risk Factors" section.

In addition, the stock market in general, and the Nasdaq and the healthcare industry in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. These broad market and industry fluctuations may adversely affect the market price of our common stock or the notes, regardless of our operating performance. In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and would harm our business operating results or financial condition.

Our common stock may be delisted from The Nasdaq Global Select Market if we fail to comply with Nasdaq's continued listing requirements.

If we were to fail to continue to meet Nasdaq's continued listing requirements, which we have in the past, without a Nasdaq market listing, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock could decline. Delisting from Nasdaq could also result in negative publicity and could also make it more difficult for us to raise additional capital. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded by other parties. Further, if we are delisted, we would also incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market. If our common stock is delisted by Nasdaq, our common stock may be eligible to trade on an over-the-counter quotation system, such as the OTCQB market, where an investor may find it more difficult to sell our stock or obtain accurate quotations as to the market value of our common stock. We cannot assure you that our common stock, if it were to be delisted from Nasdaq, will be listed on another national securities exchange or quoted on an over-the-counter quotation system. If our common stock is delisted, it may come within the definition of "penny stock" as defined in the Securities Exchange Act of 1934, or the Exchange Act, and would be covered by Rule 15g-9 of the Exchange Act. That Rule imposes additional sales practice requirements on broker-dealers who sell securities to persons other than established customers and accredited investors. For transactions covered by Rule 15g-9, the broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written agreement to the transaction prior to the sale. Consequently, Rule 15g-9, if it were to become applicable, would affect the ability or willingness of broker-dealers to sell our securities, and accordingly would affect the ability of stockholders to sell their securities in the public market. These additional procedures could also limit our ability to raise additional capital in the future.

We may pay any interest make-whole payment by delivering shares of our common stock, which could result in significant dilution to our stockholders and cause our stock price to fall.

On or after the date that is one year after the last date of original issuance of the notes, we will in certain circumstances make an interest make-whole payment, as described under Note 12. Convertible Notes to our Consolidated Financial Statements, to a converting holder, payable in cash or shares of our common stock. If we elect, or are deemed to have elected, to pay any interest make-whole payment by delivering shares of our common stock, the number of shares of common stock a converting holder of notes will receive will be the number of shares that have a value equal to the amount of the interest make-whole payment to be paid to such holder in shares of our common stock, divided by the product of (x) 95% and (y) the simple average of the daily VWAP of our common stock for the 10 trading days ending on and including the trading day immediately preceding the conversion date, which could result in significant dilution to our stockholders.

We have incurred and will continue to incur costs as a result of operating as a public company and our management has been and will be required to devote substantial time to public company compliance initiatives.

As a public company, listed in the United States, we have incurred and will continue to incur significant legal, accounting and other expenses due to our compliance with regulations and disclosure obligations applicable to us, including compliance with the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, as well as rules implemented by the SEC and the Nasdaq. The SEC and other regulators have continued to adopt new rules and regulations and make additional changes to existing regulations that require our compliance. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that have required the SEC to adopt additional rules and regulations in these areas. Stockholder activism, the current political environment, and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact, in ways we cannot currently anticipate, the manner in which we operate our business. Our management and other personnel have and will continue to devote a substantial amount of time to these compliance programs and monitoring of public company reporting obligations and, as a result of the new corporate governance and executive compensation related rules, regulations, and guidelines prompted by the Dodd-Frank Act and further regulations and disclosure obligations expected in the future, we will likely need to devote additional time and costs to comply with such compliance programs and rules. These rules and regulations will cause us to incur significant legal and financial compliance costs and will make some activities more time-consuming and costly.

To continue to comply with the requirements of being a public company, we may need to undertake various activities, including implementing new internal controls and procedures and hiring new accounting or internal audit staff. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that information required to be disclosed in reports under the Securities Exchange Act of 1934, or the Exchange Act, is accumulated and communicated to our principal executive and financial officers. Our current controls and any new controls that we develop may become inadequate and weaknesses in our internal control over financial reporting may be discovered in the future. For example, we previously identified a material weakness in our internal control over financial reporting related to our valuations of the Bookings Commitment liability and our related party equity method investment in NantOmics during the year ended December 31, 2018. The material weakness was remediated as of December 31, 2019. In addition, in connection with our preparation of the Consolidated and Combined Financial Statements for the year ended December 31, 2017, several control deficiencies relative to Information Technology general controls were not remediated prior to year-end. These deficiencies primarily related to change management controls over our general ledger and financial reporting system. We performed an assessment and determined that it did not rise to the level of a material weakness but did represent a significant deficiency in our internal control over financial reporting. A control deficiency is considered a significant deficiency if it represents a deficiency, or a combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of a company's financial reporting.

We cannot assure you that the measures we have taken, or will take, to remediate the material weakness and significant deficiencies will continue to be effective or that we will be successful in implementing them. Moreover, we cannot assure you that we have identified all significant deficiencies or material weaknesses or that we will not in the future have additional significant deficiencies or material weaknesses, in particular as we seek to transition to a more developed internal control environment and continue to grow as a company in terms of size, complexity of business and potentially in connection with future strategic transactions. Our independent registered public accounting firm has not evaluated any of the measures we have taken to address these significant deficiencies or the material weakness discussed above.

Any failure to develop or maintain effective controls could adversely affect the results of periodic management evaluations regarding the effectiveness of our internal control over financial reporting which we may be required to include in our periodic reports that we file with the SEC under Section 404 of the Sarbanes-Oxley Act, harm our operating results, cause us to fail to meet our reporting obligations, or result in a restatement of our prior period financial statements. In the event that we are not able to demonstrate compliance with the Sarbanes-Oxley Act, that our internal control over financial reporting is perceived as inadequate or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and the price of our common stock could decline. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on Nasdaq.

In addition, our independent registered public accounting firm did not perform an evaluation of our internal control over financial reporting during any period in accordance with the provisions of the Sarbanes-Oxley Act. Had our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional control deficiencies amounting to significant deficiencies or material weaknesses may have been identified. Our independent registered public accounting firm may not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of our second annual report or the first annual report required to be filed with the SEC following the date we are no longer an "emerging growth company" as defined in the JOBS Act, depending on whether we choose to rely on certain exemptions set forth in the JOBS Act. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal controls in the future. If we are unable to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, which could have a material adverse effect on the price of our common stock.

New legislation that would change U.S. or foreign taxation of international business activities or other tax-reform policies, including the imposition of tax based on gross income, could seriously harm our business.

Reforming the taxation of international businesses has been a priority for politicians, and a wide variety of potential changes have been proposed. Some proposals, several of which have been enacted, impose incremental taxes on gross revenue, regardless of profitability. Any changes in the taxation of such activities may increase our worldwide effective tax rate and the amount of taxes we pay and seriously harm our business.

For example, the Tax Cuts and Jobs Act of 2017 ("Tax Act") was enacted on December 22, 2017 and significantly reformed the Code. The Tax Act lowered the U.S. federal corporate income tax rate, changed the utilization of net operating loss carryforwards arising in tax years beginning after December 31, 2017, allowed for the expensing of certain capital expenditures, and put into effect sweeping changes to U.S. taxation of international business activities. As a result, our net U.S. deferred tax assets and corresponding valuation allowances were revalued at the new U.S. corporate rate. We continue to examine the impact this tax reform legislation may have on our business. The impact of this tax reform on us and on holders of our common stock is uncertain and could seriously harm our business.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Code, a corporation that undergoes an "ownership change" is subject to annual limitations on its ability to use its pre-change net operating loss ("NOL") carryforwards or other tax attributes, to offset future taxable income or reduce taxes. We believe that we have undergone one or more ownership changes and accordingly, our ability to use our NOL carryforwards may be limited.

Additionally, the Tax Act, which was enacted on December 22, 2017, significantly reformed the Code, including changes to the rules governing NOL carryforwards. For NOL carryforwards arising in tax years beginning after December 31, 2017, the Tax Act limited a taxpayer's ability to utilize such carryforwards to 80% of taxable income. In addition, NOL carryforwards arising in tax years ending after December 31, 2017 can be carried forward indefinitely, but carryback is generally prohibited. NOL carryforwards generated by us before January 1, 2018 will not be subject to the taxable income limitation and will continue to have a twenty-year carryforward period. However, the changes in the carryforward and carryback periods as well as the new limitation on use of NOLs may significantly impact our ability to use NOL carryforwards generated after December 31, 2017, as well as the timing of any such use, and could seriously harm our business.

We do not anticipate paying any cash dividends on our common stock in the foreseeable future.

We do not currently intend to pay any cash dividends on our common stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock may be investors' sole source of gain for the foreseeable future.

We are an "emerging growth company," and a "smaller reporting company" and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and may remain an "emerging growth company" for up to five years following the completion of our initial public offering or December 31, 2021. We would cease to be an emerging growth company upon the earliest of: (i) the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering; (ii) the last day of the fiscal year during which we have annual gross revenue of at least \$1.07 billion; (iii) the date on which we are deemed to be a "large accelerated filer" under the Exchange Act (we will qualify as a large accelerated filer as of the first day of the first fiscal year after we have (a) more than \$700.0 million in outstanding common equity held by our non-affiliates and (b) been public for at least 12 months; the value of our outstanding common equity will be measured each year on the last business day of our second fiscal quarter); or (iv) the date on which we have, during the previous three-year period, issued more than \$1.0 billion in non-convertible debt securities. For as long as we remain an "emerging growth company," we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not "emerging growth companies." These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We have taken advantage of reduced reporting requirements in our public filings. In particular, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards, delaying the adoption of these accounting standards until they would apply to private companies. We have irrevocably elected not to avail ourselves of this exemption and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies. Even after we no longer qualify as an emerging growth company, we may, under certain circumstances, still qualify as a “smaller reporting company,” which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We cannot predict whether investors will find our common stock less attractive as a result of our reliance on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and the market price of our common stock may be reduced or may be more volatile.

Because we are relying on the exemptions from corporate governance requirements as a result of being a “controlled company” within the meaning of the Nasdaq listing standards, you do not have the same protections afforded to stockholders of companies that are subject to such requirements.

Our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong, and entities affiliated with him, control a majority of our common stock. As a result, we are a “controlled company” within the meaning of Nasdaq listing standards. Under these rules, a company of which more than 50% of the voting power is held by an individual, a group or another company is a “controlled company” and may elect not to comply with certain Nasdaq corporate governance requirements, including (1) the requirement that a majority of the board of directors consist of independent directors and (2) the requirement that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities. We have elected to rely on certain of these exemptions, and do not have a nominating and corporate governance committee. Accordingly, you will not have the same protections afforded to stockholders of companies that are subject to all of the Nasdaq corporate governance requirements.

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

The trading market for our common stock will depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We are not subject to the provisions of Section 203 of the Delaware General Corporation Law, which could negatively affect your investment.

We elected in our amended and restated certificate of incorporation to not be subject to the provisions of Section 203 of the Delaware General Corporation Law, or Section 203. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns (or, in certain cases, within three years prior, did own) 15% or more of the corporation’s voting stock. Our decision not to be subject to Section 203 will allow, for example, Dr. Patrick Soon-Shiong, our Chairman and Chief Executive Officer (who, with entities affiliated with him, beneficially own approximately 59% of the voting power of our common stock, as of February 28, 2020), to transfer shares in excess of 15% of our voting stock to a third-party free of the restrictions imposed by Section 203. This may make us more vulnerable to takeovers that are completed without the approval of our board of directors and/or without giving us the ability to prohibit or delay such takeovers as effectively.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders. These provisions include:

- a requirement that special meetings of stockholders be called only by the board of directors, the president or the chief executive officer;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors; and
- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval and which preferred stock may include rights superior to the rights of the holders of common stock.

These anti-takeover provisions and other provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving our company. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing or cause us to take other corporate actions you desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- We will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.
- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.
- We will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification.
- The rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- We may not retroactively amend our bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

To the extent that a claim for indemnification is brought by any of our directors or officers, it would reduce the amount of funds available for use in our business.

Our amended and restated certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws, or (iv) any action asserting a claim against us governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the provisions of our amended and restated certificate of incorporation described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our corporate headquarters are located in Culver City, California, where we occupy facilities totaling approximately 8,000 square feet on a month-to-month basis pursuant to a Shared Services Agreement with NantWorks. We use these facilities for administration, sales and marketing, research and development, engineering, client support, and professional services. In addition, we have 5 U.S. locations across four states and one international location. Our key facilities include the following:

- United States
 - Boston, Massachusetts
 - Panama City, Florida
 - Philadelphia, Pennsylvania
 - Phoenix, Arizona
- International
 - Belfast, Northern Ireland

Note that on February 3, 2020, the Company completed the sale of its Connected Care business which includes the Panama City, Florida property.

We believe that our facilities are adequate to meet our needs in the near term, and that, if needed, suitable additional space will be available to accommodate any expansion of our operations.

The following table outlines our facilities location, square footage, and use:

City	State	Country	Sq ft	Type	Business Nature/Use
Boston	MA	USA	31,752	Lease	Administrative, sales, client support, R&D, engineering, professional services
Panama City	FL	USA	51,288	Lease	Administrative, sales, client support, R&D, engineering, professional services
Belfast	NI	UK	15,500	Lease	R&D, engineering, administrative
Phoenix	AZ	USA	4,865	Lease	Data center
Philadelphia	PA	USA	14,183	Lease	Administrative, sales, client support, R&D, engineering, professional services
			117,588		

Item 3. Legal Proceedings

We are, from time to time, subject to claims and litigation that arise in the ordinary course of its business. We intend to defend vigorously any such litigation that may arise under all defenses that would be available to us. Except as discussed below, in the opinion of management, the ultimate outcome of proceedings of which management is aware, even if adverse to us, would not have a material adverse effect on our consolidated financial condition or results of operations. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Securities Litigation

In March 2017, a number of putative class action securities complaints were filed in U.S. District Court for the Central District of California, naming as defendants the Company and certain of our current or former executive officers and directors. These complaints have been consolidated with the lead case captioned *Deora v. NantHealth, Inc.*, 2:17-cv-01825. ("Deora") In June 2017, the lead plaintiffs filed an amended consolidated complaint, which generally alleges that defendants violated federal securities laws by making material misrepresentations in NantHealth's IPO registration statement and in subsequent public statements. In particular, the complaint refers to various third-party articles in alleging that defendants misrepresented NantHealth's business with the University of Utah, donations to the university by non-profit entities associated with the Company's founder Dr. Soon-Shiong, and orders for GPS Cancer. The lead plaintiffs seek unspecified damages and other relief on behalf of putative classes of persons who purchased or acquired NantHealth securities in the IPO or on the open market from June 1, 2016 through May 1, 2017. In March 2018, the court largely denied Defendants' motion to dismiss the consolidated amended complaint. On July 30, 2019, the court certified the case as a class action. On October 23, 2019, the parties notified the court that they had reached a settlement in principle to resolve the action on a classwide basis in the amount of \$16.5 million, which is included in accrued and other current liabilities on the Consolidated Balance Sheet at December 31, 2019. The court granted preliminary approval of the settlement on January 31, 2020, and a hearing for final approval of the settlement is scheduled for June 15, 2020. The majority of the settlement amount will be funded by the Company's insurance carriers, and a portion will be funded by the Company. The settlement is contingent upon certain matters, including final approval by the court. Also, the parties have the right to terminate the settlement in certain circumstances.

In May 2017, a putative class action complaint was filed in California Superior Court, Los Angeles County, asserting claims for violations of the Securities Act based on allegations similar to those in Deora. That case is captioned *Bucks County Employees Retirement Fund v. NantHealth, Inc.*, BC 662330. The parties have agreed to stay the case until the next case management conference, scheduled for May 7, 2020. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

In April 2018, two putative shareholder derivative actions-captioned *Engleman v. Soon-Shiong*, Case No. 2018-0282-AGB, and *Petersen v. Soon-Shiong*, Case No. 2018-0302-AGB were filed in the Delaware Court of Chancery. The plaintiff in the Engleman action previously filed a similar complaint in California Superior Court, Los Angeles County, which was dismissed based on a provision in the Company's charter requiring derivative actions to be brought in Delaware. The Engleman and Petersen complaints contain allegations similar to those in Deora but assert causes of action on behalf of NantHealth against various of the Company's current or former executive officers and directors for alleged breaches of fiduciary duty, abuse of control, gross mismanagement, and unjust enrichment. The Company is named solely as a nominal defendant. In July 2018, the court issued an order consolidating the Engleman and Petersen actions as in *re NantHealth, Inc. Stockholder Litigation*, Lead C.A. No. 2018-0302-AGB, appointing Petersen as lead plaintiff, and designating the Petersen complaint as the operative complaint. On September 20, 2018, the defendants moved to dismiss the complaint. In October 2018, in response to the motion to dismiss, Petersen filed an amended complaint. In November 2018, the defendants moved to dismiss the amended complaint. A hearing on the defendants' motion was held on September 25, 2019. On January 14, 2020, the court issued an order granting in part and denying in part the defendants' motion to dismiss. The court dismissed all claims except one claim against Mr. Soon-Shiong for breach of fiduciary duty.

In April 2018, a putative shareholder derivative action captioned *Shen v. Soon-Shiong* was filed in U.S. District Court for the District of Delaware. The complaint contains allegations similar to those in Deora but asserts causes of action on behalf of NantHealth against various of the Company's current or former executive officers and directors for alleged breaches of fiduciary duty and unjust enrichment, as well as alleged violations of the federal securities laws based on alleged misstatements or omissions in the Company's 2017 proxy statement. The parties agreed to stay the case pending a decision on defendants' motion to dismiss in the derivative action in the Delaware Court of Chancery. The stay has been lifted due to the court's January 14, 2020 decision granting in part and denying in part the motion to dismiss, and defendants' answer to the complaint is due on or before February 28, 2020.

Real Estate Litigation

On March 9, 2018, PayPal, Inc. ("PayPal") commenced an action against the Company in the Superior Court Department of the Trial Court of the Commonwealth of Massachusetts, for Suffolk County. The action was originally captioned PayPal, Inc. v. NantHealth, Inc., Civil Action No. 18-0780-E. On April 10, 2018, the Superior Court transferred the case to its Business Litigation Section, where it is currently pending and captioned as PayPal, Inc. v. NantHealth, Inc., Civil Action No. 18-0780-BLS1. This action arises out of a Sublease Agreement that PayPal and the Company entered into on or about November 30, 2017. The Sublease Agreement pertained to commercial real estate that PayPal leased at One International Place in Boston, Massachusetts. On January 25, 2018, the Company notified PayPal that we were electing to terminate the Sublease Agreement.

In its Verified Complaint, and a contemporaneous notice of default that the Company disputed, PayPal alleges that the Company breached the Sublease Agreement. In addition, PayPal asserts claims for breach of the covenant of good faith and fair dealing, and violations of Massachusetts General Laws, Chapter 93A, sections 2 and 11, and seeks a declaratory judgment recognizing and enforcing the terms of the Sublease Agreement. Among other relief, PayPal seeks damages, treble damages, interest, costs, and attorneys' fees.

On April 12, 2018, the Company filed its answer and jury demand in the action, denying liability. On August 2, 2018, PayPal requested a status conference with the court in order to discuss PayPal's potential filing of a motion for partial judgment on the pleadings pursuant to Mass. R. Civ. P. 12(c). A Rule 16 Litigation Control Conference ("Rule 16 Conference") was held on August 22, 2018. During the Rule 16 Conference, the court denied PayPal's request for leave to file a motion for partial judgment on the pleadings. Following the Rule 16 Conference, the court issued a tracking order setting deadlines and other procedures that would apply to this action.

On September 26, 2018, the Company filed its Assented to Motion for Leave to Amend Its Answer. The court granted the Company's motion on October 3, 2018. On October 9, 2018, the Company filed and served its amended answer and jury demand.

On January 8, 2019, the parties filed a joint motion to extend certain of the tracking order deadlines, which motion the court granted by endorsed order dated January 9, 2019.

On April 4, 2019, PayPal filed a motion to add NantWorks, LLC as a defendant in the litigation, which motion was filed together with PayPal's supporting memorandum, the Company's opposition to that motion and PayPal's reply. In its memorandum supporting that motion, PayPal stated that "PayPal's damages are in excess of \$3M," without further explanation as to its damages calculations. The court denied PayPal's motion on April 16, 2019.

PayPal served a motion for summary judgment on June 5, 2019. In that motion, PayPal asserted that its actual damages are in excess of \$2.3 million, which it suggested the court should treble pursuant to the provisions of Massachusetts General Laws, Chapter 93A. The Company served its opposition on July 12, 2019. PayPal responded with a reply to the Company's opposition on July 18, 2019 and the fully briefed motion for summary judgment was filed that same day.

The parties completed fact discovery on March 15, 2019 and completed expert discovery on August 22, 2019.

A hearing on PayPal's motion for summary judgment was held on October 17, 2019. At the hearing, the court indicated its intention to issue a written decision (1) granting PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only and not as to damages; (2) denying PayPal's motion for summary judgment regarding its claim for unfair and deceptive trade practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11; and (3) finding PayPal's claim for breach of the covenant of good faith and fair dealing to be irrelevant or moot and denying its motion for summary judgment as to that claim.

At the October 17, 2019 hearing, PayPal orally withdrew its claim for attorneys' fees on its breach of the Sublease Agreement claim only and left uncertain whether it intends to pursue its claim for a declaratory judgment.

On December 6, 2019, PayPal served a motion seeking a preliminary injunction that would enjoin and restrain the Company, its officers, agents, attorneys and employees from transferring, conveying, or encumbering, or in any way attempting to pass out of their control any of the Company's assets or property other than in the ordinary course of business, including but not limited to cash, bonuses, and dividends. In the papers submitted in support of that motion, PayPal asserted that it has a strong likelihood of success in seeking to recover over \$2.9 million on its claim for breach of the Sublease Agreement, inclusive of pre-judgment interest at the statutory rate. On January 3, 2020, the Company served its opposition to PayPal's motion for preliminary injunction. On January 9, 2020, PayPal served its reply in support of its motion for preliminary injunction and filed all motion papers with the court.

On January 23, 2020, the court issued its written Decision and Order regarding PayPal's motion for summary judgment. In the Decision and Order, which was docketed on January 27, 2020, the court (1) granted PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only and not as to damages; (2) denied PayPal's motion for summary judgment regarding its claim for unfair and deceptive trade practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11; (3) denied PayPal's motion for summary judgment regarding its claim for breach of the covenant of good faith and fair dealing, finding there was no need or basis to impose any additional liability on the Company for conduct that does not give rise to a cause of action independent of the underlying breach of contract claim; and (4) denied PayPal's motion for summary judgment regarding its request for a declaratory judgment because it added little or nothing of substance to the relief PayPal is entitled to obtain, if at all.

Based on the court's January 23, 2020 Decision and Order, the issue of damages on PayPal's claim for breach of the Sublease Agreement remains to be determined. The Company has asserted, among other things, that PayPal failed to mitigate any damages that PayPal claims the Company owes. PayPal's claim for unfair and deceptive practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11, and its requests for treble damages and attorneys' fees on that claim, as well as its requests for interest and costs on the breach of the Sublease Agreement and Chapter 93A claims, also remain to be determined.

A hearing on PayPal's motion for preliminary injunction was held on January 30, 2020. At the hearing, the court took the motion for preliminary injunction under advisement and scheduled the following: (1) a status conference on September 9, 2020; (2) a final trial conference on January 6, 2021; and (3) a jury trial start date on January 12, 2021.

On February 7, 2020, the court issued its written Decision denying PayPal's motion for preliminary injunction.

On February 24, 2020, the Company filed a Petition for Interlocutory Relief. The petition seeks relief from the Decision and Order granting PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only.

The Company denies any liability to PayPal and intends to continue vigorously defending the action.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information for Common Stock

Our common stock trades on the Nasdaq Global Select Market under the symbol "NH".

Holders of Record

As of February 28, 2020, we had approximately 117 holders of record of our common stock. We believe the actual number of stockholders is greater than the number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust or by other entities.

Dividend Policy

No cash dividends were declared for our common stock during the fiscal years ended in 2019 and 2018. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

Recent Sales of Unregistered Securities

None.

Repurchases of Equity Securities by the Issuer

We did not make any stock repurchases during the twelve months ended December 31, 2019.

Item 6. Selected Financial Data

Omitted, as not required for a smaller reporting company.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following is a discussion and analysis of our financial condition and the results of operations as of and for the periods presented below. The following discussion and analysis should be read in conjunction with the "Consolidated Financial Statements" and notes thereto included elsewhere in this Annual Report on Form 10-K, or Annual Report. This discussion contains forward-looking statements that are based on the beliefs, assumptions, and information currently available to our management, and are subject to known and unknown risks, uncertainties, and other factors that may cause our actual results to differ materially from those expressed or implied by such forward-looking statements. These risks, uncertainties, and other factors include, among others, those described in greater detail elsewhere in this Annual Report, particularly in Item 1A, "Risk Factors."

Overview

NantHealth, Inc ("NantHealth" or the "Company") is a next-generation, evidence-based, personalized healthcare technology company that is transforming the way critical diseases, such as cancer, are known and treated. We employ precision medicine, data and software-as-a-service (SaaS) solutions to give physicians, payers, pharma and patients actionable information that drives improved patient outcomes and economics across the healthcare ecosystem.

NantHealth's product portfolio comprises the latest technology in molecular analysis (GPS Cancer), and payer/provider collaboration platforms for real-time coverage decision support (NaviNet and Eviti) medical device interoperability (MDI)(Connected Care). Each of these business lines are leaders in their respective market segment. Altogether, we generally derive revenue from SaaS subscription fees, software licensing and maintenance fees, hardware sales, support services, professional services, data-driven reporting services, and molecular analysis services (including GPS Cancer).

We market certain of our solutions as a comprehensive integrated solution that includes our molecular sequencing and analysis services, Clinical Decision Support, and Payer Engagement solutions. We also market our molecular sequencing and analysis services, Clinical Decision Support and Payer Engagement solutions on a stand-alone basis. To accelerate our commercial growth and enhance our competitive advantage, we intend to continue to:

- introduce new marketing, education and engagement efforts and foster relationships across the health care community to drive adoption of NantHealth products and services;
- strengthen our commercial organization to increase our NantHealth solutions client base and to broaden usage of our solutions by existing clients;
- develop new features and functionality for NantHealth solutions to address the needs of current and future healthcare provider and payer, self-insured employer and biopharmaceutical company clients;
- pursue reimbursement of molecular sequencing and analysis services from regional and national third-party payers and government payers; and
- publish scientific and medical advances.

Since our inception, we have devoted substantially all of our resources to the development and commercialization of NantHealth solutions, as well as the commercial launch and expansion of our molecular sequencing and analysis business. To complement our internal growth and expertise, we have made several strategic acquisitions of companies, products and technologies. We have incurred significant losses since our inception and, as of December 31, 2019, our accumulated deficit was approximately \$946.9 million. We expect to continue to incur operating losses over the near term as we support adoption of our molecular sequencing and analysis solutions (including GPS Cancer), expand our commercial operations, and invest further in NantHealth solutions.

We plan to (i) continue investing in our infrastructure, including but not limited to solution development, sales and marketing, implementation and support, (ii) continue efforts to make infrastructure investments within an overall context of maintaining reasonable expense discipline, (iii) add new clients through maintaining and expanding sales, marketing and solution development activities, (iv) expand our relationships with existing clients through delivery of add-on and complementary solutions and services and (v) continue our commitment of service in support of our client satisfaction programs.

2020 Sale of the Connected Care Business

On January 13, 2020, we entered into an asset purchase agreement (the "Purchase Agreement") with Masimo Corporation ("Masimo"), VCCB Holdings, Inc., a wholly owned subsidiary of Masimo (collectively with Masimo, the "Purchaser"), and, solely with respect to certain provisions of the Purchase Agreement, NantWorks, LLC, an affiliate of the Company. Pursuant to the Purchase Agreement, we agreed to sell to the Purchaser certain of our assets related to our "Connected Care" business, including the products known as DCX (formerly DeviceConX), VCX (formerly VitalsConX), HBox and Shuttle Cable (collectively, the "Connected Care Business").

On February 3, 2020, we completed the sale of the Connected Care Business (the "Disposition") for \$47.25 million of cash consideration in exchange for assets primarily related to the Connected Care Business (as defined under the terms of the Purchase Agreement). The cash consideration is subject to adjustment based upon the final amount of working capital as of the closing date.

2018 Acquisition of NantHealth Labs (formerly Liquid Genomics, Inc.)

On February 28, 2018, we acquired 100% of the equity of NantHealth Labs, Inc. ("NantHealth Labs", formerly Liquid Genomics, Inc.), a company that provides liquid biopsy analysis of gene expressions and mutations using cell free RNA and DNA, pursuant to an assignment agreement dated February 1, 2018 between the Company and NantOmics, LLC ("NantOmics"), a related party. The purchase price for the acquisition consisted of 9,088,362 Series A-2 units of NantOmics previously owned by the Company that were transferred at the closing plus 564,779 of Series A-2 units of NantOmics owned by the Company that were transferred to NantOmics as of May 31, 2018.

In June 2019, we pivoted from a commercial liquid biopsy test offering to focus on performing a study to measure the clinical utility of the AR-V7 analyte for informing treatment in patients with castration-resistant prostate cancer. We will continue this study while also pursuing other strategically aligned clinical studies that support our liquid biopsy platform. As such, we identified an indicator of impairment with respect to the NantHealth Labs definite-lived intangible assets given the decline in sales and our decision to cease commercial sales of our liquid biopsy test product. We determined that the assets were not recoverable given the significant amount of costs required to further build evidence of clinical utility while also ceasing commercial sales of the Liquid GPS product. Therefore, we fully impaired the intangible assets as of June 30, 2019 and recorded an impairment loss of \$4.0 million within operating expenses.

2018 Impact of Hurricane Michael

On October 10, 2018, our leased Panama City, Florida office was hit by Hurricane Michael. Due to the geographic spread of our customers, no revenue was lost. However, certain implementation revenues for our software and hardware related business were delayed until later in the fourth quarter of 2018 and into 2019, due to the disruption caused to our personnel living in the region. Personnel costs for time not worked by our employees in the region during the initial period of recovery totaled \$0.7 million. Our office suffered water damage, which temporarily disabled our on-site servers, and delayed filing of our Form 10-Q for the period ended September 30, 2018. We spent \$0.4 million directly on maintaining operations and repairing our office.

Evolution of GPS Cancer Test Platform

NantHealth and NantOmics (our exclusive technology partner for the GPS Cancer test) are continually taking steps to optimize the utility and value of our tests for physicians and their patients. To this end, we have leveraged our deep experience with RNA sequencing, bioinformatics and statistics to expand the clinical utility of the GPS Cancer test, while also streamlining and improving our lab workflow by consolidating to next-generation sequencing as our sole testing platform. A fundamental result of this work is that the key cancer treatment biomarkers previously assessed using our proprietary quantitative proteomics platform are, beginning in April 2018, now assessed solely via RNA sequencing, gene expression and statistical analysis. This change is based on the established clinical and scientific utility of tumor RNA sequencing. The tumor RNA transcriptome reveals gene and somatic variant expression, identifies gene fusions and validates their expression, and determines the relevance of gene copy number alterations. GPS Cancer currently assesses RNA expression of over 19,000 genes in a tumor sample and we have shown significant concordance between our RNA and proteomics expression platforms. We believe this change will result in operational efficiencies, an improved cost structure and more rapid transfer of scientific advancements in expression analysis to our clinical report.

2017 Asset Purchase Agreement with Allscripts

On August 3, 2017, we entered into an asset purchase agreement, which we refer to as the "APA," with Allscripts Healthcare Solutions, Inc., or "Allscripts", pursuant to which we agreed to sell to Allscripts substantially all of the assets of our provider/patient engagement solutions business, including our FusionFX solution and components of its NantOS software connectivity solutions (the "Business"). On August 25, 2017, we and Allscripts completed the sale pursuant to the APA.

Allscripts conveyed to us 15,000,000 shares of our common stock at par value of \$0.0001 per share that were previously owned by Allscripts as consideration for the transaction. We retired the shares of stock. Allscripts also paid \$1.7 million of cash consideration to us as an estimated working capital payment, and we recorded a receivable of \$1.0 million related to final working capital adjustments. We are also responsible for paying Allscripts for fulfilling certain customer service obligations of the business post-closing.

Concurrent with the closing and as contemplated by the APA, we and Allscripts modified the amended and restated mutual license and reseller agreement dated June 26, 2015, which was further amended on December 30, 2017, such that, among other things, the Company committed to deliver a minimum of \$95.0 million of total bookings over a ten-year period ("Bookings Commitment") from referral transactions and sales of certain Allscripts products under this agreement (see Note 4 of the Consolidated Financial Statements). In the event of a Bookings Commitment shortfall at the end of the ten-year period, we may be obligated to pay 70% of the shortfall, subject to certain credits. We will earn 30% commission from Allscripts on each software referral transaction that results in a booking with Allscripts. We account for the Bookings Commitment at its estimated fair value over the life of the agreement. The estimated fair value was \$22.0 million and \$16.9 million as of December 31, 2019 and 2018, respectively.

The sale of the Business qualified as a discontinued operation because it comprised operations and cash flows that could be distinguished, operationally and for financial reporting purposes, from the rest of the Company. The disposal of the Business sold to Allscripts represented a strategic shift in our operations as the sale enables us to focus on molecular sequencing and analysis, clinical decision support, connected care and payer engagement.

Non-GAAP Net Loss from Continuing Operations and Non-GAAP Net Loss Per Share from Continuing Operations

Adjusted net loss from continuing operations and adjusted net loss per share from continuing operations are financial measures that are not prepared in conformity with United States generally accepted accounting principles (U.S. GAAP). Our management believes that the presentation of Non-GAAP financial measures provides useful supplementary information regarding operational performance, because it enhances an investor's overall understanding of the financial results for our core business. Additionally, it provides a basis for the comparison of the financial results for our core business between current, past and future periods. Other companies may define these measures in different ways. Non-GAAP financial measures should be considered only as a supplement to, and not as a substitute for or as a superior measure to, financial measures prepared in accordance with U.S. GAAP.

Non-GAAP net loss from continuing operations excludes the effects of (1) loss from equity method investments including impairment losses, (2) stock-based compensation expense, (3) acquisition related sales incentives, which have been recorded as contra revenue, (4) change in fair value of derivatives liability, (5) change in fair value of the Bookings Commitment, (6) impairment of investments without readily determinable fair value, (7) non-cash interest expense related to convertible notes, (8) intangible amortization, (9) impairment of intangible assets, (10) loss on sale of business, (11) securities litigation costs, and (12) the impacts of certain income tax benefits and provisions from non-cash activity.

The following table reconciles Net loss from continuing operations to Net loss from continuing operations - Non-GAAP for the years ended December 31, 2019 and 2018:

(Dollars in thousands, except per share amounts)

	Year Ended December 31,	
	2019	2018
Net loss from continuing operations	\$ (62,644)	\$ (190,433)
Adjustments to GAAP net loss from continuing operations:		
Loss from related party equity method investment	8,317	108,409
Stock-based compensation expense from continuing operations	2,786	5,657
Acquisition related sales incentive	—	1,420
Change in fair value of derivatives liability	—	(7)
Change in fair value of Bookings Commitment	5,036	16,947
Impairment of investment in IOBS	—	1,750
Non-cash interest expense related to convertible notes	5,702	5,019
Intangible amortization from continuing operations	8,879	9,150
Impairment of intangible assets	3,977	—
Loss on sale of business	582	—
Securities litigation costs	528	1,317
Tax benefit resulting from certain non-cash tax items	(570)	(3,760)
Total adjustments to GAAP net loss from continuing operations	35,237	145,902
Net loss - Non-GAAP from continuing operations	\$ (27,407)	\$ (44,531)
Weighted average basic shares outstanding	110,351,638	109,168,798
Net loss per share from continuing operations - Non-GAAP	\$ (0.25)	\$ (0.41)

The following table reconciles Net loss from continuing operations per share to Net loss from continuing operations per share Non-GAAP for the years ended December 31, 2019 and 2018:

	Year Ended December 31,	
	2019	2018
Net loss per common share from continuing operations - GAAP	\$ (0.57)	\$ (1.74)
Adjustments to GAAP net loss per common share from continuing operations:		
Loss from related party equity method investment	0.07	0.98
Stock-based compensation expense from continuing operations	0.03	0.05
Acquisition related sales incentive	—	0.01
Change in fair value of derivatives liability	—	—
Change in fair value of Bookings Commitment	0.05	0.16
Impairment of investment in IOBS	—	0.02
Non-cash interest expense related to convertible notes	0.05	0.05
Intangible amortization from continuing operations	0.08	0.08
Impairment of intangible assets	0.04	—
Loss on sale of business	0.01	—
Securities litigation costs	—	0.01
Tax benefit resulting from certain non-cash tax items	(0.01)	(0.03)
Total adjustments to GAAP net loss per common share from continuing operations	0.32	1.33
Net loss per common share from continuing operations - Non-GAAP	\$ (0.25)	\$ (0.41)

Components of Our Results of Operations

Revenue

We generate our revenue from the sale of SaaS, software licenses, maintenance, hardware and services. Our systems infrastructure and platforms support the delivery of both personalized comprehensive sequencing and molecular analysis and the implementation of value-based care models across the healthcare continuum. We generate revenue from the following sources:

Software-as-a-service related - SaaS related revenue is generated from our clients' access to and usage of our hosted software solutions on a subscription basis for a specified contract term. In SaaS arrangements, the customer cannot take possession of the software during the term of the contract and generally only has the right to access and use the software and receive any software upgrades published during the subscription period. Solutions sold under a SaaS model include our Eviti platform solutions and NaviNet.

Software and hardware related - Software and hardware related revenue is generated from the license of our software, on a perpetual basis, the sale of hardware and professional services that are complementary to the software and may or may not be required for the software to function as desired by the customer. The services are generally provided in the form of implementation and training services and do not include maintenance revenue. The software is installed on the customer's site or the customer's designated vendor's site and is not hosted by us or by a vendor contracted by us. We also generate revenue from the resale of third-party software and hardware to our clients. Our software license and hardware solutions include DCX software and HBox. Software and hardware related also includes revenue from professional services we provide that are generally complementary to our software solutions and may or may not be required for the solution to function as desired by the customer.

Maintenance - Maintenance revenue includes ongoing post contract client support ("PCS") or maintenance on software and hardware during the PCS term. Additionally, PCS includes ongoing development of software updates and upgrades provided to the customer on a when-and-if-available basis. We sell our DCX solution with maintenance contracts.

Sequencing and molecular analysis - Sequencing and molecular analysis revenue is generated by providing customers with reports of the results of performing sequencing and molecular analysis of DNA and RNA (and previously proteomic testing) under our reseller agreement with NantOmics, and from blood samples via our liquid/blood-based tumor profiling platform through our subsidiary, NantHealth Labs, Inc. Revenue is recognized at a point in time, when reports of results are transferred to the ordering physician or institution, or on a cash basis; or ratably over time for the period of a stand-ready obligation to provide blood-based tumor profiling services.

Home health care services - Home health care services revenue includes revenue related to nursing and therapy services provided to patients in a home care setting. On June 7, 2019, we completed the divestiture of our home health care services business. See Note 4 Discontinued Operations and Divestitures to the Consolidated Financial Statements herein.

Cost of Revenue

Cost of revenue includes associated salaries and fringe benefits, stock-based compensation, consultant costs, direct reimbursable travel expenses, depreciation related to software developed for internal use, depreciation related to lab equipment, and other direct engagement costs associated with the design, development, sale and installation of systems, including system support and maintenance services for customers. System support includes ongoing customer assistance for software updates and upgrades, installation, training and functionality. All service costs, except development of internal use software and deferred implementation costs, are expensed when incurred. Amortization of deferred implementation costs are also included in cost of revenue. Cost of revenue associated with each of our revenue sources consists of the following types of costs:

Software-as-a-service related - SaaS related cost of revenue includes personnel-related costs, amortization of deferred implementation costs, depreciation of internal use software, and other direct costs associated with the delivery and hosting of our subscription services.

Software and hardware related - Software and hardware related cost of revenue includes third-party software and hardware costs directly associated with solutions, including purchasing and receiving costs, and includes direct costs associated with software implementation services provided to our customers. Software and hardware related cost of revenue also includes hardware costs directly related to bringing manufactured products to their final selling destination.

Maintenance - Maintenance cost of revenue includes personnel-related costs and other direct costs associated with the ongoing support or maintenance provided to our customers.

Sequencing and molecular analysis - Sequencing and molecular analysis cost of revenue includes personnel-related costs associated with fulfillment of these services, including those of our subsidiary, NantHealth Labs, and amounts due to NantOmics under the reseller agreement for the sequencing and molecular analysis of DNA and RNA (and previously proteomic results). It also includes depreciation of internal use software and lab equipment.

Home health care services - Home health care services cost of revenue includes direct expenses relating to our nursing and therapy services provided to patients in a home care setting. On June 7, 2019, we completed the divestiture of our home health care services business. See Note 4 *Discontinued Operations and Divestitures* to the Consolidated Financial Statements herein.

We plan to continue to expand our capacity to support our growth, which will result in higher cost of revenue in absolute dollars. We expect cost of revenue to decrease as a percentage of revenue over time as we expand NantHealth solutions and realize economies of scale.

Operating Expenses

Our operating expenses consist of selling, general and administrative, research and development, and amortization of acquisition-related assets.

Selling, general and administrative

Selling, general and administrative expense consists primarily of personnel-related expenses for our sales and marketing, finance, legal, human resources, and administrative associates, stock-based compensation, advertising and marketing promotions of NantHealth solutions, and corporate shared services fees from NantWorks. It also includes trade show and event costs, sponsorship costs, point of purchase display expenses and related amortization as well as legal costs, facility costs, consulting and professional fees, insurance and other corporate and administrative costs.

We continue to review our other selling, general and administrative investments and expect to drive cost savings through greater efficiencies and synergies across our company. Additionally, we expect to continue to incur additional costs for legal, accounting, insurance, investor relations and other costs associated with operating as a public company including costs associated with compliance with the Sarbanes-Oxley Act and other regulations governing public companies as well as increased costs for directors' and officers' liability insurance and an enhanced investor relations function. However, we expect our selling, general and administrative expense to decrease as a percentage of revenue over the long term as our revenue increases and we realize economies of scale.

Research and development

Research and development expenses consist primarily of personnel-related costs for associates working on development of solutions, including salaries, benefits and stock-based compensation. Also included are non-personnel costs such as consulting and professional fees to third-party development resources.

Substantially all our research and development expenses are related to developing new software solutions and improving our existing software solutions.

We expect our research and development expenses to continue to increase in absolute dollars and as a percentage of revenue as we continue to make investments in developing new solutions and enhancing the functionality of our existing solutions with a focus on cancer care. However, we expect our research and development expenses to decrease as a percentage of revenue over the long term as we realize economies of scale from our developed technology.

Amortization of acquisition related assets

Amortization of acquisition related assets consists of noncash amortization expense related to our non-revenue generating technology as well as amortization expense that we recognize on intangible assets that we acquired through our investments.

Impairment of intangible assets

Impairment of intangible assets consists entirely of the impairment loss from the NantHealth Labs definite-lived intangible assets. In June 2019, we pivoted from a commercial liquid biopsy test offering to focus on performing a study to measure the clinical utility of the AR-V7 analyte for informing treatment in patients with castration-resistant prostate cancer. We will continue this study while also pursuing other strategically aligned clinical studies that support our liquid biopsy platform. As such, we identified an indicator of impairment with respect to the NantHealth Labs definite-lived intangible assets given the decline in sales and our decision to cease commercial sales of our liquid biopsy test product. We determined that the assets were not recoverable given the significant amount of costs required to further build evidence of clinical utility while also ceasing commercial sales of the Liquid GPS product.

Interest Expense, net

Interest expense, net primarily consists of interest expense associated with our outstanding borrowings, including coupon interest expense, amortization of debt discounts and amortization of deferred financing offering cost, offset by interest income earned on our cash and cash equivalents and marketable securities.

Other Income (Expense), net

Other income (expense), net consists primarily of unrealized and realized gains (losses), change in the fair value of the Bookings Commitment, dividend income on our cash equivalent financial instruments, change in fair value of derivative liability, impairment of equity securities and other non-recurring items.

Loss from Equity Method Investment

Loss from equity method investment consists of our pro rata share of losses of a company that we own an ownership interest in and account for under the equity method of accounting, amortization of basis differences, and other than temporary impairments in the value of our investments. We regularly evaluate our investments, which are not carried at fair value, for other than temporary impairment in accordance with U.S. GAAP.

Provision for (Benefit from) Income Taxes

Provision for income taxes consists of U.S. federal and state and foreign income taxes. We are required to allocate the provision for income taxes between continuing operations and other categories of earnings, such as discontinued operations. To date, we have no significant U.S. federal, state and foreign cash income taxes because of current and accumulated net operating losses ("NOLs").

We record a valuation allowance when it is more likely than not that some portion or all of a deferred tax asset will not be realized. In making such a determination, we consider all the available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, and ongoing prudent and feasible tax planning strategies in assessing the amount of the valuation allowance. When we establish or reduce the valuation allowance against the deferred tax assets, our provision for income taxes will increase or decrease, respectively, in the period such determination is made.

Results of Operations

The following table sets forth our Consolidated Statements of Operations data for each of the periods indicated:

(Dollars in thousands except per share amounts)

	Year Ended December 31,	
	2019	2018
Revenue		
Software-as-a-service related	\$ 72,831	\$ 65,646
Software and hardware related	8,015	4,534
Maintenance	10,519	9,834
Total software-related revenue	91,365	80,014
Sequencing and molecular analysis	1,733	3,129
Home health care services	2,863	6,321
Total net revenue	95,961	89,464
Cost of Revenue		
Software-as-a-service related	23,233	23,691
Software and hardware related	2,886	3,335
Maintenance	1,625	924
Amortization of developed technologies	4,662	4,933
Total software-related cost of revenue	32,406	32,883
Sequencing and molecular analysis	4,545	8,055
Home health care services	1,471	3,331
Total cost of revenue	38,422	44,269
Gross Profit	57,539	45,195
Operating Expenses		
Selling, general and administrative	61,043	70,763
Research and development	19,072	20,916
Amortization of acquisition-related assets	4,217	4,217
Impairment of intangible asset	3,977	—
Total operating expenses	88,309	95,896
Loss from operations	(30,770)	(50,701)
Interest expense, net	(18,044)	(17,120)
Other expense, net	(5,625)	(17,876)
Loss from related party equity method investment	(8,317)	(108,409)
Loss from continuing operations before income taxes	(62,756)	(194,106)
Benefit from income taxes	(112)	(3,673)
Net loss from continuing operations	(62,644)	(190,433)
Loss from discontinued operations, net of tax	(118)	(1,719)
Net loss	\$ (62,762)	\$ (192,152)
Basic and diluted net loss per share		
Continuing operations - common stock	\$ (0.57)	\$ (1.74)
Discontinued operations - common stock	\$ —	\$ (0.02)
Total net loss per share - common stock	\$ (0.57)	\$ (1.76)
Weighted average shares outstanding		
Basic - common stock	110,351,638	109,168,798
Diluted - common stock	110,468,372	109,168,798

The following table sets forth our Consolidated Statements of Operations data as a percentage of revenue for each of the periods indicated (Unaudited):

	Year Ended December 31,	
	2019	2018
Revenue		
Software-as-a-service related	75.8%	73.3%
Software and hardware related	8.4%	5.1%
Maintenance	11.0%	11.0%
Total software-related revenue	95.2%	89.4%
Sequencing and molecular analysis	1.8%	3.5%
Home health care services	3.0%	7.1%
Total net revenue	100.0%	100.0%
Cost of Revenue		
Software-as-a-service related	24.2%	26.5%
Software and hardware related	3.0%	3.7%
Maintenance	1.7%	1.0%
Amortization of developed technologies	4.9%	5.6%
Total software-related cost of revenue	33.8%	36.8%
Sequencing and molecular analysis	4.7%	9.0%
Home health care services	1.5%	3.7%
Total cost of revenue	40.0%	49.5%
Gross Profit	60.0%	50.5%
Operating Expenses		
Selling, general and administrative	63.7%	79.1%
Research and development	19.9%	23.4%
Amortization of acquisition-related assets	4.4%	4.7%
Impairment of intangible asset	4.1%	0.0%
Total operating expenses	92.1%	107.2%
Loss from operations	(32.1%)	(56.7%)
Interest expense, net	(18.8%)	(19.1%)
Other expense, net	(5.9%)	(20.0%)
Loss from related party equity method investment	(8.6%)	(121.2%)
Loss from continuing operations before income taxes	(65.4%)	(217.0%)
Benefit from income taxes	(0.1%)	(4.1%)
Net loss from continuing operations	(65.3%)	(212.9%)
Loss from discontinued operations, net of tax	(0.1%)	(1.9%)
Net loss	(65.4%)	(214.8%)

Comparison of the years ended December 31, 2019 and 2018

Revenue

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Software-as-a-service related	\$ 72,831	\$ 65,646	7,185	10.9 %
Software and hardware related	8,015	4,534	3,481	76.8 %
Maintenance	10,519	9,834	685	7.0 %
Total software-related revenues	91,365	80,014	11,351	14.2 %
Sequencing and molecular analysis	1,733	3,129	(1,396)	(44.6)%
Home health care services	2,863	6,321	(3,458)	(54.7)%
Total net revenue	\$ 95,961	\$ 89,464	\$ 6,497	7.3 %

Comparison of the years ended December 31, 2019 and 2018

Total revenue increased \$6.5 million, or 7.3%, from \$89.5 million for the year ended December 31, 2018 to \$96.0 million for the year ended December 31, 2019. Our total revenue growth was driven primarily by growth in our SaaS, software and hardware, and maintenance categories partially offset by decreases in our home health care services and sequencing and molecular analysis revenue categories.

SaaS revenue was \$72.8 million for the year ended December 31, 2019, an increase of \$7.2 million, or 10.9%, from \$65.6 million for the year ended December 31, 2018. This growth was due to a \$4.0 million increase from Eviti platform solutions related to the combination of new customers and increased covered lives on existing customers and a \$3.2 million increase in NaviNet SaaS revenue, largely from the higher value of professional services projects being completed in 2019.

Software and hardware revenue increased \$3.5 million, or 76.8% from \$4.5 million in the year ended December 31, 2018 to \$8.0 million in the year ended December 31, 2019. The main contributing factor for this increase was the timing of a large DCX customer contract completed and recognized in the current year. Our software and hardware related revenue results experience fluctuations due to the timing of implementation completions for our DCX customers and our revenue recognition for those arrangements.

Maintenance revenue increased \$0.7 million, or 7.0%, from \$9.8 million in the year ended December 31, 2018 to \$10.5 million for the year ended December 31, 2019. This increase was due to the timing of DCX customer contracts and post contract support maintenance services completed and recognized in the current year period.

Sequencing and molecular analysis revenue decreased \$1.4 million, or 44.6% from \$3.1 million for the year ended December 31, 2018 to \$1.7 million for the year ended December 31, 2019. This decrease reflected lower volume of GPS samples sequenced and recognized as revenue in the current year resulting from deliveries for patients covered by contract and non-contracted payers. Currently, we recognize revenue from clients with executed contracts, and from clients without a contractual agreement where we recognize revenue on a cash basis given the uncertainty over reimbursement. As we gain additional insurance coverage, including coverage under government insurance programs, we expect to be able to reduce the portion of sequencing and molecular analysis revenue which is recognized on a cash basis.

We continue to focus efforts to enhance reimbursement from plans when profiles are ordered and there is no payer contract in place. We are actively engaging plans with detail which supports a physician's reason for ordering. Our utilization of pre-authorizations and supporting documentation assists in the overall billing and appeal process, optimizing payment with payers, who do not have a formal agreement with us.

In parallel with the private payer activities described above, we are also making extensive efforts to explore approval pathways for our test capabilities (including the FDA in-vitro medical device clearance we received in November 2019), which we believe will facilitate coverage from governmental programs such as Medicare. Those activities are ongoing but have uncertainty on the timelines as to formal approval. Lastly, we have implemented an increase in the patient financial responsibility which is collected prior to testing to ensure that at least a partial payment is received for every test performed, we expect unpaid and partial paid orders to decline, which will likely result in a decline in total GPS orders and revenue in the short-term.

Home health care services revenue decreased \$3.5 million, or 54.7%, from \$6.3 million in 2018 to \$2.9 million for the year ended December 31, 2019. This decrease was due to the sale of our home health care services business in June 2019.

We believe that significant opportunities exist for expanded cross-selling across our products and across our existing customer base, including Eviti and NaviNet customer bases. We also believe that our customer base and our product solutions provide unique opportunities to expand the volume of GPS Cancer analysis reporting to our customer base. Maintaining our current customer base will be important to our future SaaS recurring revenue streams.

Cost of Revenue

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Software-as-a-service related	\$ 23,233	\$ 23,691	\$ (458)	(1.9)%
Software and hardware related	2,886	3,335	(449)	(13.5)%
Maintenance	1,625	924	701	75.9 %
Amortization of developed technologies	4,662	4,933	(271)	(5.5)%
Total software-related cost of revenue	32,406	32,883	(477)	(1.5)%
Sequencing and molecular analysis	4,545	8,055	(3,510)	(43.6)%
Home health care services	1,471	3,331	(1,860)	(55.8)%
Total cost of revenue	\$ 38,422	\$ 44,269	\$ (5,847)	(13.2)%

Comparison of the years ended December 31, 2019 and 2018

Cost of revenue decreased \$5.8 million, or 13.2%, from \$44.3 million in the year ended December 31, 2018 to \$38.4 million for the year ended December 31, 2019. The decrease is related to declines in all categories, with the primary drivers in the sequencing and molecular analysis and home health care services categories.

Total software-related cost of revenue was essentially flat from \$32.9 million in the year ended December 31, 2018 to \$32.4 million for the year ended December 31, 2019. SaaS related cost of revenue was flat due to a reduction of professional services costs and a decrease in amortization expense related to capitalized internal use software for NaviNet, offset by lower capitalization of labor cost for internally developed software. Software and hardware cost of revenue declined due primarily to the write-off of certain inventory in 2018 and a decrease in stock-based compensation expense due to fully vested grants and terminations. Maintenance cost of revenue increased as related to higher personnel costs due to an increase in headcount and higher professional services costs.

Sequencing and molecular analysis cost of revenue decreased \$3.5 million, or 43.6%, from \$8.1 million in 2018 compared to \$4.5 million in 2019. The decrease reflected the reduction in GPS cost of revenue due to a lower volume of GPS test deliveries as a result of lower orders.

We believe that there are opportunities going forward to grow the volume of sequencing and molecular analysis activity which would increase the associated costs of delivering such revenue. We record the cost of revenue expense upon delivery of the GPS Cancer report to our clients. As a result, there will be a timing difference between the revenue recorded and the cost of revenue recorded. Sequencing and molecular analysis revenue in the current period was limited to what could be recognized on a cash basis due to uncertainty over reimbursement for the GPS Cancer profiles delivered in the period. As we gain additional insurance coverage and reimbursement experience, we expect to be able to reduce the portion of GPS revenue which is recognized on a cash basis.

In addition, the cost of revenue is recorded as defined by the applicable contract with our clients and as outlined in the amended and restated Reseller Agreement ("Reseller Agreement") for genomic and proteomic sequencing services and related bioinformatics and analysis services with NantOmics. On December 18, 2017, the Company and NantOmics executed Amendment No. 1 to the Second Amended Reseller Agreement to allow fee adjustments with respect to services completed by NantOmics between the amendment effective date of October 1, 2017 to June 30, 2018. On April 23, 2019, the Company and NantOmics executed Amendment No. 2 to the Second Amended Reseller Agreement to adjust the fixed fee with respect to services completed by NantOmics between April 1, 2019 and December 31, 2020.

Home health care services cost of revenue decreased \$1.9 million, or 55.8%, from \$3.3 million for the year ended December 31, 2018 to \$1.5 million for the year ended December 31, 2019. This decrease was due to the sale of our home health care services business in June 2019.

Selling, General and Administrative

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Selling, general and administrative	\$ 61,043	\$ 70,763	\$ (9,720)	(13.7)%

Comparison of the years ended December 31, 2019 and 2018

Selling, general and administrative expenses decreased \$9.7 million, or 13.7%, from \$70.8 million to \$61.0 million for the years ended December 31, 2018 and 2019, respectively.

The decrease is related to a \$2.3 million decrease in professional service costs resulting from the timing of project based advisory and consulting services, a \$2.1 million decrease in stock-based compensation expense compared to the prior year period due to fully vested grants and terminations, a \$2.5 million decrease in other general and administrative costs due to various cost savings measures, a \$1.4 million decrease in sales and marketing related costs, a \$1.3 million net decrease in corporate shared services net allocation from our parent company, offset by the \$0.6 million loss on sale of our home health care services business in June 2019.

Research and Development

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Research and development	\$ 19,072	\$ 20,916	\$ (1,844)	(8.8)%

Comparison of the years ended December 31, 2019 and 2018

Research and development expenses decreased \$1.8 million, or 8.8%, from \$20.9 million in 2018 to \$19.1 million in 2019. The decrease is due to a \$0.7 million reduction to stock-based compensation expense related to fully vested grants and terminations, a \$1.0 million decrease in personnel related expenses as a result of lower headcount, and a \$0.7 million reduction in computer and equipment costs related to various cost saving measures. The decreases were partially offset by a \$0.5 million increase to bonus expense due to a higher bonus payout rate in 2019 as compared to 2018.

Interest Expense, Net

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Interest expense, net	\$ (18,044)	\$ (17,120)	\$ (924)	5.4%

Comparison of the years ended December 31, 2019 and 2018

Interest expense, net, increased by \$0.9 million, from \$17.1 million for the year ended December 31, 2018 to \$18.0 million for the year ended December 31, 2019. This increase is due to a \$0.6 million increase in interest expense from the amortization of debt discounts on our convertible notes issued in 2016 and a \$0.3 million increase in interest expense from our note with NantCapital, due to interest accruals.

Please see the section entitled "Liquidity and Capital Resources" below and Note 20 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K for further discussion of our convertible notes and the note with NantCapital.

Other Expense, net

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Other expense, net	\$ (5,625)	\$ (17,876)	\$ 12,251	(68.5)%

Comparison of the years ended December 31, 2019 and 2018

Other expense, net decreased by \$12.3 million, from \$17.9 million for the year ended December 31, 2018 to \$5.6 million for the year ended December 31, 2019. The expense during 2019 was mainly driven by a \$5.0 million increase in the fair value of the Bookings Commitment liability, as a result of changes in the cost of debt due to macroeconomic factors and the passage of time.

Loss from Related Party Equity Method Investment

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Loss from related party equity method Investment	\$ (8,317)	\$ (108,409)	\$ 100,092	(92.3)%

Comparison of the years ended December 31, 2019 and 2018

For the year ended December 31, 2019, the loss from our equity method investment decreased \$100.1 million compared to the prior year, from \$108.4 million during the year ended December 31, 2018 to \$8.3 million during the year ended December 31, 2019.

This decrease was primarily due to other than temporary impairment charges of \$95.2 million recognized during the year ended December 31, 2018 and a reduction in the amount of pro rata share of losses from our investment in NantOmics during the year ended December 31, 2019. We report our share of NantOmics' loss and the amortization of basis difference using a one quarter lag.

Provision for (Benefits from) Income taxes

(Dollars in thousands)	Year Ended December 31,		Period-To-Period Change	
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Benefit from income taxes	\$ (112)	\$ (3,673)	\$ 3,561	(97.0)%

Comparison of the years ended December 31, 2019 and 2018

For the year ended December 31, 2019, the benefit from income taxes in continuing operations was \$0.1 million, compared with a \$3.7 million benefit from income taxes during the year ended December 31, 2018.

The 2019 tax benefit is mainly due to the reduction of excess deferred tax liabilities in certain jurisdictions.

The 2018 tax benefit is mainly due to the Tax Cuts and Jobs Act of 2017 which allowed NOLs generated in 2018 to be carried forward indefinitely.

Loss from Discontinued Operations, Net of Income Taxes

(Dollars in thousands)	Year Ended December		Period-To-Period Change	
	31,			
	2019	2018	2019 vs. 2018	
	Amount	Amount	Amount	Percentage
Loss from discontinued operations, net of income taxes	\$ (118)	\$ (1,719)	\$ 1,601	(93.1)%

For the year ended December 31, 2019, the loss from discontinued operations, net of tax decreased by \$1.6 million compared to the prior year period. This decline can be attributed to the decreased activity related to the Allscripts transaction that occurred in 2017.

Liquidity and Capital Resources

Sources of Liquidity

As of December 31, 2019, we had cash and cash equivalents of \$5.2 million, compared to \$18.3 million as of December 31, 2018, of which \$0.2 million and \$0.1 million, respectively, related to foreign subsidiaries. We believe that our existing cash, cash equivalents, the \$47.3 million received from sale of the Connected Care Business in February 2020, and our ability to borrow from affiliated entities, will be sufficient to fund our operations through at least the next 12 months following the issuance date of the financial statements. We continue to have our Chairman and CEO's intent and ability to support our operations with additional funds as required. We may also seek to sell additional equity, through one or more follow-on public offerings or in separate financings, or sell additional debt securities or obtain a credit facility. However, we may not be able to secure such financing in a timely manner or on favorable terms. We may also consider selling off components of our business. Without additional funds, we may choose to delay or reduce our operating or investment expenditures. Further, because of the risk and uncertainties associated with the commercialization of our existing products as well as products in development, we may need additional funds to meet our needs sooner than planned. To date, our primary sources of capital have been the private placement of membership interests prior to the IPO, debt financing agreements, including the NantCapital Note and Convertible Notes, our IPO, and proceeds from the sale of components of our business.

Convertible Notes

In December 2016, we entered into a purchase agreement (the "Purchase Agreement") with J.P. Morgan Securities LLC and Jefferies LLC, as representatives of the several initial purchasers named therein (collectively, the "Initial Purchasers"), to issue and sell \$90.0 million in aggregate principal amount of our 5.50% Convertible Senior Notes due 2021 (the "Convertible Notes") in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933 (the "Securities Act"). In December 2016, we entered into a purchase agreement (the "Cambridge Purchase Agreement") with Cambridge Equities, L.P., an entity affiliated with Dr. Patrick Soon-Shiong, our Chairman and Chief Executive Officer ("Cambridge"), to issue and sell \$10.0 million in aggregate principal amount of the Convertible Notes in a private placement pursuant to an exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) of the Securities Act. In December 2016, pursuant to the exercise of the over-allotment by the Initial Purchasers, we issued an additional \$7.0 million principal amount of the Convertible Notes. The total net proceeds from this offering were approximately \$102.7 million, comprised of \$9.9 million from Cambridge and \$92.8 million from the Initial Purchasers, after deducting the Initial Purchasers' discount and debt issuance costs of \$4.3 million in connection with the Convertible Notes offering.

On December 21, 2016, we entered into an Indenture, relating to the issuance of the Convertible Notes (the "Indenture"), by and between us and U.S. Bank National Association, as trustee (the "Trustee"). The interest rates are fixed at 5.50% per year, payable semi-annually on June 15 and December 15 of each year, beginning on June 15, 2017. The Convertible Notes will mature on December 15, 2021, unless earlier repurchased by us or converted pursuant to their terms. The initial conversion rate of the Convertible Notes is 82.3893 shares of common stock per \$1,000 principal amount of Convertible Notes (which is equivalent to an initial conversion price of approximately \$12.14 per share). Prior to the close of business on the business day immediately preceding September 15, 2021, the Convertible Notes will be convertible only under the following circumstances: (1) during any calendar quarter commencing after March 31, 2017 (and only during such calendar quarter), if, for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on the last trading day of the immediately preceding calendar quarter, the last reported sales price of our common stock on such trading day is greater than or equal to 120% of the conversion price on such trading day; (2) during the five-business day period after any five consecutive trading day period in which, for each day of that period, the trading price per \$1,000 principal amount of the Convertible Notes for such trading day was less than 98% of the product of the last reported sales price of our common stock and the conversion rate on such trading day; or (3) upon the occurrence of specified corporate transactions. Upon conversion, the Convertible Notes will be settled in cash, shares of our common stock or any combination thereof at our option.

Upon the occurrence of a fundamental change (as defined in the Indenture), holders may require us to purchase all or a portion of the Convertible Notes in principal amounts of \$1,000 or an integral multiple thereof, for cash at a price equal to 100% of the principal amount of the Convertible Notes to be purchased plus any accrued and unpaid interest to, but excluding, the fundamental change purchase date. The conversion rate will be subject to adjustment upon the occurrence of certain specified events.

NantCapital Notes

In January 2016, we executed a demand promissory note with NantCapital (the "NantCapital Note"), a personal investment vehicle for Dr. Patrick Soon-Shiong, our Chairman and CEO. As of December 31, 2019, the total advances made by NantCapital to us pursuant to the note was approximately \$112.7 million. In May 2016, the NantCapital Note was amended and restated to provide that all outstanding principal and accrued and unpaid interest is due and payable on June 30, 2021, and not on demand. On December 15, 2016, in connection with the offering of the Convertible Notes, we entered into a Second Amended and Restated Promissory Note which amended and restated the Amended and Restated Promissory Note, dated May 9, 2016, between us and NantCapital, to, among other things, extend the maturity date of the NantCapital Note to June 15, 2022 and to subordinate the NantCapital Note in right of payment to the Convertible Notes. We can request additional advances subject to NantCapital approval, and the NantCapital Note bears interest at a per annum rate of 5.0% compounded annually and computed on the basis of the actual number of days in the year. NantCapital has the option, but not the obligation, to require us to repay any such amount in cash, Series A-2 units of NantOmics (based on a per unit price of \$1.484) held by us, shares of our common stock based on a per share price of \$18.6126 (if such equity exists at the time of repayment), or any combination of the foregoing at the sole discretion of NantCapital.

On August 8, 2018, we executed a promissory note in favor of NantCapital, with a maturity date of June 15, 2022. The note bears interest at a per annum rate of 9.75% and is compounded annually, interest payments on outstanding amounts are due on June 15 and December 15 of each calendar year. No advances have currently been made under the note. The note allows us to request advances, up to a maximum commitment of \$100.0 million. Advances can be requested of up to \$10.0 million per calendar quarter until March 31, 2019 and following that, up to \$20.0 million per calendar quarter until December 31, 2020, after which no further advances can be requested. The promissory note is subordinated to the Convertible Notes. The promissory note includes customary negative covenants and a Performance to Plan - Adjusted EBITDA covenant, that stipulates, in order for us to draw on the promissory note, the profit measure, as defined in the agreement, may not negatively deviate from board approved financial plans by more than 25%. At December 31, 2019, the Company was in compliance with the covenants.

If we raise additional funds by issuing equity securities or securities convertible into equity, our stockholders could experience dilution. Additional debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any additional debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders and require significant debt service payments, which diverts resources from other activities. Additional financing may not be available at all, or in amounts or on terms acceptable to us. If we are unable to obtain additional financing, we may be required to delay the development, commercialization and marketing of our products and scale back our business and operations.

Cash Flows

The following table sets forth our primary sources and uses of cash for the periods indicated:

(Dollars in thousands)	Year Ended December 31,	
	2019	2018
Cash used in:		
Operating activities	\$ (8,765)	\$ (29,632)
Investing activities	(4,290)	(10,478)
Financing activities	(32)	(2,159)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	25	(300)
Net decrease in cash, cash equivalents and restricted cash	<u>\$ (13,062)</u>	<u>\$ (42,569)</u>

To date, our operations have been primarily financed through the proceeds from related party promissory notes, the Convertible Notes, and through equity issuances, including net cash proceeds from our IPO. In June 2016, we sold 6,900,000 shares of common stock at a price of \$14.00 per share, which includes 400,000 shares sold to the underwriter upon exercise of their over-allotment option to purchase additional shares of our Company. We raised net proceeds of \$83.6 million from our IPO, after underwriting fees, discounts and commissions of \$4.9 million and other offering costs of \$8.1 million. In December 2016, we issued Convertible Notes to related party and others for aggregate net proceeds of \$102.7 million, \$9.9 million from Cambridge, and \$92.8 million from others, after deducting underwriting discounts and commissions and offering costs of \$4.3 million.

Operating Activities

Our cash flows from operating activities have been driven by rate of revenue, billings, and collections, the timing and extent of spending to support product development efforts and enhancements to existing services, the timing of general and administrative expenses, and the continuing market acceptance of our solution.

In addition, our net loss in the year ended December 31, 2019 has been significantly greater than our use of cash for operating activities due to the inclusion of substantial noncash charges.

Cash used in operating activities of \$8.8 million in the year ended December 31, 2019 was a result of our continued investments in enhancements to current products, research and development, sales and marketing, and expenses incurred as a public company, including costs associated with public company reporting and corporate governance requirements. In the year ended December 31, 2019, \$48.1 million, or 77%, of our net loss of \$62.8 million consisted of noncash items, including \$22.4 million of depreciation and amortization expense, \$8.3 million loss from our related party equity method investment, \$5.7 million amortization of debt discounts and deferred financing offering costs, a \$5.0 million increase in the fair value of the Bookings Commitment liability, \$4.0 million impairment of intangible assets, and \$2.8 million in stock-based compensation expense. Certain of our securities litigation (see Part I. Item 3. Legal Proceedings) costs are covered and paid directly by insurance, with \$17.1 million of costs recorded in accrued and other current liabilities and a corresponding \$16.6 million of insurance receivables recognized in prepaid expenses and other current assets.

Changes in working capital increased cash by \$5.9 million in the year ended December 31, 2019. The change in cash was primarily attributable to a \$17.4 million increase in accrued and other liabilities, a \$16.6 million increase in prepaid expenses and other current assets, a \$6.0 million increase in related party payables, net, a \$4.9 million reduction in deferred revenues, and a \$3.3 million reduction in accounts receivable.

Cash used in operating activities of \$29.6 million in the year ended December 31, 2018 was a result of our continued investments in sales and marketing, research and development, costs associated with public company reporting and corporate governance requirements, and other expenses incurred to grow our business. In the year ended December 31, 2018, \$156.6 million, or 81%, of our net loss of \$192.2 million consisted of noncash items, including a \$108.4 million loss from our related party equity method investment, \$22.4 million of depreciation and amortization, \$16.9 million increase in the fair value of the Bookings Commitment liability, \$5.7 million in stock-based compensation, and \$5.0 million amortization of debt discounts and deferred financing offering costs, partially offset by a \$3.8 million decrease in deferred tax liabilities, net.

Cash used in operating activities in the year ended December 31, 2018 included a \$1.7 million reduction in accounts payable, a \$4.8 million reduction in accrued and other liabilities, a \$3.8 million decrease in net deferred tax liabilities, net, and a \$0.6 million decrease in deferred revenue. The cash used in operating activities was offset by a \$3.1 million cash inflow due to the change in other assets and liabilities, a \$2.3 million decrease in prepaid expenses and other current assets, a \$0.3 million decrease in inventories, and an increase of \$6.0 million in related party payables, net.

Investing Activities

Our primary investing activities have consisted of acquisitions to expand our features and functionality of NantHealth solutions and capital expenditures to develop our software as well as to purchase computer equipment and furniture and fixtures in support of expanding our infrastructure.

We used \$4.3 million of cash in investing activities in the year ended December 31, 2019, primarily attributed to investment in internally developed software.

We used \$10.5 million of cash in investing activities in the year ended December 31, 2018, primarily comprised of purchases of equipment and investments in our capitalized software.

Financing Activities

Cash used in financing activities during the year ended December 31, 2019 were primarily attributed to proceeds from, net of repayments of, an insurance promissory note, offset by payments to tax authorities on the employees' behalf to satisfy withholding requirements on income earned from vested shares of the Nant Health, LLC Phantom Unit Plan (the "Phantom Unit Plan") and restricted stock units.

Cash used in financing activities in the year ended December 31, 2018 of \$2.1 million was due to payments to tax authorities on the employees' behalf to satisfy withholding requirements on income earned from vested shares.

Contractual Obligations, Commitments and Contingencies

Our principal commitments consist of obligations under our outstanding debt obligations, noncancelable leases for our office space and certain equipment and vendor contracts to provide research services, and purchase obligations and minimum commitments under license agreements and reseller agreements. The following table summarizes these contractual obligations as of December 31, 2019 in thousands:

Contractual Obligations	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Purchasing obligations	\$ 381,000	\$ 2,500	\$ 51,000	\$ 76,000	\$ 251,500
Long term debt obligations:					
Related party promissory note	154,685	—	154,685	—	—
Related party convertible notes	10,000	—	10,000	—	—
Other convertible notes	97,000	—	97,000	—	—
Operating leases and capital leases obligations	17,485	3,192	6,127	5,802	2,364
Total Obligations	\$ 660,170	\$ 5,692	\$ 318,812	\$ 81,802	\$ 253,864

In September 2016, we entered into a Second Amended and Restated Reseller Agreement ("Reseller Agreement") for genomic and proteomic sequencing services and related bioinformatics and analysis services with NantOmics, with an effective date of June 19, 2015. The Reseller Agreement has a contract period from June 2015 through December 31, 2020, subject to three potential three-year renewal options if we meet certain GPS Cancer thresholds. We agreed to pay NantOmics noncancelable annual minimum fees of \$2.0 million for each of the calendar years from 2016 through 2020, and subject to us exercising at least one of our renewal options, we are required to pay annual minimum fees to NantOmics of \$25.0 million for each of the calendar years from 2021 through 2023 and \$50.0 million per year for each of the calendar years from 2024 through 2029. We have the ability to terminate the Reseller Agreement without cause. The Reseller Agreement permits us to use vendors other than NantOmics to provide any or all of the services that are currently being provided by NantOmics and clarifies that we are responsible for order fulfillment and branding.

New Accounting Pronouncements

See Note 2, "Summary of Significant Accounting Policies" to the accompanying Consolidated Financial Statements for a discussion of new accounting standards.

Off-Balance Sheet Arrangements

During the periods presented, we did not have any off-balance sheet arrangements.

Related Party Transactions

See Note 20 to the accompanying Consolidated Financial Statements for a discussion of related party transactions.

Critical Accounting Policies and Significant Judgments and Estimates

This Management's Discussion and Analysis of our Results of Operations and Liquidity and Capital Resources is based on our Consolidated Financial Statements, which we have prepared in accordance with accounting principles generally accepted in the United States. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of our financial statements, as well as the reported revenues and expenses during the reported periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We consider policies relating to the following matters to be critical accounting policies:

- Revenue from Contracts with Customers;
- Stock-Based Compensation;
- Change in fair value of Bookings Commitment;
- Income Taxes;
- Leases;
- Business Combinations;
- Software Developed for Internal Use;
- Goodwill and Intangible Assets; and
- Investment in Related Party.

For a discussion of each of our critical accounting policies, including information and analysis of estimates and assumptions involved in their application, and other significant accounting policies, see Note 2, "Summary of Significant Accounting Policies," to the accompanying Consolidated Financial Statements.

JOBS Act

On April 5, 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies. Subject to certain conditions set forth in the JOBS Act, as an "emerging growth company," we intend to rely on certain exemptions and reduced reporting requirements provided by the JOBS Act, including those relating to (i) providing an auditor's attestation report on our system of internal control over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (ii) complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis. We will remain an "emerging growth company" until the earliest of (i) the last day of our first fiscal year in which we have total annual gross revenues of \$1.07 billion or more, (ii) the date on which we are deemed to be a "large accelerated filer" under the rules of the SEC with at least \$700 million of outstanding equity securities held by non-affiliates, (iii) the date on which we have issued more than \$1 billion in non-convertible debt during the previous three years, or (iv) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

As of December 31, 2019, we had \$5.2 million in cash and cash equivalents which were held for working capital purposes. Our cash and cash equivalents are comprised primarily of mutual funds listed on active exchanges, U.S. treasury securities, money market funds, and cash held in FDIC - insured institutions. Our investments are made for capital preservation purposes. We do not enter into investments for trading or speculative purposes. All our investments are denominated in U.S. dollars. If overall interest rates had decreased by 10% during the periods presented, our interest income would not have been materially affected.

Credit Risk

Our cash equivalents are subject to market risk due to changes in interest rates. Fixed rate securities may have their market value adversely affected due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates or we may suffer losses in principal if we are forced to sell securities that decline in market value due to changes in interest rates.

Foreign Currency Risk

We maintain offices in the United Kingdom and have selected clients in the Canada, Europe, the Middle East, Southeast Asia and United Kingdom. However, due to the low volume of activity outside the United States, the foreign currency risk is minimal. The effect of a 10% adverse change in exchange rates on foreign currency denominated cash and payables as of December 31, 2019 would not have been material. However, fluctuations in currency exchange rates could harm our business in the future.

Item 8. Consolidated and Combined Financial Statements and Supplementary Data

NantHealth, Inc.
Consolidated Financial Statements
Years Ended December 31, 2019 and 2018
(Dollars in thousands, except per share amounts)

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Report of Independent Registered Public Accounting Firm

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of NantHealth, Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficit) and cash flows for each of the two years in the period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

Adoption of ASU No. 2016-02

As discussed in Note 2 to the consolidated financial statements, the Company changed its method of accounting for leases in 2019 due to the adoption of Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*, and the related amendments.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2013.

Los Angeles, California

February 28, 2020

NantHealth, Inc.
Consolidated Balance Sheets
(Dollars in thousands, except per share amounts)

	December 31,	
	2019	2018
Assets		
Current assets		
Cash and cash equivalents	5,243	\$ 18,305
Accounts receivable, net	10,918	15,286
Inventories	798	496
Related party receivables, net	823	1,007
Prepaid expenses and other current assets	20,131	4,350
Total current assets	37,913	39,444
Property, plant, and equipment, net	16,095	22,978
Goodwill	115,930	115,930
Intangible assets, net	51,848	64,703
Investment in related party	31,702	40,000
Related party receivable, net of current	1,108	1,611
Operating lease right-of-use assets	10,073	—
Other assets	1,818	1,671
Total assets	\$ 266,487	\$ 286,337
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 3,951	\$ 1,650
Accrued and other current liabilities	32,444	13,832
Deferred revenue	16,748	16,263
Related party payables, net	4,120	4,791
Notes payable	238	—
Total current liabilities	57,501	36,536
Deferred revenue, net of current	1,286	6,704
Related party liabilities	24,227	17,708
Related party promissory note	112,666	112,666
Related party convertible note, net	8,864	8,378
Convertible notes, net	84,648	79,433
Deferred income taxes, net	1,879	2,437
Operating lease liabilities	11,010	—
Other liabilities	21,542	19,644
Total liabilities	323,623	283,506
Commitments and Contingencies (Note 15)		
Stockholders' equity (deficit)		
Common stock, \$0.0001 par value per share, 750,000,000 shares authorized; 110,619,678 and 109,491,277 shares issued and outstanding at December 31, 2019 and 2018, respectively	11	11
Additional paid-in capital	889,955	887,289
Accumulated deficit	(946,884)	(884,122)
Accumulated other comprehensive loss	(218)	(347)
Total stockholders' (deficit) equity	(57,136)	2,831
Total liabilities and stockholders' equity (deficit)	\$ 266,487	\$ 286,337

The accompanying notes are an integral part of these Consolidated Financial Statements.

NantHealth, Inc.
Consolidated Statements of Operations
(Dollars in thousands, except per share amounts)

	Year Ended December 31,	
	2019	2018
Revenue		
Software-as-a-service related	\$ 72,831	\$ 65,646
Software and hardware related	8,015	4,534
Maintenance	10,519	9,834
Total software-related revenue	91,365	80,014
Sequencing and molecular analysis	1,733	3,129
Home health care services	2,863	6,321
Total net revenue	95,961	89,464
Cost of Revenue		
Software-as-a-service related	23,233	23,691
Software and hardware related	2,886	3,335
Maintenance	1,625	924
Amortization of developed technologies	4,662	4,933
Total software-related cost of revenue	32,406	32,883
Sequencing and molecular analysis	4,545	8,055
Home health care services	1,471	3,331
Total cost of revenue	38,422	44,269
Gross Profit	57,539	45,195
Operating Expenses		
Selling, general and administrative	61,043	70,763
Research and development	19,072	20,916
Amortization of acquisition-related assets	4,217	4,217
Impairment of intangible asset	3,977	—
Total operating expenses	88,309	95,896
Loss from operations	(30,770)	(50,701)
Interest expense, net	(18,044)	(17,120)
Other expense, net	(5,625)	(17,876)
Loss from related party equity method investment	(8,317)	(108,409)
Loss from continuing operations before income taxes	(62,756)	(194,106)
Benefit from income taxes	(112)	(3,673)
Net loss from continuing operations	(62,644)	(190,433)
Loss from discontinued operations, net of tax	(118)	(1,719)
Net loss	\$ (62,762)	\$ (192,152)
Basic and diluted net loss per share		
Continuing operations - common stock	\$ (0.57)	\$ (1.74)
Discontinued operations - common stock	\$ —	\$ (0.02)
Total net loss per share - common stock	\$ (0.57)	\$ (1.76)
Weighted average shares outstanding		
Basic - common stock	110,351,638	109,168,798
Diluted - common stock	110,468,372	109,168,798

The accompanying notes are an integral part of these Consolidated Financial Statements.

NantHealth, Inc.
Consolidated Statements of Comprehensive Loss
(Dollars in thousands)

	Year Ended December 31,	
	2019	2018
Net loss	\$ (62,762)	\$ (192,152)
Other comprehensive income (loss) from foreign currency translation	129	(203)
Total other comprehensive income (loss)	129	(203)
Comprehensive loss	<u>\$ (62,633)</u>	<u>\$ (192,355)</u>

The accompanying notes are an integral part of these Consolidated Financial Statements.

NantHealth, Inc.
Consolidated Statements of Stockholders' Equity (Deficit)
(Dollars in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity (Deficit)
	Shares	Amount				
Balance at December 31, 2017	108,383,602	\$ 10	\$ 886,669	\$ (693,233)	\$ (144)	\$ 193,302
Modified retrospective adjustment on adoption of ASC 606	—	—	—	1,263	—	1,263
Stock-based compensation expense	—	—	5,936	—	—	5,936
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	1,107,675	1	(2,067)	—	—	(2,066)
Assignment of NantHealth Labs (see Note 20)	—	—	(3,249)	—	—	(3,249)
Other comprehensive loss	—	—	—	—	(203)	(203)
Net loss	—	—	—	(192,152)	—	(192,152)
Balance at December 31, 2018	109,491,277	11	887,289	(884,122)	(347)	2,831
Stock-based compensation expense	—	—	2,910	—	—	2,910
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	1,128,401	—	(264)	—	—	(264)
Assignment of NantHealth Labs (see Note 20)	—	—	20	—	—	20
Other comprehensive income	—	—	—	—	129	129
Net loss	—	—	—	(62,762)	—	(62,762)
Balance at December 31, 2019	110,619,678	\$ 11	\$ 889,955	\$ (946,884)	\$ (218)	\$ (57,136)

The accompanying notes are an integral part of these Consolidated Financial Statements.

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

	Year Ended December 31,	
	2019	2018
Cash flows from operating activities		
Net loss	\$ (62,762)	\$ (192,152)
Adjustments to reconcile net loss to net cash used in operating activities:		
Loss on sale of business	582	—
(Recovery of) provision for bad debt	(67)	7
Depreciation and amortization	22,362	22,355
Impairment of intangible assets	3,977	—
Loss from related party equity method investment	8,317	108,409
Amortization of debt discounts and deferred financing offering cost	5,702	5,018
Change in fair value of derivatives liability	—	(7)
Change in fair value of Bookings Commitment	5,036	16,947
Impairment of equity securities	—	1,750
Deferred income taxes, net	(560)	(3,769)
Stock-based compensation	2,786	5,657
Other noncash expense	—	219
Changes in operating assets and liabilities, net of business combinations and divestitures:		
Accounts receivable, net	3,316	406
Inventories	(302)	343
Related party receivables, net	687	(306)
Prepaid expenses and other current assets	(16,629)	2,270
Deferred implementation costs	—	48
Accounts payable	1,363	(1,667)
Accrued and other current liabilities	17,425	(4,822)
Deferred revenue	(4,933)	570
Related party payables, net	5,961	6,026
Change in operating lease right-of-use assets and liabilities	(418)	—
Other operating assets and liabilities	(608)	3,066
Net cash used in operating activities	(8,765)	(29,632)
Cash flows from investing activities		
Proceeds from sale of business, net of cash disposed	300	—
Assignment of NantHealth Labs, net of cash acquired (see Note 20)	—	68
Purchase of property and equipment including internal use software	(4,590)	(10,546)
Net cash used in investing activities	(4,290)	(10,478)
Cash flows from financing activities		
Proceeds from insurance promissory note	1,647	—
Repayments of insurance promissory note	(1,409)	—
Tax payments related to stock issued, net of stock withheld, for vested equity	(270)	(2,066)
Capital lease obligation payments	—	(93)
Net cash used in financing activities	(32)	(2,159)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	25	(300)
Net decrease in cash, cash equivalents and restricted cash	(13,062)	(42,569)
Cash, cash equivalents and restricted cash, beginning of period (1)	19,441	62,010
Cash, cash equivalents and restricted cash, end of period (1)	\$ 6,379	\$ 19,441

NantHealth, Inc.
Consolidated Statements of Cash Flows (Continued)
(Dollars in thousands)

	Year Ended December 31,	
	2019	2018
Supplemental disclosure of cash flow information		
Income taxes paid	\$ 318	\$ 15
Interest paid	\$ 5,909	\$ 5,885
Interest received	—	13
Noncash investing and financing activities		
Purchases of property and equipment (including internal use software)	1,068	529
Assignment of NantHealth Labs (see Note 20)	—	8,956

⁽¹⁾ Cash and cash equivalents included restricted cash of \$1,136, \$1,136, and \$350 at December 31, 2019, 2018, and 2017 included in other assets, respectively. Restricted cash consists of funds that are contractually restricted as to usage or withdrawal related to the Company's security deposits in the form of standby letters of credit for leased facilities. No amounts have been drawn upon the letters of credit as of December 31, 2019.

The accompanying notes are an integral part of these Consolidated Financial Statements.

NantHealth, Inc.
Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

Note 1. Description of Business and Basis of Presentation

Nature of Business

Nant Health, LLC was formed on July 7, 2010, as a Delaware limited liability company. On June 1, 2016, Nant Health, LLC converted into a Delaware corporation (the "LLC Conversion") and changed its name to NantHealth, Inc. ("NantHealth"). NantHealth, together with its subsidiaries (the "Company"), is a healthcare IT company converging science and technology. The Company works to transform clinical delivery with actionable clinical intelligence at the moment of decision, enabling clinical discovery through real-time machine learning systems. The Company markets certain of its solutions as a comprehensive integrated solution that includes its molecular sequencing and analysis services, clinical decision support, and payer engagement solutions. The Company also markets molecular sequencing and analysis services, clinical decision support, payer engagement and connected care solutions. NantHealth is a majority-owned subsidiary of NantWorks, LLC ("NantWorks"), which is a subsidiary of California Capital Equity, LLC ("Cal Cap"). The three companies were founded by and are led by Dr. Patrick Soon-Shiong.

On June 7, 2019, the Company sold its home health care services business (see Note 4). The sale enabled the Company to focus on its core competencies of genomic sequencing, clinical decision support, connected care, and payer engagement.

As of December 31, 2019, the Company conducted the majority of its operations in the United States, the United Kingdom, Singapore and Canada.

Basis of Presentation and Principles of Consolidation

The accompanying Consolidated Financial Statements include the accounts of NantHealth and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. These Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The results of operations of the entities disposed of are included in the Consolidated Financial Statements up to the date of disposal and, where appropriate, these operations have been reflected as discontinued operations.

The Company believes its existing cash, cash equivalents, the \$47,250 received from sale of the Connected Care Business in February 2020 (see Note 23), and its ability to borrow from affiliated entities will be sufficient to fund operations through at least 12 months following the issuance date of the financial statements. The Company continues to have its Chairman and CEO's intent and ability to support the Company's operations with additional funds as required. The Company may also seek to sell additional equity, through one or more follow-on public offerings or in separate financings, or sell additional debt securities, or obtain a credit facility. However, the Company may not be able to secure such financing in a timely manner or on favorable terms. The Company may also consider selling off components of its business. Without additional funds, the Company may choose to delay or reduce its operating or investment expenditures. Further, because of the risk and uncertainties associated with the commercialization of the Company's existing products as well as products in development, the Company may need additional funds to meet its needs sooner than planned. To date, the Company's primary sources of capital have been the private placement of membership interests prior to its IPO, debt financing agreements, including the promissory note with Nant Capital, LLC ("NantCapital") and its convertible notes, its IPO, and proceeds from the sale of components of its business.

Note 2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. Actual results may differ from those estimates. The estimates and assumptions used in the accompanying Consolidated Financial Statements are based upon management's evaluation of the relevant facts and circumstances at the balance sheet date. On an ongoing basis, the Company evaluates its estimates, including those related to revenue recognition, accounts receivable allowance, inventory provisions, useful lives of long-lived assets and intangible assets, income taxes, stock-based compensation, impairment of long-lived assets and intangible assets, expected performance against minimum reseller commitments and the fair value of its investments and derivatives liability. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which can affect the reported amounts of assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenue and expenses during the periods presented.

NantHealth, Inc.
Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

Variable Interest Entities

The Company evaluates its ownership interests, contractual rights and other interests in entities to determine if the entities are variable interest entities ("VIEs"), if it has a variable interest in those entities, and the nature and extent of those interests. These evaluations are highly complex and involve judgment, the use of estimates and assumptions based on available historical information. In order for the Company to be the primary beneficiary of a VIE, it must have both (1) the power to direct the activities of a VIE that most significantly affect the VIE's economic performance and (2) the obligation to absorb losses or the right to receive benefits that, in either case, could potentially be significant to the VIE. The Company consolidates entities of which it is the primary beneficiary.

The Company determines whether it is the primary beneficiary of a VIE upon its initial involvement with the VIE and reassesses whether it is the primary beneficiary on an ongoing basis. This determination is based upon an analysis of the design of the VIE, including the VIE's structure and activities, the power to make significant economic decisions held by the Company and by other parties, and the variable interests owned by the Company and other parties.

Revenue from Contracts with Customers

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. Revenue is recognized net of sales taxes collected from customers, which are subsequently remitted to governmental authorities. The Company's revenue is generated from the following sources:

- **Software-as-a-service ("SaaS") related** - SaaS related revenue is generated from customers' access to and usage of the Company's hosted software solutions on a subscription basis for a specified contract term. In SaaS arrangements, the customer cannot take possession of the software during the term of the contract and generally has the right to access and use the software and receive any software upgrades published during the subscription period.

SaaS contracts are accounted for as a single performance obligation, as implementation and hosting services are not distinct. As a result, the Company recognizes all fees, including any up front initial system implementation service fees, or other fees, ratably over time from when the system implementation or deployment services are completed, and where necessary accepted by the customer, over the contract term, as stated, or with consideration of termination for convenience clauses as discussed below.

- **Software and hardware related** - Software and hardware related revenue is generated from the license of the Company's software, on a perpetual basis, the sale of hardware and professional services that are complementary to the software and may or may not be required for the software to function as desired by the customer. The services are generally provided in the form of implementation and training services and do not include maintenance revenue. The software is installed on the customer's site or the customer's designated vendor's site and is not hosted by the Company or by a vendor contracted by the Company. See the section below "*Contracts with Software, Hardware, and Implementation Services*" for details of management's judgments and recognition of revenue relating to this category.
- **Maintenance** - Maintenance revenue includes ongoing PCS or maintenance on software and hardware during the PCS term. Additionally, PCS includes ongoing development of software updates and upgrades provided to the client on a when and if available basis. Revenue is recognized over the maintenance term.
- **Sequencing and molecular analysis** - Sequencing and molecular analysis revenue is generated by providing customers with reports of the results of performing sequencing and molecular analysis of DNA and RNA (and formerly proteomic testing) under the Company's reseller agreement with NantOmics, LLC ("NantOmics"), and from blood samples via its liquid/blood-based tumor profiling platform through the Company's subsidiary, NantHealth Labs, Inc. ("NantHealth Labs", formerly Liquid Genomics, Inc.) (see Note 20). Revenue is recognized at a point in time, when reports of results are transferred to the ordering physician or institution, or when cash is received as described below, or ratably over time for the period of a stand-ready obligation to provide blood-based tumor profiling services.

The Company's sequencing and molecular analysis revenue is primarily generated from payments received from commercial third party payers, hospitals and other provider networks and patients. The Company reports revenue from arrangements with these customers on a gross basis in accordance with ASC 606. When reports are transferred to the ordering physician or institution, but the Company cannot conclude whether there is a contract with a customer, based on the assessment of collectibility, revenue recognition is deferred until non-refundable payment is received or payment is considered probable.

NantHealth, Inc.
Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

- **Home health care services** - Home health care services revenue includes the sale of nursing and therapy services provided to patients in a home care setting. These revenues are recognized at a point in time or over time, as services are provided. On June 7, 2019, the Company completed the divestiture of its home health care services business (see Note 4).

Management assesses whether contracts entered into at, or near, the same time, should be combined, based on evaluation of the commercial objectives of the contracts.

Certain of the Company's customer contracts allow for termination for convenience, with advanced notice, without substantive termination penalty. In these cases, the Company has concluded the contract term is equal to the remaining noncancelable period. Such termination rights do not allow for refunds other than prepaid PCS or other services. These provisions do not affect when the Company commences revenue recognition.

Contracts with Multiple Promises for Goods and Services

The Company engages in various contracts with promises for multiple goods and services, which may generate revenue across any of the sources noted above.

In certain contracts, the Company recognizes its proprietary software, hardware, PCS, results of sequencing and molecular analysis, certain professional services, and other software-related services as distinct performance obligations.

Standalone selling prices ("SSP") are required to be allocated and revenue recognized for each distinct performance obligation within each contract. The SSP for each performance obligation is determined by considering contracts in which the good or service is sold separately and other factors, including market conditions and the Company's experience selling similar goods and services, as well as costs and margins achieved. In some cases, to estimate the SSP, the Company first estimates the selling price of each performance obligation for which an SSP is observable and then estimates the SSP of the remaining performance obligation as the residual contractual amount.

Contracts with Software, Hardware, and Implementation Services

The Company has some contracts where it provides implementation services involving significant integration of its licensed software and hardware, with customer networks that maintain patient electronic health records. These contracts represent a single performance obligation to the customer for a combined output due to the significant service of integrating the hardware, software and professional services. Revenue for the single performance obligation is recognized over time based on direct implementation labor hours, as a measure of progress.

In certain of those contracts, the Company's performance also requires significant customization of its licensed software. For such contracts, the Company records revenue over time using the percentage of completion method to estimate the satisfaction of its performance obligations. However, where the Company lacks history and experience with certain projects involving the development of software according to customer specified criteria, the Company may be initially unable to reasonably estimate total direct software development labor hours to be expected under the project. As a result, the Company would not be able to reasonably measure its progress toward complete satisfaction of its single performance obligation.

As a result, in these contracts, the Company commences recognizing revenue when it concludes that it can reasonably measure its progress and determine that costs will be recoverable, which is typically at or near the time of the customers' acceptance of the software and the related professional services. At that point, substantially all of the uncertainty related to its ability to reasonably estimate direct labor hours required to satisfy its performance obligations have been resolved, and the Company is able to reasonably measure the remaining progress toward complete satisfaction of its remaining professional services obligations. In such cases, the Company commences recording revenue, at the date of meeting the customer acceptance criteria, with a cumulative catch up for the work performed to date using direct labor hours as a measure of progress consistent with other contracts involving software, hardware and implementation services. Recognition will continue for its performance obligation over the remaining performance period using the same measure of progress. A provision for the entire loss, from such a contract is recognized in any period it becomes evident that the contract will not be profitable.

Other contracts for perpetual software licenses, hardware, and implementation services do not include a service of software development or significant integration. Therefore, the perpetual software licenses, hardware, and implementation services are considered separate, distinct performance obligations. Software revenue is recognized upon the later of the license term commencement or the date the software is provided to the customer, hardware revenue is recognized upon delivery, and implementation revenue is recognized over time based on direct implementation labor hours, as a measure of progress.

NantHealth, Inc.
Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

The Company delineates between contracts with, or without, a service of significant integration by considering the complexity of the integration services and whether such services can be performed by the customer or another third party. The Company has both reseller arrangements with gross revenue presentation due to the Company's control of goods and services before transfer to the customer, and others with net revenue presentation due to the reseller's control of goods and services before transfer to the customer. The Company assesses control in terms of relevant indicators of performance, inventory, and pricing risk, such as which party negotiates pricing with the end customer and which party is ultimately responsible for fulfilling services, transferring goods and services, and ensuring support.

Cost of Revenue

Cost of revenue includes associated salaries and fringe benefits, stock-based compensation, consultant costs, direct reimbursable travel expenses, depreciation related to software developed for internal use, depreciation related to lab equipment, and other direct engagement costs associated with the design, development, sale and installation of systems, including system support and maintenance services for customers. System support includes ongoing customer assistance for software updates and upgrades, installation, training and functionality. All service costs, except development of internal use software and deferred implementation costs are expensed when incurred. Amortization of deferred implementation costs are also included in cost of revenue. Cost of revenue associated with each of the Company's revenue sources consists of the following types of costs:

- **Software-as-a-service related** - SaaS related cost of revenue includes personnel-related costs, amortization of deferred implementation costs, depreciation of internal use software, and other direct costs associated with the delivery and hosting of the Company's subscription services.
- **Software and hardware related** - Software and hardware related cost of revenue includes third-party software and hardware costs directly associated with solutions, including purchasing and receiving costs, and includes direct costs associated with the Company's software implementation services provided to its customers. Software and hardware related cost of revenue also includes hardware costs directly related to bringing manufactured products to their final selling destination.
- **Maintenance** - Maintenance cost of revenue includes personnel-related costs and other direct costs associated with the ongoing support or maintenance provided to the Company's customers.
- **Sequencing and molecular analysis** - Sequencing and molecular analysis cost of revenue includes personnel-related costs associated with fulfillment of these services, including those of our subsidiary, NantHealth Labs, and amounts due to NantOmics under the reseller agreement (see Note 20) for the sequencing and molecular analysis of DNA and RNA (and previously proteomic results). It also includes depreciation of internal use software and lab equipment.
- **Home health care services** - Home health care services cost of revenue includes direct expenses relating to the Company's nursing and therapy services provided to patients in a home care setting. On June 7, 2019, the Company completed the divestiture of its home health care services business (see Note 4).

Selling, General and Administrative Expenses

Selling, general and administrative expense consists primarily of personnel-related expenses for the Company's sales and marketing, finance, legal, human resources, administrative associates, stock-based compensation, advertising and marketing promotions of NantHealth solutions, and corporate shared services fees from NantWorks. This includes amortization of deferred commission costs. It also includes trade show and event costs, sponsorship costs, point of purchase display expenses and related amortization as well as legal costs, facility costs, consulting and professional fees, insurance and other corporate and administrative costs.

Research and Development Expenses

Research and development ("R&D") costs incurred to establish the technological feasibility of software to be sold are expensed as incurred. These expenses include the costs of the Company's proprietary R&D efforts, as well as costs incurred in connection with certain licensing arrangements.

NantHealth, Inc.
Notes to Consolidated Financial Statements
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Research and development expense consist primarily of personnel-related costs for associates working on development of solutions, including salaries, benefits, and stock-based compensation. Also included are non-personnel costs such as consulting and professional fees to third-party development resources. These costs incurred in the research and development of new software products and maintenance to existing software products are expensed as incurred. These costs are associated with both the preliminary project stage and post-implementation stage of internally developed software. Costs associated with the application development stage are capitalized.

Stock-Based Compensation

The Company accounts for stock-based compensation arrangements granted to employees in accordance with ASC 718, *Compensation—Stock Compensation*, by measuring the grant date fair value of the award and recognizing the resulting expense over the period during which the employee is required to perform service in exchange for the award.

The Company accounts for stock-based compensation arrangements issued to nonemployees using the fair value approach prescribed by ASC 505-50, *Equity-Based Payments to Non-Employees*. Prior to January 1, 2019 when the Company adopted Accounting Standards Update ("ASU") No. 2018-07, *Improvement to nonemployee share-based payment accounting*, the value of nonemployee stock-based compensation was re-measured at the end of each reporting period until the award vests and is recognized as stock-based compensation expense over the period during which the nonemployee provides the services. After the adoption of ASU No. 2018-07, the value of nonemployee stock-based compensation is measured at the grant date fair value of the award and the resulting expense is recognized over the period during which the nonemployee provides the services.

Stock-based compensation expense for both employee and nonemployee awards is recognized on a straight-line basis over the appropriate service period for awards that are only subject to service conditions and is recognized using the accelerated attribution method for awards that are subject to performance conditions. Stock-based compensation expense is only recognized for awards subject to performance conditions if it is probable that the performance condition will be achieved.

All excess tax benefits and tax deficiencies are recognized as income tax benefit or expense in the income statement as discrete items in the reporting period in which they occur, and such tax benefits and tax deficiencies are not included in the estimate of an entity's annual effective tax rate, applied on a prospective basis. The recognition of excess tax benefits is not deferred until the benefit is realized through a reduction to taxes payable. When the Company applies the treasury stock method in calculating diluted earnings per share, excess tax benefits, if applicable, and deficiencies from the calculation of assumed proceeds are excluded since such amounts are recognized in the income statement. Excess tax benefits if applicable, are classified as operating activities in the same manner as other cash flows related to income taxes on the statement of cash flows.

The Company has elected to account for forfeitures when they occur. Cash paid by the Company when directly withholding shares for tax withholding purposes is classified as a financing activity in the Consolidated Statements of Cash Flows (see Note 16 and Note 18).

For information regarding the Company's Retired Profits Interests Plan, Phantom Unit Plan, and 2016 Equity Incentive Plan, see Note 18.

Change in Fair Value of Derivative Liability

The Company has classified the interest make-whole provision of its convertible notes and related party convertible note due December 2021 and issued in December 2016 as a derivative liability as part of other liabilities and related party liabilities, respectively, in the Consolidated Balance Sheets and is recorded at fair value. This derivative liability is subject to re-measurement at each balance sheet date, and the Company recognizes any change in fair value in the Company's Consolidated Statements of Operations as a change in fair value of the derivative liability. The change in the fair value of this derivative liability is primarily due to the change in the value of the Company's common stock (see Note 13).

NantHealth, Inc.
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Change in Fair Value of Bookings Commitment

The Company has classified the Bookings Commitment assumed upon the disposal of the provider/patient engagement solutions business described in Note 4 as part of accrued and other current liabilities and other liabilities in the Consolidated Balance Sheets. This liability is subject to re-measurement at each balance sheet date, and the Company recognizes any changes in fair value within other income/expense, net. The fair value of the liability is estimated using a Monte Carlo Simulation model to calculate average payments due under the Bookings Commitment, based on management's estimate of its performance in securing bookings and resulting annual payments, discounted at the cost of debt based on a yield curve. The change in the fair value of this liability is primarily due to changes in the costs of debt based on a yield curve and the passage of time (see Note 13).

Management believes the assumptions used on projected financial information is reasonable, but those assumptions require judgment and are forward looking in nature. However, actual results may differ materially from those projections. The fair value of the Bookings Commitment is most sensitive to management's estimate of the discount rate applied to present value the liability. If the discount rate applied was 2% lower at December 31, 2019, the fair value of the liability would increase by \$3,251.

Income Taxes

The Company records the federal and state tax provision of the consolidated group and foreign tax provision of its foreign subsidiaries.

ASC 740, *Income Taxes*, provides the accounting treatment for uncertainty in income taxes recognized in an enterprise's financial statements. ASC 740 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on derecognizing, classification, interest and penalties, accounting in interim periods, disclosure, and transition.

As part of the process of preparing its Consolidated Financial Statements, the Company is required to estimate its provision for income taxes in each of the tax jurisdictions in which the Company conducts business. This process involves estimating the actual current tax expense in conjunction with the evaluation and measurement of temporary differences resulting from differing treatment of certain items for tax and accounting purposes. These temporary differences result in the establishment of deferred tax assets and liabilities, which are recorded on a net basis and included in the Company's Consolidated Balance Sheets. The Company then evaluates on a periodic basis the probability that the net deferred tax assets will be recovered and therefore realized from future taxable income and to the extent the Company believes that recovery is not more likely than not, a valuation allowance is established to address such risk resulting in an additional related provision for income taxes during the period.

Significant management judgment is required in determining its provision for income taxes, its deferred tax assets and liabilities, tax contingencies, unrecognized tax benefits, and any required valuation allowance, including taking into consideration the probability of the tax contingencies being incurred. Management assesses this probability based upon information provided by its tax advisers, its legal advisers and similar tax cases. If at a later time its assessment of the probability of these tax contingencies changes, its accrual for such tax uncertainties may increase or decrease.

The Company has a valuation allowance due to management's overall assessment of risks and uncertainties related to its future ability to realize and, hence, utilize certain deferred tax assets, primarily consisting of net operating losses ("NOLs"), carry forward temporary differences and future tax deductions.

The effective tax rate for annual and interim reporting periods could be impacted if uncertain tax positions that are not recognized are settled at an amount which differs from the Company's estimate. Finally, if the Company is impacted by a change in the valuation allowance resulting from a change in judgment regarding the realizability of deferred tax assets, such effect will be recognized in the interim period in which the change occurs.

Net Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing the net income (loss) by the weighted-average number of shares of common stock outstanding during the period. Diluted net income (loss) per share is computed by dividing the net income (loss) by the weighted-average number of shares of common stock outstanding during the period, adjusted to give effect to potentially dilutive securities. However, potentially dilutive securities are excluded from the computation of diluted net income (loss) per share to the extent that their effect is anti-dilutive. The Company applies treasury method in calculating weighted average dilutive number of shares for its stock plans.

NantHealth, Inc.
Notes to Consolidated Financial Statements
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Foreign Currency Translation

The Company has operations and holds assets in various foreign countries. The local currency is the functional currency for the Company's subsidiaries in the United Kingdom, Canada and Singapore. Assets and liabilities are translated at end-of-period exchange rates while revenues and expenses are translated at the average exchange rates in effect during the period. Equity is translated at historical rates and the resulting cumulative translation adjustments are included as a component of accumulated other comprehensive loss until the translation adjustments are realized.

Segment Reporting

The chief operating decision maker for the Company is its Chief Executive Officer. The Chief Executive Officer reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. The Company has one business activity and there are no segment managers who are held accountable for operations, operating results, or plans for levels or components below the consolidated unit level. Accordingly, management has determined that the Company operates in one reportable segment.

Leases

Prior to the adoption of ASC 842 on January 1, 2019, the Company charged rental expense associated with operating leases to selling, general and administrative expenses on a straight-line basis.

Below are the Company's policies following the adoption of ASC 842 on January 1, 2019.

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, other current liabilities, and operating lease liabilities on the Consolidated Balance Sheets. Finance leases are included in property, plant, and equipment, net, other current liabilities, and other liabilities on the Consolidated Balance Sheets. The Company currently does not have any finance leases.

Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. The Company's leases do not provide an implicit rate; therefore, the Company uses the incremental borrowing rate based on the information available at commencement date, or at January 1, 2019 for the Company's leases on transition to ASC 842, in determining the present value of future payments. The operating lease ROU asset excludes lease incentives and initial direct costs incurred. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

The Company has lease agreements with lease and non-lease components. For data center leases and real estate leases, the Company accounts for the lease and non-lease components as a single lease component.

The Company treats data center leases with lease terms of less than one year as short-term leases and recognizes the lease expense straight-line over the lease term.

Business Combinations

Business combinations are accounted for using the acquisition method of accounting. Under the acquisition method, assets acquired and liabilities assumed are recorded at their respective fair values as of the acquisition date. Any excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. Management routinely monitors the factors impacting the acquired assets and liabilities. Transaction related costs are expensed as incurred. The operating results of the acquired business are reflected in the Company's Consolidated Financial Statements as of the acquisition date.

NantHealth, Inc.
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(Dollars in thousands, except per share amounts)

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value measurements are classified and disclosed in one of the following three categories:

- Level 1—Quoted prices for identical assets or liabilities in active markets;
- Level 2—Quoted prices for similar assets or liabilities in active markets or quoted prices for identical or similar assets or liabilities in markets that are not active or are directly or indirectly observable; and
- Level 3—Unobservable inputs that reflect estimates and assumptions.

The carrying amounts reported in the Consolidated Balance Sheets for cash and cash equivalents, accounts receivable, accounts payable, notes payable, deferred revenue, and other current monetary assets and liabilities approximate fair value because of the immediate or short-term maturity of these financial instruments.

In accordance with this guidance, the Company measures its cash equivalents at fair value. The Company's cash equivalents are classified within Level 1.

The Company's fair value estimate of the Bookings Commitment and convertibles notes and interest make-whole provision of the convertible notes are based on Level 3 inputs.

Cash and Cash Equivalents

The Company considers all unrestricted, highly liquid investments with an initial maturity of three months or less to be cash equivalents. These amounts are stated at cost, which approximates fair value. At December 31, 2019 and 2018, cash equivalents were deposited in financial institutions and consisted of immediately available fund balances. Cash and cash equivalents are maintained at stable financial institutions, generally at amounts in excess of federally insured limits, which represents a concentration of credit risk. The Company has not experienced any losses on deposits of cash and cash equivalents to date.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recorded at the invoiced amount, net of allowances for doubtful accounts. The allowance for doubtful accounts is based on management's assessment of the collectibility of accounts. The Company regularly reviews the adequacy of the allowance for doubtful accounts by considering the age of each outstanding invoice and the collection history of each customer to determine whether a specific allowance is appropriate. Accounts receivable deemed uncollectible are charged against bad debt expense when identified.

Concentrations of Risk

The following table summarizes the number of customers that individually comprise greater than 10% of revenues and/or 10% of accounts receivable, and their aggregate percentages of total revenues and total billed and unbilled accounts receivable:

Period	Significant Customers	Percentage of Total Revenues (1)					Percentage of Total Accounts Receivable (1)				
		A	B	C	D	E	A	B	C	D	E
Year Ended December 31, 2019	4	13.5%	11.1%	10.4%	—%	—%	—%	—%	—%	—%	20.1%
Year Ended December 31, 2018	4	15.2%	12.4%	11.6%	—%	—%	—%	—%	11.6%	10.8%	—%

(1) Amounts less than 10% are not disclosed.

Inventories

Inventories are stated at the lower of cost (first-in, first out basis) and net realizable value at December 31, 2019 and 2018.

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Insurance Recoveries

The Company records probable insurance recoveries gross of related liabilities. The income and expense related to these amounts are recorded net in selling, general and administrative expenses. If the recoveries exceed the loss recognized in the financial statements, such recoveries are recorded in other income, net once any contingencies relating to the insurance claim have been resolved.

Property, Plant and Equipment, net

Property, plant and equipment received in connection with business combinations are recorded at fair value. Property, plant and equipment acquired in the normal course of business are recorded at cost. Depreciation is computed on a straight-line basis over the estimated useful lives of the related assets (see Note 8). Maintenance and repairs are charged to expense as incurred while expenditures for refurbishments and improvements that significantly add to the productive capacity or extend the useful life of an asset are capitalized.

Software Developed for Internal Use

The Company accounts for the costs of computer software obtained or developed for internal use in accordance with ASC 350, *Intangibles—Goodwill and Other*. Computer software development costs are expensed as incurred, except for internal use software costs that qualify for capitalization as described below, and include employee related expenses, including salaries, benefits and stock-based compensation expenses; costs of computer hardware and software; and costs incurred in developing features and functionality. These capitalized costs are included in property and equipment on the Consolidated Balance Sheets. The Company expenses costs incurred in the preliminary project and post implementation stages of software development and capitalizes costs incurred in the application development stage and costs associated with significant enhancements to existing internal use software applications. Software costs are amortized using the straight-line method over an estimated useful life of three years commencing when the software project is ready for its intended use.

Deferred Implementation Costs

The Company provides SaaS and information technology management services under long-term arrangements which require the Company to perform system implementation activities. In some cases, the arrangements either contain provisions requiring customer acceptance of the setup activities prior to commencement of the ongoing services arrangement or the system implementation services do not have separate value from the service revenue. Up-front fees billed during the setup phase for these arrangements are deferred and setup costs that are direct and incremental to the contract are capitalized. The costs deferred consist of employee compensation (including stock-based compensation) and benefits for those employees directly involved with performing system implementation or deployment services, as well as other direct and incremental costs.

The Company defers costs estimated to be realizable based on contracted implementation revenue and estimated margin from the service contract. The Company periodically reviews the deferred implementation contracts for recoverability. The costs are amortized to cost of revenue ratably over a period of time from when the system implementation or deployment services are completed and accepted to the end of the contract term or the expected customer life, whichever is longer.

Goodwill and Intangible Assets

Goodwill acquired in a business combination and determined to have an indefinite useful life is not amortized but is tested for impairment annually as of October 1 or between annual tests when an impairment indicator exists. In the event there is a change in reporting units or segments, the Company will test for impairment at the reporting unit. A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available and segment management regularly reviews the operating results of that component.

As part of the annual impairment test, the Company may conduct an assessment of qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. In a qualitative assessment, the Company would consider the macroeconomic conditions, including any deterioration of general conditions, industry and market conditions, including any deterioration in the environment where the reporting unit operates, increased competition, changes in the products/services and regulator and political developments; cost of doing business; overall financial performance, including any declining cash flows and performance in relation to planned revenues and earnings in past periods; other relevant reporting unit specific facts, such as changes in management or key personnel or pending litigation, and events affecting the reporting unit, including changes in the carrying value of net assets.

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If an optional qualitative goodwill impairment assessment is not performed, the Company is required to determine the fair value of each reporting unit. If a reporting unit's carrying value is in excess of its fair value, such excess is recorded as an impairment loss. Under the accounting guidance, there is no requirement to perform a qualitative assessment for reporting units with zero or negative carrying values. The Company did not record any goodwill impairments in 2018 and 2019 (see Note 10).

Accounting guidance requires that definite-lived intangible assets be amortized over their respective estimated useful lives and reviewed for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. Amortization of finite-lived intangible assets is provided over their estimated useful lives on a straight-line basis or the pattern in which economic benefits are consumed, if reliably determinable. If the estimates of the useful lives change, the Company amortizes the remaining book value over the remaining useful lives or, if an asset is deemed to be impaired, a write-down of the value of the asset to its fair value may be required at such time. The Company reviews its finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Investment in Related Party

Investment in and advances to a related party in which the Company has a substantial ownership interest of approximately 20% to 50%, or for which the Company exercises significant influence but not control over policy decisions, are accounted for by the equity method. An investment in a limited liability company that is similar to a partnership is also accounted for under the equity method if more than minor influence over the operation of the investee exists (generally through more than 3-5% ownership). As part of that accounting, the Company recognizes gains and losses that arise from the issuance of stock by a related party that results in changes in the Company's proportionate share of the dollar amount of the related party's equity.

Investment in related party is assessed for possible impairment when events indicate that the fair value of the investment may be below the Company's carrying value. When such a condition is deemed to be other than temporary, the carrying value of the investment is written down to its fair value, and the amount of the write-down is included in net loss. In making the determination as to whether a decline is other than temporary, the Company considers such factors as the duration and extent of the decline, the investee's financial performance, and the Company's ability and intention to retain its investment for a period that will be sufficient to allow for any anticipated recovery in the investment's market value. The new cost basis of investments in these equity investees is not changed for subsequent recoveries in fair value.

In the case of the Company's related party investee, NantOmics, a privately held limited liability company, the fair value of the related party equity method investment would be determined using the income approach. The income approach utilizes a discounted cash flow model incorporating management's expectations of the investee's future revenue, operating expenses, and earnings before interest, taxes, depreciation and amortization, capital expenditures and an anticipated tax rate. The related cash flow forecasts are discounted using an estimated weighted-average cost of capital ("WACC") at the date of valuation.

The Company believes the assumptions on projected financial information are reasonable, but those assumptions require judgment and are forward looking in nature. However, actual results may differ materially from those projections. The most impactful assumptions would include estimated revenues, estimated EBITDA margins and the WACC, as these three estimates represent the most significant drivers of the estimated fair value under the discounted cash flow model. It is reasonably possible that the estimate of the impairment will change in the near term if future NantOmics revenues are subsequently materially lower than expected; if significant adverse changes were to occur in its operating environment; if future EBITDA margins are materially lower than expected; if the Company was to determine that the WACC used in a future discounted cash flow model would need to be significantly increased; and/or if changes in other assumptions were to happen.

Qualitative matters that may impact the Company's estimates of the fair value of its equity investment in NantOmics include assumptions regarding the timing and ramp of provider, payer and pharma adoption of genomic and proteomic technology, intellectual property or services, accompanying market pricing pressures on its GPS Cancer test and resultant impact on amounts owed by the Company under a reseller arrangement to NantOmics, potential success of alternate diagnostic testing solutions from competitors, regulatory impacts, technological shifts and advances in diagnostic testing for cancer, and laboratory operational matters that may impact NantOmics' ability to deliver its services in sufficient scale.

Risks and uncertainties are related to assumptions regarding future financial performance, commercial acceptance of product and service offerings, risk of reimbursement for the Company's sequencing and molecular analysis solution, developments in the healthcare and molecular diagnostics industry, NantOmics' ability to integrate its business acquisitions, regulatory risks, and other general business risks including unanticipated adverse changes in NantOmics' operating environment.

The Company previously determined that other than temporary impairments in the value of the investment in NantOmics have occurred, predominantly attributed to declines in the value of NantOmics' goodwill. These were primarily caused by altered pricing assumptions for the reseller agreement between the Company and NantOmics, changes in projected GPS Cancer revenue due to delays in the Company's GPS Cancer revenue growth, and changes in the risk profile of the financial projections for NantOmics (see Note 11).

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Differences between the Company's carrying value of an equity investment and its underlying equity in the net assets of the related party are assigned to the extent practicable to specific assets and liabilities based on the Company's analysis of the various factors giving rise to the difference. When appropriate, the Company's share of the related party's reported earnings is adjusted quarterly to reflect the difference between these allocated values and the related party's historical book values.

Deferred Revenue

The Company records deferred revenue when it receives cash from clients prior to meeting the applicable revenue recognition criteria. The Company uses judgment in determining the period over which the deliverables are recognized as revenue. As of December 31, 2019 and 2018, current and non-current deferred revenue are comprised of deferrals for fees related to software licenses, SaaS arrangements, PCS services, non-PCS services and other revenue. Non-current deferred revenue as of December 31, 2019 is expected to be recognized in a period more than 12 months after that date.

Recently Adopted Accounting Pronouncements

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, to simplify the accounting for goodwill impairment. This guidance, among other things, removes step 2 of the goodwill impairment test thus eliminating the need to determine the fair value of individual assets and liabilities of the reporting unit. The standard also eliminated the requirement to perform a qualitative assessment for reporting units with zero or negative carrying values. Upon adoption of ASU No. 2017-04, the goodwill impairment charge will be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. This ASU is effective for the Company's annual and interim goodwill impairment tests beginning in the first quarter of 2023, and early adoption is permitted. The Company early adopted this ASU in the fourth quarter of 2019 with no impact to the Consolidated Financial Statements.

Effective January 1, 2019, the Company adopted ASC 842 and the related amendments, which is aimed at making leasing activities more transparent and comparable and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases previously accounted for as operating leases. This led to the recognition upon adoption, of operating lease liabilities of \$12,703, the short-term portion of which, \$1,624 was recorded in accrued and other current liabilities. Operating lease right-of-use assets of \$9,724 were recognized. The Company applied the new lease standard at the adoption date and did not restate comparative periods. There was no cumulative-effect adjustment recognized in accumulated deficit in the period of adoption. On adoption, the Company elected the package of transition practical expedients and therefore did not reassess: whether expired or existing contracts are or contain leases; the lease classification of expired or existing leases; initial direct costs for any existing leases (see Note 14).

Effective January 1, 2019, the Company adopted ASU No. 2018-07, *Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, to simplify accounting for nonemployee stock-based compensation. The Company applied the new guidance to equity-classified nonemployee awards for which a measurement date had not been established, which were valued at adoption date fair value. There was no cumulative-effect adjustment to the Company's accumulated deficit.

Effective January 1, 2019, the Company adopted ASU No. 2018-02, *Income Statement-Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which provides the option to reclassify stranded tax effects within accumulated other comprehensive income to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Act (or portion thereof) is recorded. The Company adopted this standard on January 1, 2019 with no impact on the Consolidated Financial Statements.

The SEC issued Final Rule Release No. 33-10532, *Disclosure Update and Simplification*, effective for filings submitted on or after November 5, 2018. The guidance extended to interim periods the annual requirement in SEC Regulation S-X, Rule 3-04 to disclose changes in shareholders' equity. Under the requirements in SEC Regulation S-X, Rules 8-03(a)(5) and 10-01(a)(7), as amended by this new guidance, registrants must now analyze changes in shareholders' equity, in the form of a reconciliation, for the current and comparative year-to-date interim periods, with subtotals for each interim period. The Company has presented separate Consolidated Statements of Stockholders' Equity (Deficit) in its interim financial statements to satisfy this new disclosure requirement.

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Upcoming Accounting Standard Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Credit Losses on Financial Instruments*, which changes how companies measure credit losses on most financial instruments measured at amortized cost, such as loans, receivables and held-to-maturity debt securities. Rather than generally recognizing credit losses when it is probable that the loss has been incurred, the revised guidance requires companies to recognize an allowance for credit losses for the difference between the amortized cost basis of a financial instrument and the amount of amortized cost that the Company expects to collect over the instrument's contractual life. ASU No. 2016-13 is effective for fiscal periods beginning after December 15, 2022 and must be adopted as a cumulative effect adjustment to retained earnings. Early adoption is permitted. The Company is still evaluating the effects of this ASU.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, to provide guidance on customer's accounting for implementation costs incurred in a cloud computing arrangement that is a service contract. The standard provides guidance on a customer's accounting for implementation, set-up, and other upfront costs incurred in a cloud computing arrangement that is hosted by the vendor, i.e. a service contract. Under the new guidance, customers will apply the same criteria for capitalizing implementation costs as they would for an arrangement that has a software license. This ASU will become effective for annual periods beginning January 1, 2020. Early adoption is permitted and should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company is still evaluating the impact of this ASU.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, to simplify the accounting for income taxes. The new guidance eliminates certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. It also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill. This ASU will become effective for the Company's annual and interim periods beginning in January 1, 2021, and early adoption is permitted. The Company is still evaluating the impact of this ASU.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force), the American Institute of Certified Public Accountants, and the SEC did not have, nor are believed by management to have, a material impact on the Company's present or future Consolidated Financial Statements.

Note 3. Revenue

Contract Balances

The Company records deferred revenue when cash payments are received, or payment is due, in advance of its fulfillment of performance obligations. There were revenues of \$15,571 and \$13,518 recognized during the years ended December 31, 2019 and 2018, respectively, that were included in the deferred revenue balance at the beginning of the period.

Contract assets are recognized when a contractual performance obligation has been satisfied, but payment is not due until the completion of additional performance obligations, or the right to receive payment becomes unconditional. Contract assets reduced to \$59 at December 31, 2019 from \$434 at December 31, 2018, due to payments from customers.

Assets Recognized from the Costs to Obtain a Contract with a Customer

The Company recognizes an asset for the incremental costs to obtain a contract with a customer, where the stated contract term, with expected renewals, is longer than one year. The Company amortizes these assets over the expected period of benefit. These costs are generally employee sales commissions, with amortization of the balance recorded in selling, general and administrative expenses. The value of these assets was \$2,032 and \$1,163 at December 31, 2019 and December 31, 2018, respectively, and amortization during the years ended December 31, 2019 and 2018 was \$937 and \$605, respectively.

Where management is not able to conclude that the costs of a contract will be recovered, costs to obtain the contract are expensed as incurred.

Performance Obligations

As of December 31, 2019, the Company has allocated a total transaction price of \$10,962 to unfulfilled performance obligations that are expected to be fulfilled within three years. Excluded from this amount are contracts of less than one year and variable consideration that relates to the value of services provided.

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Note 4. Discontinued Operations and Divestitures

Discontinued Operations

Sale to Allscripts

On August 3, 2017, the Company entered into an asset purchase agreement (the "APA") with Allscripts Healthcare Solutions, Inc. ("Allscripts"), pursuant to which the Company agreed to sell to Allscripts substantially all of the assets of the Company's provider/patient engagement solutions business, including the Company's FusionFX solution and components of its NantOS software connectivity solutions (the "Business"). On August 25, 2017, the Company and Allscripts completed the sale of the Business (the "Disposition") pursuant to the APA.

Allscripts conveyed to the Company 15,000,000 shares of Company's common stock at par value of \$0.0001 per share that were previously owned by Allscripts as consideration for the acquired Business upon Disposition. Allscripts paid the Company \$1,742 of cash consideration as an estimated working capital payment, and the Company recorded a receivable of \$1,021 related to final working capital adjustments. The Company was also responsible for fulfilling certain customer service obligations of the Business post-closing. As of December 31, 2018, the Company accrued \$1,372 in accrued and other current liabilities for these obligations, which included estimates for certain unresolved items. These and certain other outstanding amounts were settled by agreement on March 18, 2019 with net payment to the Company from Allscripts of \$435.

Concurrent with the closing of the Disposition and as contemplated by the APA, (a) the Company and Allscripts modified the amended and restated mutual license and reseller agreement dated June 26, 2015, which was further amended on December 30, 2017, such that, among other things, the Company committed to deliver a minimum of \$95,000 of total bookings over a ten-year period ("Bookings Commitment") from referral transactions and sales of certain Allscripts products; (b) the Company and Allscripts each licensed certain intellectual property to the other party pursuant to a cross license agreement; (c) the Company agreed to provide certain transition services to Allscripts pursuant to a transition services agreement; and (d) the Company licensed certain software and agreed to sell certain hardware to Allscripts pursuant to a software license and supply agreement. In the event of a Bookings Commitment shortfall at the end of the ten-year period, the Company may be obligated to pay 70% of the shortfall, subject to certain credits. The Company will earn 30% commission from Allscripts on each software referral transaction that results in a booking with Allscripts. The Company accounts for the Bookings Commitment at its estimated fair value over the life of the agreement. As of December 31, 2019 and 2018, the estimated fair value was \$21,983 and \$16,947, respectively.

During the year ended December 31, 2018, the Company recorded other income of \$465, associated with the services under the transition services agreement.

The sale of the Business qualified as discontinued operations because it comprised operations and cash flows that could be distinguished, operationally and for financial reporting purposes, from the rest of the Company. The disposal of the Business represented a strategic shift in the Company's operations as the sale enabled the Company to focus on genomic sequencing, clinical decision support, connected care and payer engagement.

Loss from discontinued operations, net of tax was \$118 and \$1,719 during the years ended December 31, 2019 and 2018, respectively, related to selling, general and administrative expenses.

Divestitures

Sale of Home Health Care Services Business

On June 7, 2019, the Company completed the divestiture of its home health care services business in exchange for cash proceeds of \$300, which resulted in a loss on sale of business of \$582. The home health care services business does not qualify as discontinued operations as its divestiture does not represent a strategic shift that has had a major impact on the Company's operations or financial results.

Note 5. Accounts Receivable, net

Accounts receivable are included on the Consolidated Balance Sheets net of the allowance for doubtful accounts. A summary of activity in the allowance for doubtful accounts for the years ended December 31, 2019 and 2018 is as follows:

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	Balance at beginning of the period	Additions to expense	(Write offs) / Recoveries	Balance at end of the period
Year ended December 31, 2019	\$ 163	30	(84)	\$ 109
Year ended December 31, 2018	\$ 149	37	(23)	\$ 163

Note 6. Inventories

Inventories as of December 31, 2019 and 2018 consisted of the following:

	December 31,	
	2019	2018
Finished goods	92	496
Raw materials	706	—
Inventories	\$ 798	\$ 496

Note 7. Prepaid Expenses and Other Current Assets and Accrued and Other Current Liabilities

Prepaid expenses and other current assets as of December 31, 2019 and 2018 consisted of the following:

	December 31,	
	2019	2018
Prepaid expenses	\$ 1,948	\$ 1,179
Securities litigation insurance receivable	16,627	306
Other current assets	1,556	2,865
Prepaid expenses and other current assets	\$ 20,131	\$ 4,350

Accrued and other current liabilities of December 31, 2019 and 2018 consisted of the following:

	December 31,	
	2019	2018
Payroll and related costs	\$ 8,106	\$ 5,803
NaviNet acquisition accrued earn-out	—	1,700
Securities litigation expense payable	17,127	306
Operating lease liabilities	1,923	—
Other accrued and other current liabilities	5,288	6,023
Accrued and other current liabilities	\$ 32,444	\$ 13,832

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Note 8. Property, Plant and Equipment, net

Property, plant and equipment, net as of December 31, 2019 and 2018 consisted of the following:

	Useful life (in years)	December 31,	
		2019	2018
Computer equipment and software	3-5	\$ 14,689	\$ 14,058
Furniture and equipment	5-7	2,766	3,732
Leasehold and building improvements (1)		7,201	7,450
Construction in progress - PPE		949	—
Property, plant, and equipment, excluding internal use software		25,605	25,240
Less: Accumulated depreciation and amortization		(19,981)	(17,884)
Property, plant and equipment, excluding internal use software, net		5,624	7,356
Internal use software	3	33,351	31,565
Construction in progress - Internal use software		2,973	903
Less: Accumulated depreciation and amortization, internal use software		(25,853)	(16,846)
Internal use software, net		10,471	15,622
Property, plant and equipment, net		\$ 16,095	\$ 22,978

(1) Useful lives for leasehold and building improvements represent the term of the lease or the estimated life of the related improvements, whichever is shorter.

Depreciation expense from continuing operations was \$12,548 and \$12,643 for the years ended December 31, 2019 and 2018, respectively, of which \$9,028 and \$9,189, respectively, related to internal use software costs.

Amounts capitalized to internal use software related to continuing operations for the years ended December 31, 2019 and 2018 were \$3,800 and \$6,690, respectively.

Note 9. Intangible Assets, net

The Company's definite-lived intangible assets as of December 31, 2019 and 2018 consisted of the following:

	December 31, 2019			
	Customer Relationships	Developed Technologies	Trade Name	Total
Gross carrying amount	\$ 52,000	\$ 32,000	\$ 3,000	\$ 87,000
Accumulated amortization	(13,866)	(18,286)	(3,000)	(35,152)
Intangible assets, net	\$ 38,134	\$ 13,714	\$ —	\$ 51,848
	December 31, 2018			
	Customer Relationships	Developed Technologies	Trade Name	Total
Gross carrying amount	\$ 52,000	\$ 36,700	\$ 3,000	\$ 91,700
Accumulated amortization	(10,400)	(14,347)	(2,250)	(26,997)
Intangible assets, net	\$ 41,600	\$ 22,353	\$ 750	\$ 64,703

Amortization of definite-lived intangible assets is provided over their estimated useful lives on a straight-line basis or the pattern in which economic benefits are consumed, if reliably determinable. The Company reviews its definite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Amortization expense from continuing and discontinued operations was \$8,879 and \$9,150 for the years ended December 31, 2019 and 2018, respectively.

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At February 28, 2018, the Company recorded \$4,700 of definite-lived intangible assets and accumulated amortization of \$271 related to the assignment of NantHealth Labs (see Note 20). These intangibles are amortized over a period of thirteen years.

During the three months ended June 30, 2019, the Company identified an indicator of impairment with respect to the NantHealth Labs definite-lived intangible assets given the decline in sales and the Company's decision to cease commercial sales of its liquid biopsy test offering to focus on performing a study to measure the clinical utility of the AR-V7 analyte for informing treatment in patients with castration-resistant prostate cancer. Although the Company will continue this study while also pursuing other strategically aligned clinical studies that support its liquid biopsy platform, the Company determined that the assets were not recoverable given the significant amount of costs required to further build evidence of clinical utility while also ceasing commercial sales of the Liquid GPS product. Therefore, the Company fully impaired the intangible assets as of June 30, 2019 and recorded an impairment loss of \$3,977 within operating expenses.

The estimated future amortization expense over the next five years and thereafter for the intangible assets that exist as of December 31, 2019 is as follows:

	Amounts
2020	\$ 8,038
2021	8,038
2022	8,038
2023	3,467
2024	3,467
Thereafter	20,800
Total future intangible amortization expense	\$ 51,848

Note 10. Goodwill

Goodwill as of both December 31, 2019 and 2018 was \$115,930. On February 28, 2018, the Company recognized \$1,305 of goodwill related to the assignment of NantHealth Labs (see Note 20).

Note 11. Investments

Equity method investment

Investment in NantOmics

In 2015, the Company purchased a total of 169,074,539 Series A-2 units of NantOmics, a related party of the Company, for an aggregate purchase price of \$250,774. The Series A-2 units do not have any voting rights and, at the time of purchase, represented approximately 14.28% of NantOmics' issued and outstanding membership interests. NantOmics is majority owned by NantWorks and delivers molecular diagnostic capabilities with the intent of providing actionable intelligence and molecularly driven decision support for cancer patients and their providers at the point of care.

The Company applies the equity method to account for its investment in NantOmics as the interest in the equity is similar to a partnership interest. Further, the Company has the ability to exert significant influence over the operating and financial policies of the entity since NantWorks controls both NantHealth and NantOmics. The difference between the carrying amount of the investment in NantOmics and the Company's underlying equity in NantOmics' net assets relate to both definite and indefinite-lived intangible assets. At the time of the purchase, the Company attributed \$28,195 and \$14,382 of these differences to NantOmics' developed technologies and its reseller agreement with the Company, respectively, prior to the application of developed technology intangibles included in NantOmics net assets, and the remaining basis differences were attributed to goodwill. The Company amortizes the basis differences related to the definite-lived intangible assets over the assets' estimated useful lives and records these amounts as a reduction in the carrying amount of its investment and an increase in its equity method loss.

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At December 31, 2018 and September 30, 2018, the Company determined that other-than-temporary-impairments of \$14,768 and \$80,444, respectively, in the value of the investment in NantOmics had occurred, predominantly attributed to declines in the value of goodwill. The decline in fair value at December 31, 2018 was primarily caused by altered pricing assumptions for the reseller agreement between the Company and NantOmics. The decline in fair value at September 30, 2018 was primarily caused by changes in projected GPS Cancer revenue, due to delays in the Company's GPS Cancer revenue growth and changes in the risk profile of the financial projections for NantOmics. Refer to Note 2 for the accounting policy for the assessment of the fair value and determination of other-than-temporary-impairments of the Company's investment in related party.

At February 28, 2018, the Company transferred 9,088,362 of the Series A-2 units to NantOmics as consideration for the assignment of NantHealth Labs, Inc. (see Note 20). An additional 564,779 units were transferred by May 31, 2018. This reduced NantHealth's ownership of NantOmics to approximately 13.58%.

Pertaining to the Company's share of NantOmics' income or loss, amortization of basis differences, and other than temporary impairments, for the years ended December 31, 2019 and 2018, the Company recognized losses of \$8,317 and \$108,409, respectively.

The Company reports its share of NantOmics' income or loss and the amortization of basis differences using a one quarter lag. The Company used the following summarized financial information for NantOmics for the trailing twelve months ended September 30, 2019 and September 30, 2018 to record its equity investment method losses for the years ended December 31, 2019 and 2018, respectively:

	Twelve Months Ended September 30,	
	2019	2018
Revenues	\$ 4,126	\$ 5,817
Gross loss	(3,653)	(8,528)
Loss from operations	(22,421)	(45,481)
Impairments on equity	(12,265)	(19,976)
Net loss	(29,695)	(61,031)
Net loss attributable to NantOmics	(29,317)	(59,622)
Other comprehensive income (loss)	502	(4,291)

Other investments

Investment in IOBS

On June 16, 2015, the Company invested \$1,750 in Innovative Oncology Business Solutions, Inc. ("IOBS") in exchange for 1,750,000 shares of IOBS Series A preferred stock. IOBS offers community oncology practices an alternative medical home model for oncology patients that improves health outcomes, enhances patient care experiences and significantly reduces costs of care. The shares of preferred stock represent 35.0% of the outstanding equity of IOBS on an as-converted basis. The Company applied the cost method to account for its investment because the preferred stock is not considered in-substance common stock, is not considered a debt instrument as the Company cannot unilaterally demand redemption of the preferred stock and the preferred stock does not have a readily determinable fair value.

As of December 31, 2019 and 2018, IOBS was considered a variable interest entity. The Company is not the primary beneficiary of IOBS because it only has the right to elect two of five directors. All major decisions of IOBS require the majority vote by the members of the board of directors, including decisions made to manage the business including hiring and firing of officers and other critical management functions. Therefore, the Company does not consolidate IOBS.

During July 2018, the management of IOBS informed their board of directors that a transition plan had been agreed to migrate all current customers of the company to a business partner, as IOBS was unable to profitably serve those customers. The management of IOBS continues to seek ways to monetize the intellectual property held by the company, but future cash flows are uncertain. Therefore, the Company concluded that the investment in IOBS was impaired as of June 30, 2018. Given the level of uncertainty on future cash flows and the limited assets of IOBS available for distribution, the Company concluded the fair value of the investment was \$0 as of June 30, 2018 and recognized an impairment charge of \$1,750 in other expense, net. No other arrangements exist that could require the Company to provide additional financial support or otherwise expose the Company to a loss.

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Note 12. Convertible Notes

In December 2016, the Company entered into the Purchase Agreement with J.P. Morgan Securities LLC and Jefferies LLC, as representatives of the several initial purchasers named therein (collectively, the "Initial Purchasers"), to issue and sell \$90,000 in aggregate principal amount of its 5.50% senior convertible notes due 2021 ("Convertible Notes") in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended (the "Securities Act"), and to non-U.S. persons pursuant to Regulation S under the Securities Act. In December 2016, the Company entered into a purchase agreement (the "Cambridge Purchase Agreement") with Cambridge Equities, L.P. ("Cambridge"), an entity affiliated with Dr. Patrick Soon-Shiong, the Company's Chairman and Chief Executive Officer, to issue and sell \$10,000 in aggregate principal amount of the Convertible Notes in a private placement pursuant to an exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) of the Securities Act. In December 2016, pursuant to the exercise of the over-allotment by the Initial Purchasers, the Company issued an additional \$7,000 principal amount of the Convertible Notes. The total net proceeds from this offering were approximately \$102,714 (\$9,917 from Cambridge and \$92,797 from the Initial Purchasers) after deducting the Initial Purchasers' discount and debt issuance costs of \$4,286 in connection with the Convertible Notes offering.

On December 21, 2016, the Company entered into an indenture, relating to the issuance of the Convertible Notes (the "Indenture"), by and between the Company and U.S. Bank National Association, as trustee (the "Trustee"). The interest rates are fixed at 5.50% per year, payable semi-annually on June 15 and December 15 of each year, beginning on June 15, 2017. The Convertible Notes will mature on December 15, 2021, unless earlier repurchased by the Company or converted pursuant to their terms.

In connection with the offering of the Convertible Notes, on December 15, 2016, the Company entered into a Second Amended and Restated Promissory Note which amended and restated the Amended and Restated Promissory Note, dated May 9, 2016, between the Company and NantCapital, to, among other things, extend the maturity date of the Promissory Note to June 15, 2022 and to subordinate such Promissory Note in right of payment to the Convertible Notes (see Note 20).

The initial conversion rate of the Convertible Notes is 82.3893 shares of common stock per \$1 principal amount of Convertible Notes (which is equivalent to an initial conversion price of approximately \$12.14 per share). Prior to the close of business on the business day immediately preceding September 15, 2021, the Convertible Notes will be convertible only under the following circumstances:

(1) during any calendar quarter commencing after March 31, 2017 (and only during such calendar quarter), if, for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on the last trading day of the immediately preceding calendar quarter, the last reported sale price of the Company's common stock on such trading day is greater than or equal to 120% of the conversion price on such trading day;

(2) during the five business day period after any five consecutive trading day period in which, for each day of that period, the trading price per \$1 principal amount of the Convertible Notes for such trading day was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on such trading day; or

(3) upon the occurrence of specified corporate transactions as described in the Indenture agreement.

Upon conversion, the Convertible Notes will be settled in cash, shares of the Company's common stock or any combination thereof at the Company's option.

Upon the occurrence of a fundamental change (as defined in the Indenture), holders may require the Company to purchase all or a portion of the Convertible Notes in principal amounts of \$1 or an integral multiple thereof, for cash at a price equal to 100% of the principal amount of the Convertible Notes to be purchased plus any accrued and unpaid interest to, but excluding, the fundamental change purchase date. The conversion rate will be subject to adjustment upon the occurrence of certain specified events.

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On or after the date that is one year after the last date of original issuance of the Convertible Notes, if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending within the five trading days immediately preceding a conversion date is greater than or equal to 120% of the conversion price on each applicable trading day, the Company will make an interest make-whole payment to a converting holder (other than a conversion in connection with a make-whole fundamental change in which the conversion rate is adjusted) equal to the sum of the present values of the scheduled payments of interest that would have been made on the Convertible Notes to be converted had such Convertible Notes remained outstanding from the conversion date through the earlier of (i) the date that is three years after the conversion date and (ii) the maturity date if the Convertible Notes had not been so converted. The present values of the remaining interest payments will be computed using a discount rate equal to 2.0%. The Company may pay any interest make-whole payment either in cash or in shares of its common stock, at the Company's election as described in the Indenture.

The Company accounts for convertible debt instruments that may be settled in cash upon conversion (including partial cash settlement) by recording the liability and equity components of the convertible debt separately. The liability component is computed based on the fair value of a similar liability that does not include the conversion option. The liability component includes both the value of the embedded interest make-whole derivative and the carrying value of the Convertible Notes. The equity component is computed based on the total debt proceeds less the fair value of the liability component. The equity component is also recorded as debt discount and amortized as interest expense over the expected term of the Convertible Notes.

The liability component of the Convertible Notes on the date of issuance was computed as \$83,079, consisting of the value of the embedded interest make-whole derivative of \$1,499 and the carrying value of the Convertible Notes of \$81,580. Accordingly, the equity component on the date of issuance was \$23,921. If the debt is considered current at the balance sheet date, the liability component of the convertible notes will be classified as current liabilities and presented in current portion of convertible notes debt and the equity component of the convertible debt will be considered a redeemable security and presented as redeemable equity on the Company's Consolidated Balance Sheet.

Offering costs of \$4,286 related to the issuance of the Convertible Notes were allocated to the liability and equity components in proportion to the allocation of the proceeds and accounted for as deferred financing offering costs and equity issuance costs, respectively. Approximately \$972 of this amount was allocated to equity and the remaining \$3,314 was capitalized as deferred financing offering costs.

The debt discounts and deferred financing offering costs on the Convertible Notes are being amortized to interest expense over the contractual terms of the Convertible Notes, using the effective interest method at an effective interest rate of 12.82%.

As of December 31, 2019, the remaining life of the Convertible Notes is approximately 24 months.

The following table summarizes how the issuance of the Convertible Notes is reflected in the Company's Consolidated Balance Sheets as of December 31, 2019 and 2018:

	Related party	Others	Total
Balance as of December 31, 2019			
Gross proceeds	\$ 10,000	\$ 97,000	\$ 107,000
Unamortized debt discounts and deferred financing offering costs	(1,136)	(12,352)	(13,488)
Net carrying amount	<u>\$ 8,864</u>	<u>\$ 84,648</u>	<u>\$ 93,512</u>
Balance as of December 31, 2018			
Gross proceeds	\$ 10,000	\$ 97,000	\$ 107,000
Unamortized debt discounts and deferred financing offering costs	(1,622)	(17,567)	(19,189)
Net carrying amount	<u>\$ 8,378</u>	<u>\$ 79,433</u>	<u>\$ 87,811</u>

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The following table sets forth the Company's interest expense incurred for the years ended December 31, 2019 and 2018:

	Year Ended December 31,					
	2019			2018		
	Related party	Others	Total	Related party	Others	Total
Accrued coupon interest expense	\$ 550	\$ 5,335	\$ 5,885	\$ 550	\$ 5,335	\$ 5,885
Amortization of debt discounts	473	4,571	5,044	419	4,020	4,439
Amortization of deferred financing offering costs	13	645	658	11	568	579
Total convertible notes interest expense	<u>\$ 1,036</u>	<u>\$ 10,551</u>	<u>\$ 11,587</u>	<u>\$ 980</u>	<u>\$ 9,923</u>	<u>\$ 10,903</u>

Note 13. Fair Value Measurements

Liabilities measured at fair value on a recurring basis as of December 31, 2019 and 2018 consisted of the following:

	December 31, 2019			
	Total fair value	Quoted price in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Liabilities				
Bookings Commitment	\$ 21,983	\$ —	\$ —	\$ 21,983
Interest make-whole derivative	—	—	—	—

	December 31, 2018			
	Total fair value	Quoted price in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Liabilities				
Bookings Commitment	\$ 16,947	\$ —	\$ —	\$ 16,947
Interest make-whole derivative	—	—	—	—

The Company's intangible assets and goodwill are initially measured at fair value and any subsequent adjustment to the initial fair value occurs only if an impairment charge is recognized.

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Level 3 Inputs

Convertible Note derivative liability

In December 2016, the Company issued \$107,000 in aggregate principal amount of Convertible Notes due December 15, 2021, of which \$10,000 issued to a related party (see Note 12). The Convertible Notes include an interest make-whole feature whereby if a noteholder converts any of the Convertible Notes one year after the last date of original issuance of the Convertible Notes, they are entitled, in addition to the other consideration payable or deliverable in connection with such conversion, to an interest make-whole payment equal to the sum of the present values of the scheduled payments, computed using a discount rate equal to 2.0%, of interest that would have been made on the Convertible Notes to be converted had such Convertible Notes remained outstanding from the conversion date through the earlier of (i) the date that is three years after the conversion date and (ii) the maturity date if the Convertible Notes had not been so converted. The Company may pay any interest make-whole payment either in cash or in shares of its common stock, at the Company's election as described in the Indenture. The Company has determined that this feature is an embedded derivative and have recognized the fair value of this derivative as a liability in the Company's Consolidated Balance Sheets, with subsequent changes to fair value recorded through earnings at each reporting period on the Company's Consolidated Statements of Operations as change in fair value of derivative liability.

The fair value of the derivative liability includes the estimated volatility and risk-free rate. The higher/lower the estimated volatility, the higher/lower the value of the liability. The higher/lower the risk-free interest rate, the higher/lower the value of the liability.

Bookings Commitment

The Company values the Bookings Commitment, assumed upon the disposal of the provider/patient engagement solutions business (see Note 4), using a Monte Carlo Simulation model to calculate average payments due under the Bookings Commitment, based on management's estimate of its performance in securing bookings and resulting annual payments, discounted at the cost of debt based on a yield curve. The cost of debt used for discounting was between 15% and 17% at December 31, 2019 and between 17% and 20% at December 31, 2018. The change in fair value is recorded within other expense, net in the Company's Consolidated Statements of Operations.

The fair value of the Bookings Commitment is dependent on management's estimate of the probability of success on individual opportunities and the cost of debt applied in discounting the liability. The higher the probability of success on each opportunity, the lower the fair value of the Bookings Commitment liability. The lower the cost of debt applied, the higher the value of the liability.

The fair market value for level 3 securities may be highly sensitive to the use of unobservable inputs and subjective assumptions. Generally, changes in significant unobservable inputs may result in significantly lower or higher fair value measurements.

The following tables set forth a summary of changes in the fair value of Level 3 liabilities for the years ended December 31, 2019 and 2018:

	December 31, 2018	Additions	Change in fair value	December 31, 2019
Interest make-whole derivative - related party and others	\$ —	\$ —	\$ —	\$ —
Bookings Commitment	16,947	—	5,036	21,983
	<u>\$ 16,947</u>	<u>\$ —</u>	<u>\$ 5,036</u>	<u>\$ 21,983</u>

	December 31, 2017	Additions	Change in fair value	December 31, 2018
Interest make-whole derivative - related party and others	\$ 7	\$ —	\$ (7)	\$ —
Bookings Commitment	—	—	16,947	16,947
	<u>\$ 7</u>	<u>\$ —</u>	<u>\$ 16,940</u>	<u>\$ 16,947</u>

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Fair Value of Convertible Notes held at amortized cost

As of December 31, 2019 and 2018, the fair value and carrying value of the Company's Convertible Notes were:

	Fair value	Carrying value	Face value
5.5% convertible senior notes due December 15, 2021:			
Balance as of December 31, 2019			
Related party	\$ 6,727	\$ 8,864	\$ 10,000
Others	65,257	84,648	97,000
	\$ 71,984	\$ 93,512	\$ 107,000
Balance as of December 31, 2018			
Related party	\$ 5,879	\$ 8,378	\$ 10,000
Others	57,031	79,433	97,000
	\$ 62,910	\$ 87,811	\$ 107,000

The fair value shown above represents the fair value of the debt instrument, inclusive of both the debt and equity components, but excluding the derivative liability. The carrying value represents only the carrying value of the debt component.

The fair value of the Convertible Notes was determined by using unobservable inputs that are supported by minimal non-active market activity and that are significant to determining the fair value of the debt instrument. The fair value is level 3 in the fair value hierarchy.

Note 14. Leases

The Company has operating leases for corporate offices, data centers, and certain equipment. The Company's leases have lease terms of 1 year to 11 years, some of which include options to extend the leases for up to 5 years, and some of which include options to terminate the leases within 1 year. NantWorks, a related party, subleases one of the Company's data centers on the same terms the Company agreed to with the lessor. Options to extend are included in the lease term where the Company is reasonably certain to exercise the options. Variable payments on the Company's leases are expensed as incurred, as they do not depend on an index or rate. The Company concluded certain leases for data centers had a term of less than 1 year at inception, as arrangements are only renewed following marketplace assessments and negotiations with vendors.

The Company's leases do not indicate the rate implicit in the lease. As such, the Company has used its incremental borrowing rate, determined based on market indications of the rate at which the Company could borrow, adjusted for the term, value and payment schedule of individual leases, at the effective date for ASC 842 or at the lease commencement date for leases entered into after January 1, 2019.

Lease expense, charged to selling, general and administrative expense, for the year ended December 31, 2019 consisted of:

	Year Ended December 31, 2019
Operating lease cost	\$ 2,769
Short-term lease cost	1,056
Variable cost	343
Sublease income	(208)
Total lease cost	\$ 3,960

For the year ended December 31, 2018, rental expense was charged to selling, general and administrative expense in the amount of \$3,930.

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Other information regarding the Company's leases:

	Year Ended December 31, 2019
Operating cash flows for operating leases	\$ (2,910)
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 1,837
Operating lease liabilities arising from obtaining right-of-use assets	\$ 1,837
Weighted average remaining lease term - operating leases	5.8 years
Weighted average discount rate - operating leases	11%

As of December 31, 2019 and 2018, the Company had no material capital leases. As of December 31, 2019, the remaining lives of its operating leases ranged from one to ten years.

Future minimum lease payments under the Company's operating leases at December 31, 2019 were:

	Amounts
2020	\$ 3,192
2021	3,043
2022	3,084
2023	3,125
2024	2,677
Thereafter	2,364
Total future minimum lease payments	17,485
Less: imputed interest	(4,552)
Total	\$ 12,933
As reported in the Consolidated Balance Sheet	
Accrued and other current liabilities	\$ 1,923
Operating lease liabilities	11,010
	\$ 12,933

Note 15. Commitments and Contingencies

The Company's principal commitments consist of obligations under its outstanding debt obligations, non-cancelable leases for its office space, data centers and certain equipment and vendor contracts to provide research services, and purchase obligations under license agreements and reseller agreements.

Related Party Promissory Note

On January 4, 2016, the Company executed a \$112,666 demand promissory note in favor of NantCapital to fund the acquisition of NaviNet. On May 9, 2016 and December 15, 2016, the Promissory Note with NantCapital was amended to provide that all outstanding principal and accrued interest is due and payable on June 15, 2022, and not on demand and the Company subordinated the Promissory Note in right of payment to the Convertible Notes (see Note 12).

Indenture Obligations Under Convertible Notes

On December 21, 2016, the Company entered into the Indenture relating to the issuance of the \$107,000 Convertible Notes, by and between the Company and U.S. Bank National Association the Trustee. The interest rates are fixed at 5.50% per year, payable semi-annually on June 15 and December 15 of each year, beginning on June 15, 2017. The Convertible Notes will mature on December 15, 2021, unless earlier repurchased by the Company or converted pursuant to their terms (see Note 12).

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Purchase Obligations Under License Agreements and Reseller Agreements

In September 2016, the Company entered into a Second Amended and Restated Reseller Agreement for genomic and proteomic sequencing services and related bioinformatics and analysis services with NantOmics, with an effective date of June 19, 2015 (see Note 20).

Regulatory Matters

The Company is subject to regulatory oversight by the U.S. Food and Drug Administration and other regulatory authorities with respect to the development, manufacturing, and sale of some of the solutions. In addition, the Company is subject to the Health Insurance Portability and Accountability Act ("HIPAA"), the Health Information Technology for Economic and Clinical Health Act and related patient confidentiality laws and regulations with respect to patient information. The Company reviews the applicable laws and regulations regarding effects of such laws and regulations on its operations on an on-going basis and modifies operations as appropriate. The Company believes it is in substantial compliance with all applicable laws and regulations. Failure to comply with regulatory requirements could have a significant adverse effect on the Company's business and operations.

Legal Matters

The Company is, from time to time, subject to claims and litigation that arise in the ordinary course of its business. The Company intends to defend vigorously any such litigation that may arise under all defenses that would be available to it. Except as discussed below, in the opinion of management, the ultimate outcome of proceedings of which management is aware, even if adverse to the Company, would not have a material adverse effect on the Company's consolidated financial condition or results of operations. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources and other factors.

Securities Litigation

In March 2017, a number of putative class action securities complaints were filed in U.S. District Court for the Central District of California, naming as defendants the Company and certain of our current or former executive officers and directors. These complaints have been consolidated with the lead case captioned *Deora v. NantHealth, Inc.*, 2:17-cv-01825. ("Deora") In June 2017, the lead plaintiffs filed an amended consolidated complaint, which generally alleges that defendants violated federal securities laws by making material misrepresentations in NantHealth's IPO registration statement and in subsequent public statements. In particular, the complaint refers to various third-party articles in alleging that defendants misrepresented NantHealth's business with the University of Utah, donations to the university by non-profit entities associated with the Company's founder Dr. Soon-Shiong, and orders for GPS Cancer. The lead plaintiffs seek unspecified damages and other relief on behalf of putative classes of persons who purchased or acquired NantHealth securities in the IPO or on the open market from June 1, 2016 through May 1, 2017. In March 2018, the court largely denied Defendants' motion to dismiss the consolidated amended complaint. On July 30, 2019, the court certified the case as a class action. On October 23, 2019, the parties notified the court that they had reached a settlement in principle to resolve the action on a classwide basis in the amount of \$16,500, which is included in accrued and other current liabilities on the Consolidated Balance Sheet at December 31, 2019. The court granted preliminary approval of the settlement on January 31, 2020, and a hearing for final approval of the settlement is scheduled for June 15, 2020. The majority of the settlement amount will be funded by the Company's insurance carriers, and a portion will be funded by the Company. The settlement is contingent upon certain matters, including final approval by the court. Also, the parties have the right to terminate the settlement in certain circumstances.

In May 2017, a putative class action complaint was filed in California Superior Court, Los Angeles County, asserting claims for violations of the Securities Act based on allegations similar to those in *Deora*. That case is captioned *Bucks County Employees Retirement Fund v. NantHealth, Inc.*, BC 662330. The parties have agreed to stay the case until the next case management conference, scheduled for May 7, 2020. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

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In April 2018, two putative shareholder derivative actions-captioned Engleman v. Soon-Shiong, Case No. 2018-0282-AGB, and Petersen v. Soon-Shiong, Case No. 2018-0302-AGB were filed in the Delaware Court of Chancery. The plaintiff in the Engleman action previously filed a similar complaint in California Superior Court, Los Angeles County, which was dismissed based on a provision in the Company's charter requiring derivative actions to be brought in Delaware. The Engleman and Petersen complaints contain allegations similar to those in Deora but assert causes of action on behalf of NantHealth against various of the Company's current or former executive officers and directors for alleged breaches of fiduciary duty, abuse of control, gross mismanagement, and unjust enrichment. The Company is named solely as a nominal defendant. In July 2018, the court issued an order consolidating the Engleman and Petersen actions as in re NantHealth, Inc. Stockholder Litigation, Lead C.A. No. 2018-0302-AGB, appointing Petersen as lead plaintiff, and designating the Petersen complaint as the operative complaint. On September 20, 2018, the defendants moved to dismiss the complaint. In October 2018, in response to the motion to dismiss, Petersen filed an amended complaint. In November 2018, the defendants moved to dismiss the amended complaint. A hearing on the defendants' motion was held on September 25, 2019. On January 14, 2020, the court issued an order granting in part and denying in part the defendants' motion to dismiss. The court dismissed all claims except one claim against Mr. Soon-Shiong for breach of fiduciary duty.

In April 2018, a putative shareholder derivative action captioned Shen v. Soon-Shiong was filed in U.S. District Court for the District of Delaware. The complaint contains allegations similar to those in Deora but asserts causes of action on behalf of NantHealth against various of the Company's current or former executive officers and directors for alleged breaches of fiduciary duty and unjust enrichment, as well as alleged violations of the federal securities laws based on alleged misstatements or omissions in the Company's 2017 proxy statement. The parties agreed to stay the case pending a decision on defendants' motion to dismiss in the derivative action in the Delaware Court of Chancery. The stay has been lifted due to the court's January 14, 2020 decision granting in part and denying in part the motion to dismiss, and defendants' answer to the complaint is due on or before February 28, 2020.

Real Estate Litigation

On March 9, 2018, PayPal, Inc. ("PayPal") commenced an action against the Company in the Superior Court Department of the Trial Court of the Commonwealth of Massachusetts, for Suffolk County. The action was originally captioned PayPal, Inc. v. NantHealth, Inc., Civil Action No. 18-0780-E. On April 10, 2018, the Superior Court transferred the case to its Business Litigation Section, where it is currently pending and captioned as PayPal, Inc. v. NantHealth, Inc., Civil Action No. 18-0780-BLS1. This action arises out of a Sublease Agreement that PayPal and the Company entered into on or about November 30, 2017. The Sublease Agreement pertained to commercial real estate that PayPal leased at One International Place in Boston, Massachusetts. On January 25, 2018, the Company notified PayPal that we were electing to terminate the Sublease Agreement.

In its Verified Complaint, and a contemporaneous notice of default that the Company disputed, PayPal alleges that the Company breached the Sublease Agreement. In addition, PayPal asserts claims for breach of the covenant of good faith and fair dealing, and violations of Massachusetts General Laws, Chapter 93A, sections 2 and 11, and seeks a declaratory judgment recognizing and enforcing the terms of the Sublease Agreement. Among other relief, PayPal seeks damages, treble damages, interest, costs, and attorneys' fees.

On April 12, 2018, the Company filed its answer and jury demand in the action, denying liability. On August 2, 2018, PayPal requested a status conference with the court in order to discuss PayPal's potential filing of a motion for partial judgment on the pleadings pursuant to Mass. R. Civ. P. 12(c). A Rule 16 Litigation Control Conference ("Rule 16 Conference") was held on August 22, 2018. During the Rule 16 Conference, the court denied PayPal's request for leave to file a motion for partial judgment on the pleadings. Following the Rule 16 Conference, the court issued a tracking order setting deadlines and other procedures that would apply to this action.

On September 26, 2018, the Company filed its Assented to Motion for Leave to Amend Its Answer. The court granted the Company's motion on October 3, 2018. On October 9, 2018, the Company filed and served its amended answer and jury demand.

On January 8, 2019, the parties filed a joint motion to extend certain of the tracking order deadlines, which motion the court granted by endorsed order dated January 9, 2019.

On April 4, 2019, PayPal filed a motion to add NantWorks, LLC as a defendant in the litigation, which motion was filed together with PayPal's supporting memorandum, the Company's opposition to that motion and PayPal's reply. In its memorandum supporting that motion, PayPal stated that "PayPal's damages are in excess of \$3M," without further explanation as to its damages calculations. The court denied PayPal's motion on April 16, 2019.

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PayPal served a motion for summary judgment on June 5, 2019. In that motion, PayPal asserted that its actual damages are in excess of \$2,300, which it suggested the court should treble pursuant to the provisions of Massachusetts General Laws, Chapter 93A. The Company served its opposition on July 12, 2019. PayPal responded with a reply to the Company's opposition on July 18, 2019 and the fully briefed motion for summary judgment was filed that same day.

The parties completed fact discovery on March 15, 2019 and completed expert discovery on August 22, 2019.

A hearing on PayPal's motion for summary judgment was held on October 17, 2019. At the hearing, the court indicated its intention to issue a written decision (1) granting PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only and not as to damages; (2) denying PayPal's motion for summary judgment regarding its claim for unfair and deceptive trade practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11; and (3) finding PayPal's claim for breach of the covenant of good faith and fair dealing to be irrelevant or moot and denying its motion for summary judgment as to that claim.

At the October 17, 2019 hearing, PayPal orally withdrew its claim for attorneys' fees on its breach of the Sublease Agreement claim only and left uncertain whether it intends to pursue its claim for a declaratory judgment.

On December 6, 2019, PayPal served a motion seeking a preliminary injunction that would enjoin and restrain the Company, its officers, agents, attorneys and employees from transferring, conveying, or encumbering, or in any way attempting to pass out of their control any of the Company's assets or property other than in the ordinary course of business, including but not limited to cash, bonuses, and dividends. In the papers submitted in support of that motion, PayPal asserted that it has a strong likelihood of success in seeking to recover over \$2,900 on its claim for breach of the Sublease Agreement, inclusive of pre-judgment interest at the statutory rate. On January 3, 2020, the Company served its opposition to PayPal's motion for preliminary injunction. On January 9, 2020, PayPal served its reply in support of its motion for preliminary injunction and filed all motion papers with the court.

On January 23, 2020, the court issued its written Decision and Order regarding PayPal's motion for summary judgment. In the Decision and Order, which was docketed on January 27, 2020, the court (1) granted PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only and not as to damages; (2) denied PayPal's motion for summary judgment regarding its claim for unfair and deceptive trade practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11; (3) denied PayPal's motion for summary judgment regarding its claim for breach of the covenant of good faith and fair dealing, finding there was no need or basis to impose any additional liability on the Company for conduct that does not give rise to a cause of action independent of the underlying breach of contract claim; and (4) denied PayPal's motion for summary judgment regarding its request for a declaratory judgment because it added little or nothing of substance to the relief PayPal is entitled to obtain, if at all.

Based on the court's January 23, 2020 Decision and Order, the issue of damages on PayPal's claim for breach of the Sublease Agreement remains to be determined. The Company has asserted, among other things, that PayPal failed to mitigate any damages that PayPal claims the Company owes. PayPal's claim for unfair and deceptive practices in violation of Massachusetts General Laws, Chapter 93A, sections 2 and 11, and its requests for treble damages and attorneys' fees on that claim, as well as its requests for interest and costs on the breach of the Sublease Agreement and Chapter 93A claims, also remain to be determined.

A hearing on PayPal's motion for preliminary injunction was held on January 30, 2020. At the hearing, the court took the motion for preliminary injunction under advisement and scheduled the following: (1) a status conference on September 9, 2020; (2) a final trial conference on January 6, 2021; and (3) a jury trial start date on January 12, 2021.

On February 7, 2020, the court issued its written Decision denying PayPal's motion for preliminary injunction.

On February 24, 2020, the Company filed a Petition for Interlocutory Relief. The petition seeks relief from the Decision and Order granting PayPal's motion for summary judgment regarding its claim for breach of the Sublease Agreement, as to liability only.

The Company denies any liability to PayPal and intends to continue vigorously defending the action.

Insurance Recoveries

The Company has reflected its right to insurance recoveries, limited to the extent of incurred or probable losses, as a receivable when such recoveries have been agreed to with the Company's third-party insurers and receipt is deemed probable. This includes instances where the Company's third-party insurers have agreed to pay, on the Company's behalf, certain legal defense costs and settlement amounts directly to applicable law firms and a settlement fund. The amount of such receivable related to the securities litigation recorded at December 31, 2019 and 2018 was \$16,627 and \$306, respectively, and is included in prepaid expenses and other current assets on the Consolidated Balance Sheets.

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Note 16. Income Taxes

The components of the provision for income taxes are presented in the following table:

	Year Ended December 31,	
	2019	2018
Current:		
Federal	\$ (14)	\$ 2
State	358	42
Foreign	101	52
Total current provision	445	96
Deferred:		
Federal	335	(3,418)
State	(875)	(418)
Foreign	(17)	67
Total deferred benefit	(557)	(3,769)
Benefit from income taxes, net	\$ (112)	\$ (3,673)

The provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. statutory federal income tax rate to pretax loss as a result of the following differences:

	Year Ended December 31,	
	2019	2018
United States federal tax at statutory rate	21.00 %	21.00 %
Items affecting federal income tax rate:		
State tax rate, net of federal benefit	2.83 %	3.85 %
Valuation allowance	(24.73)%	(22.00)%
Stock-based compensation	(2.51)%	(0.62)%
Other adjustments	3.59 %	(0.33)%
Effective income tax rate	0.18 %	1.90 %

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "Tax Act") was signed into law making significant changes to the Internal Revenue Code (the "Code"). Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017.

In December 2017, the SEC issued Staff Accounting Bulletin ("SAB") No. 118, which provides guidance on accounting for the income tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting relating to the Tax Act under Accounting Standards Codification Topic 740, *Income Taxes*. In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company's accounting for Tax Act-related income tax effects is incomplete, but the company is able to determine a reasonable estimate, it must record a provisional estimate in its financial statements. If a company cannot determine a provisional estimate to be included in its financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act. The Company has completed its evaluation of the potential impacts of the Tax Act on its December 31, 2018 financial statements under the one year measurement period provided under SAB 118. No adjustment has been recorded as there were no material changes between the provisional estimate and the final accounting for the Tax Act.

The Tax Act subjects a U.S. shareholder to current tax on global intangible low-taxed income ("GILTI") earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740 No. 5, *Accounting for Global Intangible Low-Taxed Income*, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred. We have elected to recognize the tax on GILTI as a period expense in the period the tax is incurred.

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As of December 31, 2019 and 2018, the Company had an immaterial amount of unremitted earnings related to certain foreign subsidiaries. The Company intends to continue to reinvest its foreign earnings indefinitely and does not expect to incur any significant taxes related to such amounts.

Significant components of the Company's deferred tax assets and liabilities as of December 31, 2019 and 2018 are as follows:

	December 31,	
	2019	2018
Deferred income tax assets:		
Accounts payable and accrued expenses	\$ 7,336	\$ 5,581
163(j) Interest limitation	5,392	2,509
Inventory impairment	39	495
Deferred revenue	3,623	5,438
Allowance for doubtful accounts	72	546
Property, plant and equipment, net	761	691
Intangibles	3,166	3,409
Investments	51,349	48,836
Stock-based compensation	719	2,159
Other	1,202	1,321
Operating lease liabilities	3,314	—
Net operating loss carryforwards	109,952	104,404
Less: Valuation allowance	(155,755)	(140,788)
Total deferred income tax assets	31,170	34,601
Deferred income tax liabilities:		
State taxes	(6,723)	(5,339)
Intangible assets, net	(19,474)	(25,630)
Convertible notes	(3,017)	(4,241)
Deferred costs to obtain a customer contract	(980)	(1,633)
Other	(292)	(195)
Operating lease right-of-use assets	(2,563)	—
Total deferred income tax liabilities	(33,049)	(37,038)
Deferred income taxes, net	\$ (1,879)	\$ (2,437)

The realization of deferred income tax assets may be dependent on the Company's ability to generate sufficient income in future years in the associated jurisdiction to which the deferred tax assets relate. The Company considers all available positive and negative evidence, including scheduled reversals of deferred income tax liabilities, projected future taxable income, tax planning strategies, and recent financial performance. Based on the review of all positive and negative evidence, including a three year cumulative pre-tax loss, the Company concluded that except for the deferred tax liability recorded on amortization of certain goodwill due to its indefinite life and deferred tax liability in excess of deferred tax asset for certain separate state and city jurisdictions, it should record a full valuation allowance against all other net deferred income tax assets at December 31, 2019 and 2018 as none of these deferred income tax assets were more likely than not to be realized as of the balance sheet dates. However, the amount of the deferred income tax assets considered realizable may be adjusted if estimates of future taxable income during the carryforward period are increased or if objective negative evidence in the form of cumulative losses is no longer present. In addition, at December 31, 2019, the position of the valuation allowance for deferred tax assets for which subsequently recognized tax benefits will be credited directly to contributed capital is \$352.

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A summary of activity in the valuation allowance deducted from deferred tax assets for the years ended December 31, 2019 and 2018 is as follows:

	Balance at beginning of the period	Additions (Adjustments)	Deductions	Balance at the end of the period
Year to Date December 31, 2019	\$ 140,788	14,967	—	\$ 155,755
Year to Date December 31, 2018	\$ 97,323	43,465	—	\$ 140,788

The Company records a tax benefit from uncertain tax positions only if it is more likely than not the tax position will be sustained with the taxing authority having full knowledge of all relevant information. The Company records a liability for unrecognized tax benefits from uncertain tax positions as discrete tax adjustments in the first period that the more-likely-than-not threshold is not met. As of December 31, 2019 and 2018, the Company had no unrecognized tax benefits.

The Company's policy is to recognize interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2019 and 2018, there are no material interest and penalties associated with unrecognized tax benefits recorded in the Company's Consolidated Statements of Operations or Consolidated Balance Sheets. Any changes to unrecognized tax benefits recorded as of December 31, 2019 that are reasonably possible to occur within the next 12 months are not expected to be material.

The Company is no longer subject to income tax examination by the U.S. federal, state or local tax authorities for years ended December 31, 2014 or prior; however, its tax attributes, such as NOL carryforwards and tax credits, are still subject to examination in the year they are used.

As of December 31, 2019, the Company had federal, state and foreign NOL carryforwards of \$415,352, \$304,982 and \$0, respectively, available to offset taxable income in tax year 2020 and thereafter, and expiring at various dates through from 2021 to 2039. Utilization of the NOL carryforwards is subject to annual limitations due to ownership changes that occurred or could occur in the future as provided by Section 382 of the Code, as amended, as well as similar state and foreign provisions. These ownership changes may limit the amount of the NOL carryforwards that can be utilized annually to offset future taxable income. The total NOL amounts above do not include the NOLs expected to expire.

Note 17. Stockholders' Equity

Amended Certificate of Incorporation

In accordance with the Company's amended and restated certificate of incorporation, which was filed immediately following the closing of its IPO, the Company is authorized to issue 750,000,000 shares of common stock, with a par value of \$0.0001 per share, and 20,000,000 shares of undesignated preferred stock, with a par value of \$0.0001 per share. Holders of the Company's common stock are entitled to one vote for each share held on all matters submitted to a vote of its stockholders. Holders of the Company's common stock have no cumulative voting rights. Further, as of December 31, 2019 and 2018, holders of the Company's common stock have no preemptive, conversion, redemption or subscription rights and there are no sinking fund provisions applicable to the Company's common stock. Upon liquidation, dissolution or winding-up of the Company, holders of the Company's common stock are entitled to share ratably in all assets remaining after payment of all liabilities and the liquidation preferences of any outstanding shares of preferred stock. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of the Company's common stock are entitled to receive dividends, if any, as may be declared from time to time by the Company's board of directors. As of December 31, 2019 and 2018, there were no outstanding shares of preferred stock.

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Note 18. Stock-Based Compensation

The following table reflects the components of stock-based compensation expense recognized in the Company's Consolidated Statements of Operations:

	Year Ended December 31,	
	2019	2018
Series C / Restricted Stock:		
Research and development	\$ —	\$ 86
Phantom units:		
Cost of revenue	30	367
Selling, general and administrative	80	4
Research and development	32	347
Total phantom units stock-based compensation expense	142	718
Stock options:		
Cost of revenue	25	—
Selling, general and administrative	474	—
Research and development	41	—
Total stock options stock-based compensation expense	540	—
Restricted Stock Units:		
Cost of revenue	18	27
Selling, general and administrative	2,019	4,664
Research and development	67	162
Total restricted stock units stock-based compensation expense	2,104	4,853
Total stock-based compensation expense	2,786	5,657
Amount capitalized to internal-use software	134	530
Total stock-based compensation cost	\$ 2,920	\$ 6,187

Retired Profits Interests Plan

On December 3, 2013, the Company adopted the Profits Interests Plan under which it had reserved an aggregate of 63,750,000 Series C units for issuance to associates, consultants and contractors of the Company in consideration for bona fide services provided to the Company.

The Series C units were considered profits interests of the Company and did not entitle their holders (the "Series C Members") to receive distributions if the Company were liquidated immediately after the grant. Instead, the Series C Members were entitled to receive an allocation of a portion of the profit and loss of the Company arising after the date of the grant and, subject to vesting conditions, distributions made out of a portion of the profits of the Company arising after the grant date of the Series C units. Grants of the Series C units were either fully vested, partially vested, or entirely unvested at the time of the grant as determined by the Board of Directors.

Series C Members were not entitled to receive any distributions until the aggregate distributions made by the Company exceeded a hurdle amount applicable to those Series C units. The hurdle amount for each grant was determined by the Board of Directors at the date of issuance of such units. After all other members received their applicable hurdle amount, the Series C Members were entitled to receive their percentage interest of such excess distributions.

As of December 31, 2015 and through the date of the LLC Conversion, the Company had 3,470,254 Series C units outstanding.

Upon the LLC Conversion on June 1, 2016, the Company issued 28,973 shares of common stock to holders of vested Series C units and 10,462 shares of restricted stock to holders of unvested Series C units. The shares of restricted stock issued to holders of unvested profits interests are subject to forfeiture until becoming fully vested in accordance with the terms of the original Series C unit grant agreements (see Restricted Stock below).

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Stock-based compensation expense for the Series C units issued to nonemployees was calculated based on the fair value of the award on each balance sheet date and the attribution of that cost is being recognized ratably over the vesting period. All awards had fully vested at December 31, 2018.

Phantom Unit Plan

On March 31, 2015, the Company approved the NantHealth, LLC Phantom Unit Plan (the "Phantom Unit Plan"). The maximum number of phantom units that may be issued under the Phantom Unit Plan is equal to 11,590,909 minus the number of issued and outstanding Series C units of the Company. As of December 31, 2019, there were 120,562 phantom units outstanding under the Phantom Unit Plan. Each grant of phantom units made to a participant under the Phantom Unit Plan vests over a defined service period, subject to completion of a liquidity event, and is subject to forfeiture upon termination of the participant's continuous service to the Company for any reason. The Company's IPO satisfied the liquidity event condition and the phantom units now entitle their holders to cash or noncash payments in an amount equal to the number of vested units held by that participant multiplied by the fair market value of one share of the Company's common stock on the date each phantom unit vests. After the Company's IPO, the Company will no longer issue any units under the Phantom Unit Plan.

The Company intends to settle all vested phantom unit payments held by United States-based participants in shares of the Company's common stock and classifies these awards as equity awards in its Consolidated Balance Sheets. Awards held by participants who are based outside of the United States will be settled in cash and are classified within accrued and other current liabilities on the Consolidated Balance Sheets as of December 31, 2019 and 2018. In order to satisfy payroll withholding tax obligations triggered by the issuance of shares of common stock to holders of vested phantom units, the Company issues recipients a net lower number of shares of common stock to satisfy tax withholding obligations and remitted a cash payment for the related withholding taxes.

The following table summarizes the activity related to the unvested phantom units during the years ended December 31, 2019 and 2018:

	Number of Units	Weighted Average Grant Date Value per Phantom Unit
Unvested phantom units outstanding - December 31, 2017	1,292,785	\$ 15.01
Vested	(518,373)	\$ 15.20
Forfeited	(185,560)	\$ 14.63
Unvested phantom units outstanding - December 31, 2018	588,852	\$ 14.95
Vested	(427,608)	\$ 14.49
Forfeited	(40,682)	\$ 11.26
Unvested phantom units outstanding - December 31, 2019	120,562	\$ 11.49

The Company has previously granted phantom units to employees of related companies who are providing services to the Company under the Shared Services Agreement with NantWorks (see Note 20) as well as certain consultants of the Company. No phantom units were granted during the years ended December 31, 2019 or 2018. All other grants of phantom units have been made to employees of the Company. Stock-based compensation expense for the phantom units issued to participants who are based outside of the United States is re-measured at the end of each reporting period until the awards vest. The Company uses the accelerated attribution method to recognize expense for all phantom units since the awards' vesting was subject to the completion of a liquidity event. The grant date fair value of the phantom units granted prior to LLC Conversion was estimated using both an option pricing method and a probability weighted expected return method.

As of December 31, 2019, the Company had \$119 of unrecognized stock-based compensation expense related to phantom units which will be recognized over a weighted-average period of 0.4 years. Of that amount, \$118 of unrecognized expense is related to employee grants with a weighted-average period of 0.4 years and \$1 of unrecognized expense is related to nonemployee grants with a weighted-average period of 0.3 years.

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During the years ended December 31, 2019 and 2018, the Company issued 270,554 and 325,312 shares, respectively, of common stock to participants of the Phantom Unit Plan based in the United States, after withholding approximately 143,292 and 177,343 shares, respectively, to satisfy tax withholding obligations. The Company made a cash payment of \$81 and \$569 to cover employee withholding taxes upon the settlement of these vested phantom units during the years ended December 31, 2019 and 2018, respectively. During the years ended December 31, 2019 and 2018, the Company also paid \$7 and \$55 to cash-settle 13,079 and 15,717 vested phantom units, respectively, held by participants of the Phantom Unit Plan based outside of the United States and to pay cash in lieu of fractional shares for vested units held by participants based in the United States.

2016 Equity Incentive Plan

In May and June of 2016, the Company's Board of Directors adopted and the Company's stockholders approved the 2016 Equity Incentive Plan (the "2016 Plan") in connection with the Company's IPO. The 2016 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to employees, directors and consultants.

In April 2018, the Company's Board of Directors adopted and, in June 2018, the Company's stockholders approved an amendment to the 2016 Plan, to reserve a further 6,800,000 shares of common stock for issuance pursuant to the 2016 Plan. Following the approval of the amendment, a total of 12,800,000 shares of common stock were reserved for issuance pursuant to the 2016 Plan.

The Company intends to settle all vested restricted stock unit payments held by United States-based participants, except for certain awards to the Chief Operating Officer, in shares of the Company's common stock and the Company classify these awards as equity awards in its Consolidated Balance Sheets. Awards held by participants who are based outside of the United States, and those awards agreed with participants to be settled in cash, will be settled in cash and are classified within accrued and other current liabilities on the Consolidated Balance Sheets as of December 31, 2019 and 2018. In order to satisfy payroll withholding tax obligations triggered by the issuance of shares of common stock to holders of restricted stock units, the Company issues recipients a net lower number of shares of common stock to satisfy tax withholding obligations and remitted a cash payment for the related withholding taxes.

Restricted Stock

The Company issued 10,462 shares of restricted stock under the 2016 Plan on June 1, 2016 in connection with the conversion of the Series C units, of which 3,490 were vested and converted into unrestricted common stock during 2018. No units were vested and converted into unrestricted common stock during the year ended December 31, 2019. As of December 31, 2019, there were no shares of restricted stock outstanding under the 2016 Plan.

Stock Options

Stock-based compensation expense is calculated based on the grant date fair value of the award and the attribution of that cost is being recognized ratably over the vesting period. The Company has utilized the Black-Scholes option-pricing model to determine the fair value of the stock options.

The following table summarizes the weighted-average assumptions used to value stock options at their grant date and the weighted-average grant date fair value per share:

	Year Ended December 31, 2019
Expected volatility	64.22%
Expected term to exercise from grant date	5.8 years
Risk-free rate	1.50%
Expected dividend yield	—%
Weighted average grant date fair value per option	\$ 0.38

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The following table summarizes the activity related to stock options during the year ended December 31, 2019:

	Number of Shares	Weighted-Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregated Intrinsic Value (in thousands)
Stock options outstanding - December 31, 2018	—	\$ —		
Granted	5,835,724	\$ 0.56		
Forfeited or expired	(20,000)	\$ 0.55		
Stock options outstanding - December 31, 2019	5,815,724	\$ 0.56	9.6 years	\$ 2,725
Stock options exercisable - December 31, 2019	137,500	\$ 0.55	9.6 years	\$ 66

As of December 31, 2019, the Company had \$1,641 of unrecognized stock-based compensation expense related to the stock options. This cost is expected to be recognized over a weighted-average period of 2.5 years.

Restricted Stock Units

The Company intends to settle all vested restricted stock unit payments held by United States-based participants in shares of the Company's common stock and classifies these awards as equity awards in its Consolidated Balance Sheets. Awards held by participants who are based outside of the United States will be settled in cash and are classified within accrued and other current liabilities on the Consolidated Balance Sheets as of December 31, 2019 and 2018.

The following table summarizes the activity related to the unvested restricted stock units during the years ended December 31, 2019 and 2018:

	Number of Units	Weighted- Average Grant-Date Fair Value
Unvested restricted stock units outstanding - December 31, 2017	3,106,024	\$ 3.43
Granted	853,736	\$ 1.46
Vested	(1,583,399)	\$ 3.18
Forfeited	(563,400)	\$ 3.39
Unvested restricted stock units outstanding - December 31, 2018	1,812,961	\$ 2.74
Granted	60,000	\$ 0.98
Vested	(904,096)	\$ 2.67
Forfeited	(263,450)	\$ 2.71
Unvested restricted stock units outstanding - December 31, 2019	705,415	\$ 2.68

Unrecognized compensation expense related to unvested restricted stock units was \$731 at December 31, 2019, which is expected to be recognized as expense over the weighted-average period of 0.7 years.

During the years ended December 31, 2019 and 2018, the Company issued 642,520 and 782,364 shares, respectively, of common stock to participants of the 2016 Plan based in the United States, after withholding approximately 261,335 and 472,965 shares, respectively, to satisfy tax withholding obligations. The Company made a cash payment of \$181 and \$1,495 to cover employee withholding taxes upon the settlement of these vested restricted stock units during the years ended December 31, 2019 and 2018, respectively. During the years ended December 31, 2019 and 2018, the Company also paid \$0 and \$300 to cash-settle 16 and 100,025 vested restricted stock units by agreement with the Chief Operating Officer in relation to certain grants made to him and to pay cash in lieu of fractional shares for vested units held by participants based in the United States.

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Note 19. Net Loss Per Share

The following table sets forth reconciliations of the numerators and denominators used to compute basic and diluted net loss per share of common stock for the years ended December 31, 2019 and 2018:

	Year ended December 31,	
	2019	2018
	Common Stock	Common Stock
Net loss per share numerator:		
Net loss from continuing operations	\$ (62,644)	\$ (190,433)
Net loss from discontinued operations	(118)	(1,719)
Net loss for basic and diluted net loss per share	<u>\$ (62,762)</u>	<u>\$ (192,152)</u>
Net loss for basic and diluted net loss per share:		
Weighted-average shares for basic net loss per share	110,351,638	109,168,798
Effect of dilutive securities	116,734	—
Weighted-average shares for dilutive net loss per share	<u>110,468,372</u>	<u>109,168,798</u>
Basic and diluted net loss per share from continuing operations	<u>\$ (0.57)</u>	<u>\$ (1.74)</u>
Basic and diluted net loss per share from discontinued operations	<u>\$ —</u>	<u>\$ (0.02)</u>
Basic and diluted total net loss per share	<u>\$ (0.57)</u>	<u>\$ (1.76)</u>

The following number of potential common shares at the end of each period were excluded from the calculation of diluted net loss per share attributable to common stockholders because their effect would have been anti-dilutive for the periods presented:

	Year Ended December 31,	
	2019	2018
Unvested restricted stock	—	—
Unvested phantom units	77,530	588,852
Unexercised stock options	5,815,724	—
Unvested restricted stock units	705,415	1,812,961
Convertible notes	8,815,655	8,815,655

Note 20. Related Party Transactions

NantWorks Shared Services Agreement

In October 2012, the Company entered into a shared services agreement with NantWorks that provides for ongoing services from NantWorks in areas such as public relations, information technology and cloud services, human resources and administration management, finance and risk management, environmental health and safety, sales and marketing services, facilities, procurement and travel, and corporate development and strategy (the "Shared Services Agreement"). The Company is billed quarterly for such services at cost, without mark-up or profit for NantWorks, but including reasonable allocations of employee benefits, facilities and other direct or fairly allocated indirect costs that relate to the associates providing the services. NantHealth also bills NantWorks and affiliates for services such as information technology and cloud services, finance and risk management, and facilities management, on the same basis. During the years ended December 31, 2019 and 2018, the Company incurred \$1,318 and \$2,570, respectively, of expenses recognized in to selling, general and administrative expenses for services provided to the Company by NantWorks and affiliates, net of services provided by the Company to NantWorks and affiliates.

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Related Party Receivables and Payables

As of December 31, 2019 and 2018, the Company had related party receivables, net of related party payables, of \$1,931 and \$2,618, respectively, primarily consisting of a receivable from Ziosoft KK of \$1,658 and \$1,915, respectively, which was related to the sale of Qi Imaging. As of December 31, 2019 and 2018, the Company had related party payables, net of related party receivables, and related party liabilities of \$28,347 and \$22,499, respectively, which primarily relate to amounts owed to NantWorks pursuant to the Shared Services Agreement, amounts owed to NantOmics under the Second Amended Reseller Agreement (defined below) and interest payable. The balance of the related party receivables and payables represent amounts paid by affiliates on behalf of the Company or vice versa.

Amended Reseller Agreement

On June 19, 2015, the Company entered into a five and a half year exclusive Reseller Agreement with NantOmics for sequencing and bioinformatics services (the "Original Reseller Agreement"). NantOmics is a majority owned subsidiary of NantWorks and is controlled by the Company's Chairman and CEO. On May 9, 2016, the Company and NantOmics executed an Amended and Restated Reseller Agreement (the "Amended Reseller Agreement"), pursuant to which the Company received the worldwide, exclusive right to resell NantOmics' quantitative proteomic analysis services, as well as related consulting and other professional services, to institutional customers (including insurers and self-insured healthcare providers) throughout the world. The Company retained its existing rights to resell NantOmics' genomic sequencing and bioinformatics services. Under the Amended Reseller Agreement, the Company is responsible for various aspects of delivering its sequencing and molecular analysis solutions, including patient engagement and communications with providers such as providing interpretations of the reports delivered to the physicians and resolving any disputes, ensuring customer satisfaction, and managing billing and collections. On September 20, 2016, the Company and NantOmics further amended the Reseller Agreement (the "Second Amended Reseller Agreement"). The Second Amended Reseller Agreement permits the Company to use vendors other than NantOmics to provide any or all of the services that are currently being provided by NantOmics and clarifies that the Company is responsible for order fulfillment and branding.

The Second Amended Reseller Agreement grants to the Company the right to renew the agreement (with exclusivity) for up to three renewal terms, each lasting three years, if the Company achieves projected volume thresholds, as follows: (i) the first renewal option can be exercised if the Company completes at least 300,000 tests between June 19, 2015 and June 30, 2020; (ii) the second renewal option can be exercised if the Company completes at least 570,000 tests between July 1, 2020 and June 30, 2023; and (iii) the third renewal option can be exercised if the Company completes at least 760,000 tests between July 1, 2023 and June 30, 2026. If the Company does not meet the applicable volume threshold during the initial term or the first or second exclusive renewal terms, the Company can renew for a single additional three year term, but only on a non-exclusive basis.

The Company agreed to pay NantOmics noncancelable annual minimum fees of \$2,000 per year for each of the calendar years from 2016 through 2020 and, subject to the Company exercising at least one of its renewal options described above, the Company is required to pay annual minimum fees to NantOmics of at least \$25,000 per year for each of the calendar years from 2021 through 2023 and \$50,000 per year for each of the calendar years from 2024 through 2029.

On December 18, 2017, the Company and NantOmics executed Amendment No. 1 to the Second Amended Reseller Agreement. The Second Amended Reseller Agreement was amended to allow fee adjustments with respect to services completed by NantOmics between the amendment effective date of October 1, 2017 to June 30, 2018.

On April 23, 2019, the Company and NantOmics executed Amendment No. 2 to the Second Amended Reseller Agreement. The Second Amended Reseller Agreement was amended to set a fixed fee with respect to services completed by NantOmics between the amendment effective date and the end of the Initial Term, December 31, 2020.

As of December 31, 2019 and 2018, the Company had \$126 and \$394, respectively, of outstanding related party payables under the Second Amended Reseller Agreement. During the years ended December 31, 2019 and 2018, direct costs of \$2,000 and \$5,238, respectively, were recorded as cost of revenue related to the Second Amended Reseller Agreement.

Cambridge Purchase Agreement

On December 15, 2016, the Company entered into the Cambridge Purchase Agreement with Cambridge ("Cambridge"), an entity affiliated with the Company's Chairman and CEO, Dr. Patrick Soon-Shiong, to issue and sell \$10,000 in aggregate principal amount of the Convertible Notes in a private placement pursuant to an exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) of the Securities Act. The Cambridge Purchase Agreement includes customary representations, warranties and covenants by the Company and customary closing conditions (see Note 12). The accrued and unpaid interest on the Convertible Notes held by Cambridge was \$24 at both December 31, 2019 and 2018, as part of current related party payables, net on the Consolidated Balance Sheets.

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Assignment of NantHealth Labs, Inc. (formerly Liquid Genomics, Inc.)

On July 5, 2018 Liquid Genomics, Inc. filed a certificate of amendment to its certificate of incorporation with the secretary of state for Delaware to change its name to NantHealth Labs, Inc. ("NantHealth Labs").

On February 28, 2018, the Company acquired 100% of the equity of NantHealth Labs, a company that provides liquid biopsy analysis of gene expressions and mutations using cell-free RNA and DNA, pursuant to an assignment agreement dated February 1, 2018 between the Company and NantOmics, a related party. The purchase price for the acquisition consisted of 9,088,362 Series A-2 units of NantOmics previously owned by the Company that were transferred at the closing plus 564,779 of Series A-2 units of NantOmics owned by the Company that were transferred to NantOmics during May 2018.

The Company and NantOmics are controlled by the Company's Chairman and CEO, therefore no gain or loss was recognized on the transaction. The difference in the purchase price and the historical cost of the assets and liabilities acquired was recorded as a distribution from equity at the assignment date. The transaction did not cause a material change in the reporting entity, and the Company has not retrospectively adjusted its previously issued financial statements. The consolidation of NantHealth Labs at February 28, 2018 added \$808 to the Company's sequencing and molecular analysis revenue for the year ended December 31, 2018. This revenue was substantially all earned from agreements with affiliates, described below. As a result of consolidating NantHealth Labs at February 28, 2018, the net loss of the Company increased by \$2,223 during the year ended December 31, 2018.

The intangible assets acquired are amortized over the estimated useful life of 13 years.

	Amounts
NantOmics Series A-2 shares transferred to NantOmics	\$ 8,956
Assets and liabilities of NantHealth Labs at assignment:	
Goodwill	1,305
Intangible asset	4,429
Other assets	251
Liabilities assumed	(814)
Net assets acquired at assignment	5,171
Recorded as distribution from additional paid-in capital	\$ 3,785

Liquid Tumor Profiling Services Agreements

In March 2018, NantHealth Labs, a wholly-owned subsidiary of the Company, and NantKwest, Inc. ("NantKwest"), an affiliate, entered into agreements whereby NantHealth Labs is providing liquid tumor profiling services to NantKwest for clinical trials, on an annual, stand-ready, basis from the date of the first test of each participant, with revenues recognized ratably over time for the period of the stand-ready obligation.

In June 2018, NantHealth Labs entered into similar agreements to provide liquid tumor profiling services to Altor BioScience ("Altor"), ImmunityBio, Inc. ("ImmunityBio", formerly NantCell, Inc.), and NantBioScience, Inc. ("NantBio"), all affiliates of the Company.

Under these agreements, the Company recorded \$475 and \$590 of revenue during the years ended December 31, 2019 and 2018, respectively. As of December 31, 2019, the Company has \$110 of accounts receivable from related parties and \$0 of deferred revenue due to these agreements. As of December 31, 2018, the Company had \$540 of accounts receivable from related parties and \$375 of deferred revenue due to these agreements.

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Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

Related Party Promissory Notes

On January 4, 2016, the Company executed a \$112,666 demand promissory note in favor of NantCapital to fund the acquisition of NaviNet. The note bears interest at a per annum rate of 5.0%, compounded annually and computed on the basis of the actual number of days elapsed and a year of 365 or 366 days, as the case may be. The unpaid principal and any accrued and unpaid interest on the note were originally due and payable on demand in either (i) cash, (ii) shares of the Company's common stock based on per share price of \$18.6126, (iii) Series A-2 units of NantOmics based on a per unit price of \$1.484 to the extent such equity is owned by the Company or (iv) any combination of the foregoing, all at the option of NantCapital. Subject to the preceding sentence, the Company may prepay the outstanding amount at any time, either in whole or in part, without premium or penalty and without the prior consent of NantCapital. On May 9, 2016, the promissory note with NantCapital was amended to provide that all outstanding principal and accrued interest is due and payable on June 30, 2021, and not on demand. On December 15, 2016, in connection with the offering of the Convertible Notes, the Company entered into a Second Amended and Restated Promissory Note which amends and restates the Amended and Restated Promissory Note, dated May 9, 2016, between the Company and NantCapital, to, among other things, extend the maturity date of the Promissory Note to June 15, 2022 and to subordinate the Promissory Note in right of payment to the Convertible Notes (see Note 12). No other terms of the promissory note were changed. As of December 31, 2019 and 2018, the total principal and interest outstanding on the promissory note amounted to \$136,893 and \$130,374, respectively. The accrued and unpaid interest on the promissory note was \$24,227 and \$17,708 at December 31, 2019 and 2018, respectively, included as part of noncurrent related party liabilities on the Consolidated Balance Sheets. The Company can request additional advances subject to NantCapital approval. The NantCapital Note bears interest at a per annum rate of 5.0% compounded annually and computed on the basis of the actual number of days in the year. NantCapital has the option, but not the obligation, to require the Company to repay any such amount in cash, Series A-2 units of NantOmics (based on a per unit price of \$1.484) held by us, shares of the Company's common stock based on a per share price of \$18.6126 (if such equity exists at the time of repayment), or any combination of the foregoing at the sole discretion of NantCapital.

On January 22, 2016, the Company executed a demand promissory note in favor of NantOmics. The principal amount of the initial advance totaled \$20,000. On March 8, 2016, NantOmics made a second advance to the Company for \$20,000. The note bears interest at a per annum rate of 5.0% and is compounded annually. In May and June of 2016, the Company executed amendments to the demand promissory note with NantOmics, which provide that all unpaid principal of each advance owed to NantOmics and any accrued and unpaid interest would convert automatically into shares of the Company's common stock after pricing of the Company's IPO and immediately after conversion of the Company from a limited liability company to a corporation. On June 1, 2016, approximately \$40,590 of principal and accrued interest under the promissory note with NantOmics was converted into 2,899,297 shares of the Company's common stock in connection with the IPO. The Company can request additional advances subject to NantOmics approval, and as of December 31, 2019 and 2018, there was no outstanding balance on the promissory note.

On August 8, 2018, the Company executed a promissory note in favor of NantCapital, with a maturity date of June 15, 2022. The note bears interest at a per annum rate of 9.75% and is compounded annually, with interest payments on outstanding amounts due on June 15 and December 15 of each calendar year. No advances have currently been made under the note. The note allows the Company to request advances, up to a maximum commitment of \$100,000. Advances can be requested of up to \$10,000 per calendar quarter until March 31, 2019 and, following that, up to \$20,000 per calendar quarter until December 31, 2020, after which no further advances can be requested. The promissory note is subordinated to the Convertible Notes (see Note 12). The promissory note includes customary negative covenants and a Performance to Plan - Adjusted EBITDA covenant that stipulates, in order for the Company to draw on the promissory note, the profit measure, as defined in the agreement, may not negatively deviate from board approved financial plans by more than 25%. At December 31, 2019, the Company was in compliance with the covenants.

Note 21. Employee Retirement Plan

The Company has a qualified defined contribution plan (the "NantHealth 401(k) Plan") under Section 401(k) of the Internal Revenue Code covering eligible associates, including associates at certain of its subsidiaries. Associate contributions to the NantHealth 401(k) Plan are voluntary. The Company contributes a 100% match up to 3.0% of the participant's eligible annual compensation, which contribution fully vests after three years of service. Participants' contributions are limited to their annual tax deferred contribution limit as allowed by the Internal Revenue Service. For the years ended December 31, 2019 and 2018, the Company's total matching contributions to the NantHealth 401(k) Plan were \$1,260 and \$1,328, respectively.

NantHealth, Inc.
Notes to Consolidated Financial Statements
(Dollars in thousands, except per share amounts)

Note 22. Selected Quarterly Financial Information (Unaudited)

The following tables show a summary of the Company's quarterly financial information for each of the four quarters of the years ended December 31, 2019 and 2018 (Unaudited):

	Year Ended December 31, 2019			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net revenue	\$ 23,729	\$ 25,686	\$ 22,356	\$ 24,190
Cost of revenue	11,290	9,816	8,372	8,944
Gross profit	12,439	15,870	13,984	15,246
Operating expenses	22,923	24,792	20,758	19,836
Loss from operations	(10,484)	(8,922)	(6,774)	(4,590)
Net loss from continuing operations	(19,839)	(14,682)	(16,374)	(11,749)
Loss from discontinued operations, net of tax	(84)	(31)	(3)	—
Net loss	(19,923)	(14,713)	(16,377)	(11,749)
Basic and diluted net loss per share:				
Continued operations - common stock	\$ (0.18)	\$ (0.13)	\$ (0.15)	\$ (0.11)
Discontinued operations - common stock	\$ —	\$ —	\$ —	\$ —
Total net loss per share - common stock	\$ (0.18)	\$ (0.13)	\$ (0.15)	\$ (0.11)

	Year Ended December 31, 2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net revenue	\$ 22,263	\$ 22,047	\$ 22,292	\$ 22,862
Cost of revenue	11,068	10,582	11,226	11,393
Gross profit	11,195	11,465	11,066	11,469
Operating expenses	26,942	25,331	22,890	20,733
Loss from operations	(15,747)	(13,866)	(11,824)	(9,264)
Net loss from continuing operations	(21,975)	(21,806)	(97,432)	(49,220)
(Loss) income from discontinued operations, net of tax	(193)	(1,591)	(32)	97
Net loss	(22,168)	(23,397)	(97,464)	(49,123)
Basic and diluted net loss per share:				
Continued operations - common stock	\$ (0.20)	\$ (0.20)	\$ (0.89)	\$ (0.45)
Discontinued operations - common stock	\$ —	\$ (0.01)	\$ —	\$ —
Total net loss per share - common stock	\$ (0.20)	\$ (0.21)	\$ (0.89)	\$ (0.45)

Note 23. Subsequent Events

Sale of the Connected Care Business

On January 13, 2020, the Company entered into an asset purchase agreement (the "Purchase Agreement") with Masimo Corporation ("Masimo"), VCCB Holdings, Inc., a wholly owned subsidiary of Masimo (collectively with Masimo, the "Purchaser"), and, solely with respect to certain provisions of the Purchase Agreement, NantWorks, LLC, an affiliate of the Company. Pursuant to the Purchase Agreement, the Company agreed to sell to the Purchaser certain of its assets related to its "Connected Care" business, including the products known as DCX (formerly DeviceConX), VCX (formerly VitalsConX), HBox and Shuttle Cable (collectively, the "Connected Care Business").

On February 3, 2020, the Company completed the sale of the Connected Care Business (the "Disposition") for \$47,250 of cash consideration in exchange for assets primarily related to the Connected Care Business (as defined under the terms of the Purchase Agreement). The cash consideration is subject to adjustment based upon the final amount of working capital as of the closing date.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the material weakness in our internal control over financial reporting related to our valuations of the Bookings Commitment liability and our related party equity method investment in NantOmics noted at year end 2018 has been remediated and our disclosure controls and procedures were effective as of December 31, 2019.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles ("GAAP"). Internal control over financial reporting includes policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are transacted in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Our management, under the supervision of our Chief Executive Officer and Chief Financial Officer, conducted an assessment of the effectiveness of its internal control over financial reporting as of December 31, 2019 based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management concluded that the material weakness noted at December 31, 2018 has been remediated and our internal control over financial reporting was effective as of December 31, 2019.

A material weakness is defined as "a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis."

Material Weakness as of December 31, 2018

As disclosed in our Annual Report on Form 10-K for the year ended December 31, 2018, management identified the following material weakness related to its valuations of the Bookings Commitment liability and the Company's related party equity method investment in NantOmics that has caused management to conclude that as of December 31, 2018, our internal control over financial reporting was not effective.

- Management failed to design internal controls surrounding certain complex and non-recurring transactions that would support the identification of and consideration of all evidence in reaching certain accounting conclusions. Accordingly, management's control activities did not effectively i) consider all required elements needed to support the measurement of fair value of a liability or ii) assess the reasonableness of assumptions underlying prospective financial information used in the fair value measurement of the Company's investment in a related party.

We have executed a remediation plan to address the material weakness. The remediation efforts include:

- We have implemented an agenda-driven meeting between Sales and Accounting leadership wherein specific elements of the Bookings Commitment (potential customers, amounts, expected dates and market factors) are discussed. This allows for supporting evidence to be reviewed and the key unobservable inputs for management's fair value measurement of the liability to be quantified. This new control is performed at least quarterly and engages key Company personnel to obtain measurement inputs as well as to integrate external economic data which impact the valuation.
- We have implemented a control whereby the best available input assumptions and financial forecasts relative to NantOmics is obtained timely so that detailed analyses of the Company's investment in NantOmics can be assessed for impairment. Such analyses requires review and approval.

These actions were concluded to be effective in remediating the previously reported material weakness. The material weakness was considered to be remediated as the remediating controls operated for a sufficient period of time and management has concluded, through testing, that those controls are operating effectively.

Changes in Internal Control Over Financial Reporting

Except for the remediation of the material weakness described above, there were no changes to our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations in the Effectiveness of Controls

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

Item 9B. Other Information

On January 28, 2020, the Company received a notice from Nasdaq stating it had regained compliance with Nasdaq Listing Rule 5450(a)(1) (the "Minimum Bid Price Rule"). The notice also conveyed Nasdaq's decision to terminate the exception that required the Company to effectuate a reverse stock split. This followed a notice of May 6, 2019, stating that the Company was not in compliance with the Minimum Bid Price Rule because the closing bid price of its common stock fell below \$1.00 for the preceding 30 consecutive days. This also followed a notice of November 6, 2019, stating that the Company was not in compliance with Nasdaq Listing Rule 5810(c)(3)(A) because the Company did not regain compliance with the Minimum Bid Price Rule after Nasdaq afforded an initial period of 180 calendar days following the May 9, 2019 notice, or until November 4, 2019, and that the Company's common stock would be delisted from the Nasdaq Global Select Market and suspended at the opening of business on November 15, 2019, unless the Company timely requested a hearing before the Nasdaq Hearings Panel (the "Panel"). In accordance with Nasdaq's procedures, the Company appealed Nasdaq's determination and on November 7, 2019 requested a hearing before the Panel (the "Hearing") to seek continued listing on the Nasdaq Global Select Market. This hearing request automatically stayed Nasdaq's suspension and delisting of the Company's common stock pending the Panel's decision. At or prior to the Hearing, the Company presented its plans to Nasdaq to regain compliance with the Minimum Bid Price Rule and requested an extension of time so that the Board and management of the Company could effect a reverse stock split at a time that is in the best interests of the Company and its stockholders.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item will be contained in our definitive proxy statement to be filed with the Securities and Exchange Commission on Schedule 14A in connection with our 2020 Annual Meeting of Stockholders "Proxy Statement", which is expected to be filed not later than 120 days after the end of our fiscal year ended December 31, 2019, and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this item will be contained in the Proxy Statement under the heading "Executive Compensation" and "Director Compensation" and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item will be contained in the Proxy Statement under the headings "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be contained in the Proxy Statement under the headings "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item will be contained in the Proxy Statement under the heading "Principal Accounting Fees and Services" and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The consolidated financial statements schedules and exhibits filed as part of this Annual Report on Form 10-K are as follows:

(1) Consolidated financial statements

Reference is made to the consolidated financial statements identified in the "Index to Financial Statements" under Part II, Item 8 of this Annual Report.

(2) Financial Statement Schedules

All other schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is otherwise in the consolidated financial statements or notes thereto.

(3) Exhibits

The documents listed in the Exhibit Index of this Annual Report are incorporated by reference or are filed with this Annual Report, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

Exhibits Index

The exhibits listed in the accompanying index to exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K.

Number	Exhibit Title	Incorporated by Reference			Filing Date	Filed Herewith
		Form	File No.	Exhibit		
2.1***	Asset Purchase Agreement dated as of January 13, 2020, among Masimo Corporation and VCCB Holdings, Inc., and NantHealth, Inc.					X
3.1	Amended and Restated Certificate of Incorporation.	10-Q	001-37792	3.1	August 15, 2016	
3.2	Amended and Restated Bylaws.	10-Q	001-37792	3.2	August 15, 2016	
4.1	Description of Securities					X
10.1.1+	Second Amended and Restated NantOmics Exclusive Reseller Agreement, dated as of September 20, 2016, by and between the Registrant and NantOmics, LLC.	10-Q	001-37792	10.1	November 10, 2016	
10.1.2+	Amended and Restated NantOmics Exclusive Reseller Agreement, dated as of May 9, 2016, by and between the Registrant and NantOmics, LLC.	S-1/A	333-211196	10.1	June 1, 2016	
10.2+	NantHealth License Agreement, dated June 19, 2015, by and between the Registrant and NantOmics, LLC, as amended.	S-1/A	333-211196	10.2	June 1, 2016	
10.3#	2016 Equity Incentive Plan and form of agreement thereunder.	8-K	001-37792	10.1	June 11, 2018	
10.4#	2016 Executive Incentive Compensation Plan.	S-1	333-211196	10.13	May 6, 2016	
10.5	Amended and Restated Promissory Note, between Registrant and Nant Capital LLC, dated May 9, 2016.	S-1/A	333-211196	10.18	May 11, 2016	
10.6	Amended and Restated Promissory Note, between Registrant and NantOmics, LLC, dated May 23, 2016.	S-1/A	333-211196	10.19	May 24, 2016	
10.7	Side Letter Agreement, between Registrant and NantWorks, LLC, dated May 22, 2016.	S-1/A	333-211196	10.21	May 23, 2016	
10.8	Indenture, dated December 21, 2016, between NantHealth, Inc. and U.S. Bank National Association.	8-K	001-37792	10.2	December 21, 2016	
10.9	Form of 5.50% Convertible Senior Note due 2021 (included in Exhibit 4.1).	8-K	001-37792	4.1	December 21, 2016	
10.10	Purchase Agreement, dated December 15, 2016, by and among NantHealth, Inc. and J.P. Morgan Securities LLC and Jefferies LLC, as representative of the initial purchasers named therein.	8-K	001-37792	10.1	December 21, 2016	
10.11	Purchase Agreement, dated December 15, 2016, by and between NantHealth, Inc. and Cambridge Equities, L.P..	8-K	001-37792	10.2	December 21, 2016	
10.12	Second Amended and Restated Promissory Note, dated December 15, 2016, by and between NantHealth, Inc. and Nant Capital LLC.	8-K	001-37792	10.3	December 21, 2016	

Number	Exhibit Title	Incorporated by Reference			Filing Date	Filed Herewith
		Form	File No.	Exhibit		
10.13	Asset Purchase Agreement dated as of August 3, 2017, between Allscripts Healthcare Solutions, Inc. and NantHealth Inc.	8-K	001-37792	2.1	August 31, 2017	
10.14+	Amendment No.1 to Second Amended and Restated Reseller Agreement, dated December 18, 2017, by and between NantHealth, Inc. and NantOmics, LLC.	10-K	001-37792	10.14	March 16, 2018	
10.15	Assignment Agreement, dated February 1, 2018, by and between the Company and NantOmics, LLC.	10-Q/A	001-37792	10.1	July 11, 2018	
10.16	Promissory note dated August 8, 2018, by the Company to the benefit of Nant Capital, LLC.	10-Q	001-37792	10.1	August 9, 2018	
10.17#	Amended and Restated Consulting Agreement dated September 12, 2018, between the Company and Mr. Bob Petrou	10-Q	001-37792	10.2	November 21, 2018	
10.18#	Transition Agreement and Release dated September 11, 2018, between the Company and Mr. Paul Holt	10-Q	001-37792	10.3	November 21, 2018	
21.1	Subsidiaries					X
23.1	Consent of Ernst & Young LLP					X
24.1	Power of Attorney (Contained on Signature Page to this Annual Report on Form 10-K).					X
31.1	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Principal Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1 *	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2 *	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS**	XBRL Instance Document.					X
101.SCH**	XBRL Taxonomy Extension Schema Document.					X
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.					X

Represents a management contract or compensatory plan.

- + Confidential treatment granted with respect to certain portions of this exhibit. Omitted portions filed separately with the Securities and Exchange Commission.
- * As contemplated by SEC Release No. 33-8212, these exhibits are furnished with this Annual Report on Form 10-K and are not deemed filed with the Securities and Exchange Commission and are not incorporated by reference in any filing of NantHealth, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language contained in such filings.
- ** XBRL (eXtensible Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of section 18 of the Securities Exchange Act of 1934, as amended, and is otherwise not subject to liability under these sections.
- *** Certain identified information has been omitted pursuant to Item 601(b)(10) of Regulation S-K because such information is both (i) not material and (ii) would likely cause competitive harm to the Company if publicly disclosed. The Company hereby undertakes to furnish supplemental copies of the unredacted exhibit upon request by the SEC.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

NantHealth, Inc.

Date: February 28, 2020

By: /s/ Patrick Soon-Shiong
Name: Patrick Soon-Shiong
Its: Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

By: /s/ Bob Petrou
Name: Bob Petrou
Its: Chief Financial Officer
(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Patrick Soon-Shiong and Bob Petrou, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Patrick Soon-Shiong</u> Patrick Soon-Shiong	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 28, 2020
<u>/s/ Bob Petrou</u> Bob Petrou	Chief Financial Officer (Principal Financial and Accounting Officer)	February 28, 2020
<u>/s/ Ron Louks</u> Ron Louks	Chief Operating Officer and Director	February 28, 2020
<u>/s/ Michael S. Sitrick</u> Michael S. Sitrick	Director	February 28, 2020
<u>/s/ Kirk K. Calhoun</u> Kirk K. Calhoun	Director	February 28, 2020
<u>/s/ Michael Blaszyk</u> Michael Blaszyk	Director	February 28, 2020

ASSET PURCHASE AGREEMENT
BY AND AMONG
MASIMO CORPORATION AND VCCB Holdings, Inc., AS PURCHASER,
NANTHEALTH, INC., AS SELLER
AND
SOLELY WITH RESPECT TO SECTION 4.26, SECTION 6.07, ARTICLE X AND ARTICLE XI, NANTWORKS, LLC

January 13, 2020

Certain identified information has been omitted pursuant to Item 601(b)(10) of Regulation S-K because such information is both (i) not material and (ii) would likely cause competitive harm to the Company if publicly disclosed.

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LIST OF EXHIBITS

Exhibit A Escrow Agreement

Exhibit B Assignment and Bill of Sale and Assumption Agreement

Exhibit C Assignment of Patents

Exhibit D Assignment of Trademarks

Exhibit E License Agreement

Exhibit F Transition Services Agreements

Exhibit G R&W Policy

ASSET PURCHASE AGREEMENT

THIS ASSET PURCHASE AGREEMENT (this "Agreement"), dated as of January 13, 2020, is made by and among Masimo Corporation, a Delaware corporation ("Parent"), VCCB Holdings, Inc., a Delaware corporation ("Acquisition Sub" and, together with Parent, "Purchaser"), and NantHealth, Inc., a Delaware corporation ("Seller"), and, solely with respect to Section 4.26, Section 6.07, Article X and Article XI (collectively, the "Specified Sections"), NantWorks, LLC, a Delaware limited liability company ("NantWorks"). Purchaser and Seller shall be referred to herein from time to time as a "Party" and collectively as the "Parties." Capitalized terms used and not otherwise defined herein have the meanings set forth in Article X below.

WHEREAS, Seller is, among other things, engaged in the Business;

WHEREAS, Seller wishes to sell to Purchaser, and Purchaser wishes to purchase from Seller, the Assigned Assets, and in connection therewith, Purchaser is willing to assume from Seller the Assumed Liabilities, all upon the terms and subject to the conditions set forth herein;

WHEREAS, in connection with the Closing and as set forth in Section 7.01(e)(v), Seller and Purchaser also desire to enter into the other Transaction Documents, including the Assignment of Patents, the Assignment of Trademarks, the Assignment and Bill of Sale and Assumption Agreement, the License Agreement and the Transition Services Agreements; and

WHEREAS, Purchaser has obtained and incepted the R&W Policy.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I

PURCHASE AND SALE OF ASSETS

1.01 Purchase and Sale of Assets.

Pursuant to the terms and conditions of this Agreement, at the Closing, Seller shall sell, convey, deliver, transfer and assign to Acquisition Sub, free and clear of all Liens (other than Permitted Liens), and Acquisition Sub shall purchase, agree to take delivery of and acquire from Seller, all of Seller's right, title and interest in, to and under all of the Assigned Assets. In consideration of the sale, conveyance, delivery, transfer, and assignment to Acquisition Sub of Seller's right, title and interest in, to and under the Assigned Assets, and in consideration of Seller's other covenants and obligations hereunder, Acquisition Sub shall, at the Closing, (a) pay the Purchase Price to Seller and (b) assume the Assumed Liabilities, in each case, in accordance with the terms and conditions of this Agreement and the other Transaction Documents.

1.02 Assigned Assets; Excluded Assets.

(a) The term “Assigned Assets” means all of Seller’s right, title and interest in, to and under the following:

- (i) the Transferred Technology; provided, however, that Seller may retain a copy of (A) any Product Records solely to the extent necessary for Tax, regulatory or accounting purposes and (B) any Product Data, solely pursuant to the terms of the License Agreement;
- (ii) the Assigned Intellectual Property;
- (iii) the Transferred Contracts, including the Transferred Real Property Lease;
- (iv) the Transferred Domain Names;
- (v) the Transferred Inventory;
- (vi) the Transferred Tangible Personal Property;
- (vii) the Transferred Permits, to the extent such Transferred Permits may be transferred under applicable Law;
- (viii) all personnel records for Transferred Employees except as prohibited by applicable Law;
- (ix) all of Seller’s claims, counterclaims, credits, causes of action, choses in action, rights of recovery, and rights of indemnification or setoff against third parties and all of Seller’s other intangible property rights to the extent related to the Assigned Assets; and
- (x) all goodwill of Seller primarily related to the Business or the Business Products.

(b) Notwithstanding anything to the contrary in Section 1.02(a), all assets of Seller that do not constitute Assigned Assets shall be retained by Seller, including (i) all cash and cash equivalents, marketable securities or investments in other Persons, and similar types of investments, bank deposits, investment accounts, bank accounts, lockboxes, certificates of deposit or treasury bills, (ii) Seller’s rights under this Agreement and the other Transaction Documents, (iii) the Shared Contracts, (iv) refunds and rights to refunds of Taxes, (v) Employee Benefit Arrangement and Employee Plans and all assets thereof, and (vi) the assets of Seller set forth on Schedule 1.02(b) (collectively, the “Excluded Assets”).

1.03 Assumed Liabilities; Excluded Liabilities.

Following the Closing, Purchaser shall pay, perform and discharge all Assumed Liabilities when due and payable. Purchaser expressly does not assume, and shall not become liable to pay, perform or discharge any Excluded Liabilities.

ARTICLE II
PURCHASE PRICE

2.01 Purchase Price.

The consideration for the Assigned Assets shall be (i) the Purchase Price in cash, plus (ii) the assumption of the Assumed Liabilities. The Purchase Price shall be subject to adjustment based on the Closing Working Capital as described in Section 2.02, Section 2.03 and Section 2.04.

2.02 Determination of Estimated Working Capital.

At least four (4) Business Days prior to the Closing Date, Seller shall deliver to Purchaser a certificate executed on behalf of Seller by an authorized officer of Seller, dated the date of its delivery, stating that there has been conducted under the supervision of such officer a review of all relevant information and data then available and setting forth Seller's best estimate of the Estimated Working Capital, including an estimate of the various accounts which such officer anticipates based upon the most recent available financial statements of Seller shall be reflected on the Preliminary Accounting Report prepared in accordance with the Agreed Accounting Principles and in accordance with Schedule 2.02. If, upon its review of the Estimated Working Capital, Purchaser disagrees with Seller's calculation of the Estimated Working Capital, Seller and Purchaser shall negotiate in good faith to resolve any such dispute at or prior to the Closing, and Seller shall consider in good faith any reasonable changes requested by Purchaser. If the Parties are unable to agree on the Estimated Working Capital, the Estimated Working Capital provided by Seller, after considering in good faith such reasonable changes as are requested by Purchaser, shall be used solely for purposes of calculating any payments due at the Closing pursuant to Section 3.02 and any subsequent adjustments thereto pursuant to Sections 2.03 and 2.04.

2.03 Determination of Closing Working Capital.

(a) As promptly as reasonably practicable following the Closing Date (but not later than ninety (90) days after the Closing Date), Purchaser shall:

(i) determine the Closing Working Capital in accordance with the provisions of this Agreement (such Closing Working Capital as determined by Purchaser being called the "Preliminary Working Capital"); and

(ii) deliver to Seller a certificate setting forth the Preliminary Working Capital (the "Preliminary Accounting Report").

(b) Promptly following receipt of the Preliminary Accounting Report, Seller may review the same and, within thirty (30) days after the date of such receipt, may deliver to Purchaser a certificate (signed by its chief financial officer or its chief accounting officer) setting forth its objections to the Preliminary Working Capital as set forth in the Preliminary Accounting Report, together with a summary of the reasons therefor and calculations which, in its view, are necessary to eliminate such objections. If Seller does not so object within such 30-day period, the Preliminary Working Capital set forth in the Preliminary Accounting Report shall be final and binding as the Closing Working Capital for purposes of this Agreement but shall not limit the representations, warranties, covenants and agreements of the Parties set forth elsewhere in this Agreement.

(c) If Seller so objects within such 30-day period, Purchaser and Seller shall use their respective reasonable efforts to resolve by written agreement (the “Agreed Adjustments”) any differences as to the Preliminary Working Capital and, if Seller and Purchaser so resolve any such differences, the Preliminary Working Capital set forth in the Preliminary Accounting Report as adjusted by the Agreed Adjustments shall be final and binding as the Closing Working Capital for purposes of this Agreement but shall not limit the representations, warranties, covenants and agreements of the Parties set forth elsewhere in this Agreement.

(d) If any objections raised by Seller are not resolved by Agreed Adjustments within the 30-day period next following such 30-day period, then Purchaser and Seller shall submit the objections that are then unresolved to Deloitte & Touche LLP, or, if Deloitte & Touche LLP is unwilling or unable to accept such appointment, to another national accounting firm acceptable to both Seller and Purchaser, and such firm (the “Independent Accountant”) shall be directed by Purchaser and Seller to resolve the unresolved objections (based solely on the presentations by Purchaser and by Seller as to whether any disputed matter had been determined in a manner consistent with the Agreed Accounting Principles) as promptly as reasonably practicable and to deliver written notice to each of Purchaser and Seller setting forth its resolution of the disputed matters. The Preliminary Working Capital, after giving effect to any Agreed Adjustments and to the resolution of disputed matters by the Independent Accountant, shall be final and binding as the Closing Working Capital for purposes of this Agreement but shall not limit the representations, warranties, covenants and agreements of the Parties set forth elsewhere in this Agreement.

(e) The Parties hereto shall make available to Purchaser, Seller and, if applicable, the Independent Accountant, such books, records and other information (including work papers) as any of the foregoing may reasonably request to prepare or review the Preliminary Accounting Report or any matters submitted to the Independent Accountant. The fees and expenses of the Independent Accountant hereunder shall be paid 50% by Purchaser and 50% by Seller.

2.04 Adjustment.

Promptly (but not later than five (5) days) after the determination of the Closing Working Capital pursuant to Section 2.03 that is final and binding as set forth therein:

(a) If the Closing Working Capital exceeds both \$[***] and the Estimated Working Capital, determined in accordance with Section 2.02, Purchaser shall pay to Seller, by wire transfer of immediately available funds to such bank account of Seller as Seller shall designate in writing to Purchaser, an amount equal to (i) the excess of the Closing Working Capital over \$[***], minus (ii) the amount in clause (b) of Section 3.02(a), if any, plus (iii) the amount in clause (c) of Section 3.02(a), if any.

(b) If the Closing Working Capital exceeds \$[***], but is less than the Estimated Working Capital, determined in accordance with Section 2.02, Seller shall pay to Purchaser, by wire transfer of immediately available funds to such bank account of Purchaser as Purchaser shall designate in writing to Seller, an amount equal to (A) the amount in clause (b) of Section 3.02(a), if any, minus (B) the excess of the Closing Working Capital over \$[***].

(c) If the Closing Working Capital is less than both \$[***] and the Estimated Working Capital, determined in accordance with Section 2.02, Seller shall pay to Purchaser, by wire transfer of immediately available funds to such bank account of Purchaser as Purchaser shall designate in writing to Seller, an amount equal to (i) the excess of \$[***] over the Closing Working Capital (for avoidance of doubt, if the Closing Working Capital is a negative number, such excess shall be calculated by adding \$[***] to the absolute value of the Closing Working Capital), minus (ii) the amount in clause (c) of Section 3.02(a), if any, plus (iii) the amount in clause (b) of Section 3.02(a), if any.

(d) If the Closing Working Capital is less than \$[***], but is greater than the Estimated Working Capital, determined in accordance with Section 2.02, Purchaser shall pay to Seller, by wire transfer of immediately available funds to such bank account of Seller as Seller shall designate in writing to Purchaser, an amount equal to (A) the amount in clause (c) of Section 3.02(a), if any, minus (B) the excess of \$[***] over the Closing Working Capital (for avoidance of doubt, if the Closing Working Capital is a negative number, such excess shall be calculated by adding \$[***] to the absolute value of the Closing Working Capital).

(e) If the Closing Working Capital is equal to \$[***] or \$[***], or is between \$[***] and \$[***], (i) Purchaser shall pay to Seller, by wire transfer of immediately available funds to such bank account of Seller as Seller shall designate in writing to Purchaser, an amount equal to the amount in clause (c) of Section 3.02(a), if any, and (ii) Seller shall pay to Purchaser, by wire transfer of immediately available funds to such bank account of Purchaser as Purchaser shall designate in writing to Seller, the amount in clause (b) Section 3.02(a), if any.

ARTICLE III

CLOSING

3.01 Closing.

The closing of the transactions contemplated by this Agreement (the “Closing”) shall take place as soon as practicable at a time and on a date to be specified by the Parties (the “Closing Date”), which shall be no later than the second (2nd) Business Day after satisfaction or waiver of the conditions set forth in Article VII (other than those conditions that by their nature are to be satisfied at the Closing, but subject to the fulfillment or waiver of those conditions). The Closing shall take place at such location as the Parties may agree or via the electronic exchange of execution versions of the other Transaction Documents and the signature pages thereto via facsimile or via email by .pdf.

3.02 Payment on the Closing Date.

(a) At the Closing, Purchaser shall deliver to Seller in cash, by wire transfer of immediately available funds to such bank account of Seller as Seller shall designate in writing to Purchaser at least three (3) Business Days prior to the Closing, an amount equal to (a) \$47,250,000, plus (b) the excess, if any, of the Estimated Working Capital, determined in accordance with Section 2.02, over \$[***], less (c) the excess, if any, of \$[***] over the Estimated Working Capital (for avoidance of doubt, if the Estimated Working Capital is a negative number, such excess shall be calculated by adding \$[***] to the absolute value of the Estimated Working Capital), less (d) \$237,500 (the “Escrow Fund”).

(b) At the Closing, Purchaser shall deliver to Wilmington Trust N.A. (the “Escrow Agent”) an amount in cash equal to the Escrow Fund, by wire transfer of immediately available funds to such bank account of the Escrow Agent as is designated in an escrow agreement substantially in the form of Exhibit A attached hereto (the “Escrow Agreement”). The Escrow Fund shall be held pursuant to the provisions of the Escrow Agreement and shall be held by the Escrow Agent as collateral and partial security to secure the rights of the Purchaser Indemnified Persons under Article VIII. The Escrow Fund shall be held by the Escrow Agent until 11:59 p.m. Pacific time on the date that is thirteen (13) months after the Closing Date (the “Escrow Period”); provided, however, that in the event any Purchaser Indemnified Person has made a claim under Article VIII prior to the end of the Escrow Period, then, in accordance with and subject to the terms and conditions of the Escrow Agreement, the Escrow Period shall continue in respect of that portion of the Escrow Fund subject to the claim (and the Escrow Agent shall continue to hold such portion of the Escrow Fund in escrow) until such claim is fully and finally resolved.

3.03 Procedures for Certain Assigned Assets Not Freely Transferable; Shared Contracts; Personal Data.

(a) If any property or asset included in the Assigned Assets, including any Transferred Contract, is not assignable or transferable to Purchaser, either by virtue of the provisions thereof or under applicable Law, without the Consent of one or more third parties (each, a “Non-Assignable Right”), and any such Consent cannot be obtained prior to the Closing Date and the Closing occurs, then, notwithstanding anything to the contrary in this Agreement or any other Transaction Document, (i) this Agreement, such Transaction Document, and any related instruments of transfer shall not constitute an assignment or transfer of the Non-Assignable Right, and the Parties shall each use commercially reasonable efforts to obtain such Consent as soon as possible after the Closing Date; and (ii) the Parties shall each use commercially reasonable efforts to obtain for Purchaser (but without any obligation of Seller to expend a material amount of money, commence litigation or offer or grant any material financial or other accommodation to any third party) substantially all of the practical benefit of such Non-Assignable Right, including the economic benefits in favor of Seller under such Non-Assignable Right (in the form of receivables, payments or other economic consideration payable to Seller) to the extent Purchaser performs all covenants, obligations and responsibilities of Seller in exchange for which such economic benefits become payable, and Purchaser shall perform all covenants, obligations and responsibilities of Seller with respect to such Non-Assignable Right to the extent Purchaser would have been responsible therefor if such Consent had been obtained and such Non-Assignable Right had been assigned to Purchaser, including by (1) entering into appropriate and reasonable alternative arrangements on terms mutually agreeable to Purchaser and Seller and (2) subject to the consent and control of Purchaser, enforcing, at the cost and for the account of Purchaser, any and all rights of Seller against the other party thereto arising out of the breach or cancellation thereof by such other party or otherwise.

(b) Purchaser agrees and acknowledges that Shared Contracts shall not constitute Assigned Assets and shall not be assigned by Seller or any of its Affiliates to Purchaser. With respect to any Shared Contract, Seller shall, following the date hereof and continuing for a period of one hundred and twenty (120) days after the Closing Date, cooperate with Purchaser in any commercially reasonable manner in connection with Purchaser's efforts to obtain the agreement of the other party or parties to any such Shared Contract to enter into a separate agreement with Purchaser with respect to the matters covered by such Shared Contract pertaining to the Business or the Business Products; provided, that, neither Seller nor any of its Affiliates shall have (i) any Liability to Purchaser under this Agreement arising out of or relating to Purchaser's failure to obtain any such separate agreement, or (ii) any obligation to incur any expense or pay any amount to such third parties or Purchaser or its Affiliates in connection with the foregoing. Notwithstanding the foregoing, Purchaser and its Affiliates shall, following the Closing, (i) bear the sole responsibility for completion of the work or provision of goods and services under the Allscripts Shared Contracts, (ii) bear all Taxes with respect to, or arising out of, the Allscripts Shared Contracts, (iii) be solely responsible for any warranty under, or breach of, the Allscripts Shared Contracts, and any repurchase, indemnity and service obligations thereof, and (iv) promptly reimburse the reasonable costs and expenses of the Seller and its Affiliates related to the Allscripts Shared Contracts, in each case (A) solely to the extent arising out of or related to the Business, the Business Products, or the Assigned Assets following the Closing and (B) under the terms of each such Allscripts Shared Contract as in effect as of the date hereof or, if later solely in the case of an end-user license agreement that is an Allscripts Shared Contract, as of the date such Allscripts Shared Contract is entered into; provided, however, that, for avoidance of doubt, Purchaser and its Affiliates shall not bear or have any responsibility for, or with respect to, any portion of Seller or its Affiliates' obligations or liabilities with respect to any "Bookings" or the "NantHealth Bookings Commitment" (each as defined in the Allscripts Resale Contract) thereunder, and Seller and its Affiliates shall retain all rights to referral fees and other benefits with respect to such "Bookings" and the "NantHealth Bookings Commitment." Notwithstanding anything to the contrary contained herein, Purchaser agrees to use commercially reasonable efforts to, within [***] from the Closing Date, enter into such amendments or modifications to the Allscripts Resale Contract as may be reasonably necessary to remove or otherwise delete, on a going-forward basis, all provisions from the Allscripts Resale Contract as they relate to the Business, the Business Products, or the Assigned Assets.

(c) With respect to any Personal Data contained in marketing lists included in the Assigned Assets (the "Marketing Personal Data"), notwithstanding anything to the contrary in this Agreement or any other Transaction Document, (i) Seller will use commercially reasonable efforts, within fourteen (14) days after the Closing, to notify the data subjects to which such Marketing Personal Data relates of the potential transfer of such Marketing Personal Data to Purchaser, and allowing such data subjects the ability to opt-out from receiving further communications; (ii) such Marketing Personal Data will be transferred to Purchaser by Seller only for those data subjects who have not opted out pursuant to Section 3.03(c)(i).

3.04 Withholding.

Notwithstanding anything to the contrary contained in this Agreement, Purchaser and any other party making a payment pursuant to any Transaction Document shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to such Transaction Document any amounts required to be deducted and withheld under the Code or any other provision of federal, state, local, or non-U.S. law relating to Taxes. To the extent that amounts are so withheld or deducted and are remitted to the applicable Governmental Entity, such withheld or deducted amounts shall be treated for all purposes as having been paid to the Person in respect of which such deduction or withholding was made.

3.05 Wrong Pocket Provisions.

(a) If, at any time following the Closing, Seller becomes aware that any Assigned Asset which should have been transferred to Purchaser pursuant to the terms of this Agreement and the other Transaction Documents was not transferred to Purchaser as contemplated by this Agreement or another Transaction Document, then Seller shall promptly transfer or cause its Affiliates to transfer such Assigned Asset to Purchaser for no additional consideration.

(b) If, at any time following the Closing, Seller becomes aware that any Assumed Liability (whether arising prior to, at or following the Closing) which should have been assumed by Purchaser pursuant to the terms of this Agreement and the other Transaction Documents was not assumed by Purchaser as contemplated by this Agreement or another Transaction Document, then Purchaser shall promptly assume or cause its Affiliates to assume such Assumed Liability for no additional consideration.

(c) If, at any time following the Closing, Purchaser becomes aware that any Excluded Asset which should have been retained by Seller pursuant to the terms of this Agreement or another Transaction Document was transferred to Purchaser, then Purchaser shall promptly transfer or cause its Affiliates to transfer such Excluded Asset to Seller for no additional consideration.

(d) If, at any time following the Closing, Purchaser becomes aware that any Excluded Liability (whether arising prior to, at or following the Closing) which should have been retained by Seller pursuant to the terms of this Agreement or another Transaction Document was assumed by Purchaser, then Seller shall promptly assume or cause its Affiliates to assume such Excluded Liability for no additional consideration.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES OF SELLER

Except as set forth in the Disclosure Schedule (and subject to the terms set forth in the following sentence), Seller hereby represents and warrants to Purchaser that the following representations and warranties are true and correct as of the date hereof (except where a representation or warranty is made herein as of a specified date) (other than as set forth in Section 4.26). The Disclosure Schedule is arranged in sections corresponding to the numbered and lettered sections and subsections contained in this Article IV, and the disclosures in any section or subsection of the Disclosure Schedule shall qualify each other section and subsection in this Article IV to the extent it is reasonably apparent from a reading of the text of the disclosure that such disclosure is applicable to such other sections and subsections.

4.01 Organization and Power.

Seller (a) is a corporation duly organized, validly existing and in good standing under the Laws of the state of Delaware, and has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as currently conducted and (b) is qualified to do business and in good standing in every jurisdiction in which its ownership of property or the conduct of business as now conducted requires it to be so qualified, except where the failure to be so qualified would not reasonably be expected to have a Seller Material Adverse Effect.

4.02 Authorization; No Breach; Valid and Binding Agreement.

(a) Seller has all requisite corporate power and authority to execute and deliver this Agreement and the other Transaction Documents to which it is or will be a party and to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance by Seller of this Agreement and the other Transaction Documents to which it is or will be a party and the consummation by Seller of the transactions contemplated hereby and thereby have been duly and validly approved by all requisite corporate action and do not require any further authorization of Seller or any consent or authorization of Seller's stockholders.

(b) The execution, delivery, and performance by Seller of this Agreement and the other Transaction Documents to which it is or will be a party and the consummation of the transactions contemplated hereby and thereby do not and shall not (i) violate, conflict with, result in any breach of, or constitute a default under any of the provisions of any of the Seller Organizational Documents; (ii) conflict with, in any material respect, or result in any violation of or default under, in any material respect, or give rise to a right of termination, cancellation, acceleration or modification of any material obligation to or loss of a material benefit under, or to increased, additional, accelerated or guaranteed material rights or entitlements of any Person under, any Material Contract; (iii) result in a material breach or material violation by Seller of any of the terms, conditions or provisions of any Law or Order to which Seller is subject or by which the Assigned Assets are bound; or (iv) result in the imposition of any material Lien (other than a Permitted Lien) over the Assigned Assets.

(c) This Agreement and each other Transaction Document to which Seller is a party have been or will be, upon execution and delivery by Seller, duly executed and delivered by Seller and, assuming that this Agreement and such Transaction Documents are valid and binding obligations of Purchaser and the other parties thereto, this Agreement and each of such Transaction Documents constitute or will constitute valid and binding obligations of Seller, enforceable in accordance with the terms hereof and thereof, subject to the effect of (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws now or hereafter in effect relating to rights of creditors generally, and (ii) rules of Law and equity governing specific performance, injunctive relief and other equitable remedies (collectively, the "Enforceability Exceptions").

4.03 Consents.

Section 4.03(a) of the Disclosure Schedule contains a true and complete list of all Consents and approvals of, and all filings, notices and registrations with, any Person to, or as a result of the consummation of, the transactions contemplated hereby or by the other Transaction Documents to which Seller is a party that are required to be obtained or made by Seller.

4.04 Tax Matters.

(a) To the extent that failure to do so would result in a material adverse impact on Seller's ability to transfer the Assigned Assets or the Business to Purchaser or otherwise result in Liens that would materially impact Purchaser's use of the Assigned Assets or the conduct of the Business after the Closing or that would result in the imposition of any Tax on Purchaser or any of its Affiliates or with respect to any of their assets, Seller (i) has timely filed all Tax Returns that are required to be filed by it or with respect to the Business or the Assigned Assets (taking into account any extensions of time to file) and all such Tax Returns are true, complete and accurate and were completed in accordance with applicable Law, and (ii) has timely paid all Taxes required to be paid, whether or not reflected on any Tax Return.

(b) To the extent that failure to do so would result in a material adverse impact on Seller's ability to transfer the Assigned Assets or the Business to Purchaser or otherwise result in Liens that would materially impact Purchaser's use of the Assigned Assets or the conduct of the Business after the Closing or that would result in the imposition of any Tax on Purchaser or any of its Affiliates or with respect to any of their assets, Seller has withheld or collected from each payment made to each of its Employees, stockholders, and other third parties, the amount of all Taxes required to be withheld or collected therefrom, including federal, state, local, and non-U.S. income Taxes, federal excise Taxes, Federal Insurance Contribution Act Taxes and Federal Unemployment Tax Act Taxes, and has timely paid the same to the proper Governmental Entity.

(c) Except as would not result in a material adverse impact on Seller's ability to transfer the Assigned Assets or the Business to Purchaser or otherwise result in Liens that would materially impact Purchaser's use of the Assigned Assets or the conduct of the Business after Closing and as would not result in the imposition of any Tax on Purchaser or any of its Affiliates or with respect to any of their assets:

(i) with respect to any period for which Tax Returns have not yet been filed or for which Taxes are not yet due or owing, Seller has made due and sufficient accruals for such Taxes on its financial statements, as adjusted for the passage of time until the Closing;

(ii) Seller does not have Liability for the Taxes of any other Person as a transferee or successor, as the result of being or having been a member of an affiliated group as defined in Section 1504 of the Code (or analogous combined, consolidated or unitary group defined under state, local or foreign income Tax Law), by Contract (other than this Agreement), or otherwise, that would bind Purchaser or any of its Affiliates after the Closing Date;

(iii) there is no material Tax deficiency outstanding, assessed or proposed against Seller, nor has Seller executed any outstanding waiver of any statute of limitations on or extension of the period for the assessment or collection of any material Tax which is still outstanding;

(iv) Seller is not the subject of a Tax audit or examination with respect to any material Taxes of Seller, nor has Seller been notified by any Governmental Entity in writing of any request for such an audit or other examination;

(v) no adjustment relating to any Tax Return filed by Seller has been proposed in writing by any Governmental Entity to Seller or any representative thereof;

(vi) Seller is not a party to or bound by (i) any Tax sharing, Tax allocation or Tax indemnification agreement, or (ii) any closing or other agreement or ruling with any Governmental Entity with respect to Taxes; and

(vii) no written claim has been made by any Tax authority in a jurisdiction where Seller has not filed a Tax Return that it is or may be subject to Tax by such jurisdiction.

(d) There are (and immediately following the Closing there shall be) no Liens on the Assigned Assets relating to or attributable to Taxes other than Liens for Taxes not yet due and payable.

(e) None of the Assumed Liabilities is an obligation to make a payment that is not deductible under Section 280G of the Code or to compensate any individual for excise Taxes paid pursuant to Section 4999 of the Code.

(f) No Assigned Asset (i) is property required to be treated as owned by another Person pursuant to the provisions of Section 168(f)(8) of the Internal Revenue Code of 1954, as amended and in effect immediately prior to the enactment of the Tax Reform Act of 1986, (ii) constitutes “tax-exempt use property” within the meaning of Section 168(h) of the Code, (iii) is “tax-exempt bond financed property” within the meaning of Section 168(g) of the Code, (iv) secures any debt the interest of which is tax-exempt under Section 103(a) of the Code or (v) is subject to a 467 rental agreement as defined in Section 467 of the Code.

(g) None of the Acquired Assets are an interest in a Person classified as a partnership, a corporation or a disregarded entity for U.S. federal, state or local income tax purposes.

4.05 Material Contracts.

(a) Section 4.05(a) of the Disclosure Schedule sets forth a complete and accurate list of all Material Contracts currently in effect as of the date hereof. For purposes of this Agreement, “Material Contracts” means the following Contracts to which Seller is a party:

(i) any Transferred Contract involving payment obligations of, or to, Seller in excess of \$[***] per annum;

(ii) any Transferred Contract with respect to a joint venture, partnership or other similar agreement;

(iii) any Contract relating to mortgaging, pledging or otherwise placing a Lien on any of the Assigned Assets (other than a Permitted Lien and Liens in respect of Indebtedness that shall be released in full as of the Closing Date);

(iv) any Contract imposing any limitation or restriction on the right or ability of Seller: (A) to compete with any other Person with respect to the Business and/or the Business Products or to engage in the Business in any geographical area or (B) to develop, manufacture, assemble, sell, market, import or distribute the Business Products;

(v) any Transferred Real Property Lease;

(vi) any settlement agreement under which Seller has material ongoing obligations with respect to the Business or the Business Products;

(vii) any Contract that provides for the sale of any Assigned Asset or the grant of any preferential rights to purchase any material Assigned Asset, in each case, outside of the ordinary course of business;

(viii) any Contract between Seller and any customer or supplier described in Section 4.13(a) of the Disclosure Schedule or Section 4.13(b) of the Disclosure Schedule, respectively;

(ix) any Transferred Contract that grants “most favored nation” status, rights of first refusal, rights of first negotiation or similar rights to any other Person;

(x) any Contract that grants to any other Person exclusive rights to purchase any of the Assigned Assets or the Business Products;

(xi) any Transferred Contract that contains “requirements” provisions or other provisions obligating Seller to purchase or obtain a minimum or specified amount of any product or service from any Person or contains minimum sales or volume provisions;

(xii) any Contract primarily related to the Business or the Assigned Assets that is between or among Seller, on the one hand, and any director, officer or other Affiliate of Seller, on the other hand, excluding Contracts regarding the terms or conditions of service, or salary, bonus or other compensation, for any such director, officer or other Affiliate in connection with employment, independent contractor or director services to Seller;

(xiii) any Contract, pursuant to which any rights, covenants or licenses to or under any Intellectual Property Rights are granted to Seller with respect to the Business or the Business Products (other than (A) standard end user license agreements for generally commercially available off-the-shelf software entered into in the ordinary course of business; (B) licenses for Open Source Software described in Section 4.06(h) of the Disclosure Schedule and (C) contracts with suppliers entered into in the ordinary course of business pursuant to which Seller is only granted non-exclusive licenses from such suppliers), and any Contract pursuant to which any rights, covenants, or licenses to or under any Assigned Intellectual Property are granted to any other Person (other than non-exclusive object code licenses granted to customers of Seller in the ordinary course of business consistent with past practice); and

(xiv) any other Contract that is required for the use of the Assigned Assets or the operation of the Business and not previously disclosed in Section 4.05(a) of the Disclosure Schedule or on Schedule 3.03(b) that either (A) involves payment obligations of, or to, Seller, in excess of \$[***] per annum, or (B) if terminated or expired, could not be replaced with a substantially similar contract on substantially similar financial terms as the terminated or expired Contract.

(b) Each Material Contract is in full force and effect according to its terms (subject to the Enforceability Exceptions) and has not been validly terminated, and to the knowledge of Seller, no Material Contract has been breached in any material respect by Seller, cancelled by Seller or, cancelled or threatened to be cancelled by any other party thereto. Seller has made available to Purchaser a correct and complete copy of each Material Contract (including any amendments thereto).

(c) Each Government Contract that primarily relates to the Business, the Business Products or the Assigned Assets is set forth on Section 4.05(c) of the Disclosure Schedule.

4.06 Intellectual Property.

(a) Section 4.06(a) of the Disclosure Schedule lists, to the knowledge of Seller, all Patents, Patent applications (including provisional applications), registered Trademarks, applications to register Trademarks, intent-to-use applications, or other registrations or applications related to Trademarks, registered Copyrights and applications for Copyright registration, registered domain names and applications for domain name registrations, and any other Intellectual Property Right that is the subject of an application, certificate, filing, registration or other document issued, filed with, or recorded by any Governmental Entity included in the Assigned Assets (“Registered Intellectual Property”). For each item of Registered Intellectual Property, Section 4.06(a) of the Disclosure Schedule specifies as to each, (i) the nature of such item, (ii) the jurisdictions in which each such item has been issued or registered (if applicable) or in which any such application for such issuance and registration has been filed (if applicable), and (iii) any applicable registration or application number.

(b) Each item of Registered Intellectual Property is subsisting and enforceable, and to the knowledge of Seller, valid. All necessary registration, maintenance and renewal fees currently due in connection with such Registered Intellectual Property have been made and all necessary documents, recordations and certificates in connection with such Registered Intellectual Property have been filed with the relevant Patent, Copyright, Trademark or other authorities in the United States or foreign jurisdictions, as the case may be, for the purposes of prosecuting, perfecting and maintaining such Registered Intellectual Property. Seller has not received any written notice alleging any inventorship challenges or any interference having been declared or threatened with respect to any Assigned Intellectual Property. To the knowledge of Seller, Seller solely and exclusively owns or has a right to use all of the Registered Intellectual Property and all other Assigned Intellectual Property (including all Transferred Technology), free and clear of any Liens other than Permitted Liens.

(c) The operation of the Business with respect to the Existing Products and, to the knowledge of Seller, with respect to Business Products other than Existing Products, has not and does not as of the Closing Date infringe, violate or misappropriate, the Intellectual Property Rights of any other Person. There is no Action pending against Seller (i) alleging any infringement, violation or misappropriation by Seller of any third party Intellectual Property Rights related to the Business or the Business Products, or (ii) challenging Seller's ownership, or the validity or enforceability, of any Assigned Intellectual Property. Since January 1, 2014, Seller has not received any written notices alleging any infringement, violation or misappropriation by Seller from any third party with respect to any third party Intellectual Property Rights related to the Business or the Business Products or that challenge the ownership of Seller in any Assigned Intellectual Property.

(d) To the knowledge of Seller, no third party is infringing, violating or misappropriating any Assigned Intellectual Property, and no claims for any of the foregoing have been brought or threatened in writing against any third party by Seller.

(e) The Assigned Intellectual Property and the licenses and other rights received under the Transferred Contracts, together with the (i) Shared Contracts, (ii) services to be provided by Seller and its Affiliates to Purchaser and its Affiliates pursuant to the Transaction Documents and (iii) the Excluded Assets set forth on Schedule 1.02(b), constitute all of the Intellectual Property Rights necessary to, or required for, the conduct of the Business as it is conducted as of the date of this Agreement with respect to the Existing Products and, to the knowledge of Seller, with respect to the Business Products other than the Existing Products. The Assigned Intellectual Property constitutes all of the Intellectual Property Rights owned by Seller and its Affiliates necessary to, or required for, the conduct of the Business as it is conducted as of the date of this Agreement (excluding with respect to services to be provided by Seller and its Affiliates to Purchaser and its Affiliates following the Closing pursuant to the Transaction Documents and the Excluded Assets set forth on Schedule 1.02(b)) with respect to the Existing Products and, to the knowledge of Seller, with respect to the Business Products other than the Existing Products.

(f) No Assigned Intellectual Property is subject to any proceeding or outstanding Order, stipulation, or Contract restricting in any material manner the use, enforcement, transfer, or licensing thereof by Seller or which may materially affect the validity, use or enforceability of such Assigned Intellectual Property. The consummation of the transactions contemplated herein shall not (i) give rise to the forfeiture or termination or give rise to a right of forfeiture or termination of or result in any loss of, or the diminishment in value of, any Assigned Intellectual Property, including by in any way impairing the right of Purchaser to use or practice or bring any action for the infringement, unauthorized use or disclosure, or misappropriation of any Assigned Intellectual Property, (ii) result in the grant to any other Person of any right to, or with respect to, any of the Assigned Intellectual Property, or (iii) result in the disclosure of any source code for any Business Product to any other Person.

(g) Seller has taken commercially reasonable steps to maintain the confidentiality of the Trade Secrets that are Assigned Know-How. Seller has not permitted any Trade Secrets that are Assigned Know-How to be disclosed to any Person, except pursuant to written confidentiality obligations. To Seller's knowledge, no source code for any Business Product has been disclosed to any Person other than employees and contractors performing services for Seller. Without limiting the foregoing, each Employee, contractor and service provider involved in development of the Business Products has executed confidentiality and invention disclosure and assignment agreements protecting such Trade Secrets and confidential information, and assigning to Seller all rights, title and interest in and to any Intellectual Property Rights developed by such Employee, contractor or service provider in the course of his or her employment or work for Seller.

(h) Section 4.06(h) of the Disclosure Schedule sets forth a complete and accurate list of all Open Source Software incorporated in the Business Products. No Open Source Software is or has been used by Seller in a manner that does, or would reasonably be expected to, require that a Business Product (including any Software thereof) be (i) disclosed or distributed in source code form, or (ii) licensed or provided to the customer on a royalty-free basis or in a manner that would allow such customer to modify, make derivative works based on, decompile, disassemble, reverse engineer or otherwise access the source code of, the Business Products.

(i) To Seller's knowledge, all Software of the Business Products is free of any material defects, bugs and errors and, to the knowledge of Seller, does not contain any disabling codes or instructions, spyware, Trojan horses, worms, viruses or other software routines that permit or cause unauthorized access to, or unintended disruption, impairment, disablement, or destruction of, Software, data, systems or other materials (collectively, "Contaminants").

4.07 Title; Transferred Inventory.

(a) Except as set forth in Section 4.07(a) of the Disclosure Schedule, Seller has good and valid title to the Assigned Assets, free and clear of all Liens (other than Permitted Liens).

(b) Except as set forth in Section 4.07(b) of the Disclosure Schedule, all Transferred Inventory consisting of the Business Products, whether or not reflected in the Financial Statements, consists of a quality and quantity usable and salable in the ordinary course of business consistent with past practice, except for obsolete, damaged, defective or slow-moving items that have been written off. No such Transferred Inventory is held on a consignment basis.

4.08 Transferred Real Property.

(a) Seller has good and valid title to the leasehold estates set forth on Section 4.08(a) of the Disclosure Schedule (the “Transferred Real Property”), free and clear of any Liens, other than Permitted Liens. Schedule 4.08(a) sets forth all leases, subleases, licenses or other agreements granting to Seller the right of use or occupancy of any portion of the Transferred Real Property (the “Transferred Real Property Leases”).

(b) Except as set forth on Section 4.08(b) of the Disclosure Schedule, except as would not, individually or in the aggregate, have a Seller Material Adverse Effect, (i) all improvements located on the Transferred Real Property have received all necessary approvals of Governmental Entities (including licenses and permits) required in connection with the use thereof being made as of the date of this Agreement, and (ii) there are no outstanding unpaid assessment notices against any of the Transferred Real Property. To the knowledge of Seller, the buildings, improvements and fixtures located on the Transferred Real Property are in operating condition, ordinary wear and tear excepted, and are sufficient in all material respects for the operation of the Business in substantially the same manner as it is conducted as of the date of this Agreement.

4.09 Financial Information; No Undisclosed Liabilities.

(a) Section 4.09(a) of the Disclosure Schedule sets forth a true, correct and complete copy of the Financial Statements. The Financial Statements have been prepared in accordance with GAAP (except (A) they do not include accompanying footnotes; (B) they are reported on a pre-tax basis and exclude all deferred tax assets and liabilities, as well as related party receivables and payables; and (C) the goodwill included in the financial statements have been reported based on the carrying amounts of such asset that were recognized by the Seller at the time the Business was acquired), consistent with the Seller’s historical methodologies and policies (but (x) excluding allocations of corporate expenses, including executive management, IT, tax, insurance, accounting, legal and treasury services, and (y) excluding allocation of interest expense related to the Seller’s interest-bearing debt), and fairly present in all material respects the (i) net inventory and net property, plant and equipment of the Business as of the date indicated therein, and (ii) related direct net revenues and total net expenses for the periods indicated therein.

(b) There are no material liabilities or obligations, whether accrued, absolute, contingent or otherwise (including unasserted claims), included in the Assumed Liabilities, except (i) as included, reserved against or reflected in the Financial Statements, (ii) as covered by the subject matter of the representations and warranties set forth in this Article IV (other than this Section 4.09), (iii) for those arising in the ordinary course of business consistent with past practice, or (iv) for those arising in connection with or as a result of the transactions contemplated by this Agreement.

4.10 Absence of Certain Changes.

Except as set forth on Section 4.10 of the Disclosure Schedule, since September 30, 2019, Seller has operated the Business in the ordinary course of business consistent with past practice, and there has been no (a) event that would constitute a breach or violation of any of the covenants set forth in Section 6.02(b) had such covenant applied since September 30, 2019, (b) receipt of notice that there has been a material loss of, or material order cancellation by, any customer or supplier of the Business described in Section 4.13(a) of the Disclosure Schedule or Section 4.13(b) of the Disclosure Schedule, respectively, or (c) other event or condition of any character that has had or would reasonably be expected to have a Seller Material Adverse Effect.

4.11 Litigation.

(a) There is no Action pending, or, to the knowledge of Seller, threatened in writing against Seller primarily related to the Business, the Business Products or the Assigned Assets. Seller is not subject to any Order primarily relating to the Business or the Assigned Assets.

(b) There is no Action pending or threatened by Seller against any other Person primarily related to the Business, the Business Products or the Assigned Assets.

(c) There is no Action pending or, to the knowledge of Seller, threatened in writing against Seller, which challenges the validity of this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby or which otherwise seeks to delay, limit or enjoin the transactions contemplated hereby or thereby.

4.12 Accounts Receivable.

The accounts receivable reflected on the Financial Statements and the accounts receivable arising after the date thereof have arisen from bona fide transactions entered into by Seller involving the sale of goods or the rendering of services in the ordinary course of business consistent with past practice. The reserve for bad debts shown on the Financial Statements or, with respect to accounts receivable arising after September 30, 2019, on the accounting records of Seller have been determined in accordance with Seller's historical accounting practices, consistently applied, subject to normal year-end adjustments and the absence of disclosures normally made in footnotes.

4.13 Principal Customers and Suppliers.

(a) Section 4.13(a) of the Disclosure Schedule contains a true and complete list of the names and addresses of the ten (10) largest customers of the Business, as measured by the Business' sales of goods or services during the one (1)-year period ended on September 30, 2019. In the last twelve (12) months, no such customer (i) has cancelled or terminated its relationship with Seller or (ii) has advised Seller in writing of its intention to cancel, suspend or otherwise terminate its relationship with Seller, or to materially and adversely change the terms upon which it pays for goods or services from Seller.

(b) Section 4.13(b) of the Disclosure Schedule contains a true and complete list of the ten (10) largest suppliers of the Business, as measured by the Business' purchases of goods or services during the one (1)-year period ended on September 30, 2019. No such supplier (i) has cancelled, suspended or otherwise terminated such relationship with Seller or (ii) has advised Seller of its intention to cancel, suspend or otherwise terminate such relationship with Seller, to increase its pricing for goods and services supplied to the Business, to curtail its accommodations, sales or services to the Business or to materially and adversely change the terms upon which it sells products to Seller. Except as set forth in Section 4.13(b) of the Disclosure Schedule, to the knowledge of Seller, there are no current material restrictions or reasonably anticipated material restrictions, on the supply of goods and services to the Business. At no time during the one (1)-year period ended on September 30, 2019 (A) have the sales or other business operations of Seller primarily related to the Business been materially and adversely affected by shortages or availability of goods or services necessary to sell the Business Products, or (B) have there been any material defaults or failures to perform under any supply agreements or contracts or any material disputes with any supplier listed in Section 4.13(b) of the Disclosure Schedule.

4.14 Governmental Consents.

Except for any consent, approval or authorization which would not reasonably be expected to result in a Seller Material Adverse Effect, no consent, approval or authorization of any Governmental Entity is required to be obtained by Seller in connection with its execution, delivery and performance of this Agreement, the other Transaction Documents, or the consummation by Seller of the transactions contemplated hereby and thereby.

4.15 Compliance with Laws; Permits.

(a) Except with respect to the matters that are the subject of Section 4.04, Section 4.06, Section 4.15(c), Section 4.18, and Section 4.23, Seller is, and since January 1, 2016, has been, and continues to be, operating in compliance in all material respects with all applicable Laws applicable to the Business and the Assigned Assets. Seller has not received written notice alleging any actual or potential material violations of applicable Law applicable to the Business or the Assigned Assets since January 1, 2016, and to the knowledge of Seller, Seller is not under investigation with respect to any actual or alleged material violation of any Law or Order applicable to the Business or the Assigned Assets.

(b) Except as set forth in Section 4.15(b) of the Disclosure Schedule, (i) all material Transferred Permits are validly held by Seller or its Affiliates, and Seller or the applicable Affiliate has complied in all material respects with, and is in compliance in all material respects with, the terms and conditions thereof, (ii) since January 1, 2016, neither Seller nor any of its Affiliates has received written notice of any Action relating to the revocation or modification of any such material Transferred Permits, and (iii) none of such material Transferred Permits would reasonably be expected to be subject to suspension, modification, revocation or nonrenewal as a result of the execution and delivery of this Agreement, or the other Transaction Documents, or the consummation by Seller of the transactions contemplated hereby and thereby.

(c) Seller has at all times complied with all applicable Laws with respect to the Business and the Assigned Assets regarding anti-corruption and the use of funds for political activity or commercial bribery, including the FCPA. Seller has not, with respect to the Business, the Assigned Assets or this Agreement: (i) used or allocated for use any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to political activity; (ii) made or promised to make any payment or transfer anything of value, directly or indirectly to any Government Official or to any other individual or entity, while knowing that all or part of the payment would be shared with a Government Official, individual or entity, for the purpose of securing any improper advantage; (iii) offered or received any illegal discounts, rebates or kickbacks in violation of applicable Laws; or (iv) otherwise made or received any payments or transfers of value that have the purpose or effect of public or commercial bribery, acceptance or acquiescence in extortion, kickbacks or other unlawful or improper means of obtaining or securing business. To the knowledge of Seller, no director, Employee or direct or indirect owner of Seller, or any third party intermediary with respect to the Business or the Assigned Assets, is a Government Official or close family member or designee of such a Government Official.

4.16 Financial Information and Internal Controls.

Seller maintains books, records and accounts which, in reasonable detail, accurately and fairly reflect its transactions, assets and liabilities and maintains a system of internal accounting controls designed to provide reasonable assurance that: (i) its transactions are executed in accordance with management's general or specific authorization; (ii) its transactions are recorded as necessary to permit the preparation of the financial statements of Seller in conformity with GAAP and to maintain accountability for its assets; (iii) access to its assets is permitted only in accordance with management's general or specific authorization; (iv) the recorded accountability for its assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) it does not maintain unlawful or unrecorded or "off-the-books" accounts or more than one set of books, records or accounts.

4.17 Insurance.

Section 4.17 of the Disclosure Schedule contains a true and complete list (including the name of the insurer, policy number, coverage amount, deductible amount, premium amount and expiration date) of all insurance policies, and bonds and self-insurance arrangements currently maintained by Seller that cover or purport to cover risks or losses to or associated with the Business, including the operations, premises, properties, assets, employees, agents, managers, members, officers and directors of Seller, in each case, as it relates to the Business. The insurance policies, bonds and arrangements described in Section 4.17 of the Disclosure Schedule (the "Policies") are in full force and effect. Neither Seller nor any of its Affiliates has received any written notice of pending or threatened cancellation of any Policy, and, to the knowledge of Seller, no claim or coverage under any Policy is currently being disputed.

4.18 Privacy and Data Security.

(a) Seller complies, and has at all times since January 1, 2013 complied, in all material respects with all Privacy and Information Security Requirements applicable to the Business and the Assigned Assets. Neither Seller nor, to the knowledge of Seller, any other Person, has since January 1, 2013 received any written notice or other communication, from any Governmental Entity or otherwise, regarding any actual or asserted violation of, or failure to comply with, any Privacy and Information Security Requirement by Seller with respect to the Business and the Assigned Assets. There is not currently pending, and there has not been since January 1, 2013, any Action against Seller alleging any violation of or failure to comply with, any Privacy and Information Security Requirement by Seller with respect to the Business or the Assigned Assets.

(b) Seller has not, with respect to the Business and the Assigned Assets since January 1, 2013, suffered a material security breach resulting in any unauthorized Processing of any Personal Data or confidential information Processed by Seller in the conduct of the Business. Seller has not since January 1, 2013, notified, or been required to notify, any Person of any information security breach involving Personal Data or confidential information processed by Seller, or on its behalf, with respect to the Business or the Assigned Assets.

(c) Seller has, in all material respects, provided all requisite notices and obtained all required consents, and satisfied all other requirements (including but not limited to notification to Governmental Entities), necessary for the Processing (including international and onward transfer) of all Personal Data in connection with the conduct of the Business and the Assigned Assets as currently conducted and in connection with the consummation of the transactions contemplated hereunder.

(d) Seller has since January 1, 2013, implemented with respect to the Business and the Assigned Assets, and maintains compliance in all material respects with, reasonable security measures (including data protection policies and procedures concerning the Processing of Personal Data, and training, use testing, audits or other documented mechanisms designed to ensure and monitor compliance with such policies and procedures) designed to ensure compliance in all material respects with all Privacy and Information Security Requirements. Seller has in place commercially reasonable disaster recovery and business continuity plans and procedures with respect to the Business and the Assigned Assets. Seller has required all vendors that Process Personal Data in connection with the conduct of the Business on its behalf to employ commercially reasonable security measures that comply in all material respects with all Privacy and Information Security Requirements.

(e) The IT Systems and Business Products, to the knowledge of Seller, contain no code designed to disrupt, disable, harm, distort, or otherwise impede in any material respect the legitimate operation of such IT Systems or Business Products (including what are sometimes referred to as “viruses”, “worms”, “time bombs”, or “back doors”) that have not been fully removed or remedied. The Business and the Assigned Assets have not, since January 1, 2013, except as has not been and would not reasonably be expected to be material to the Business, experienced any disruption to, or interruption in, the conduct of the Business attributable to unauthorized access to, or introduction of a virus or other malicious programming within, the IT Systems or Business Products.

(f) Notwithstanding the generality of the foregoing, Seller has, and has at all times since January 1, 2013 had, privacy and security policies, procedures and safeguards applicable to the Business and the Assigned Assets that comply in all material respects with then-applicable requirements of Health Care Privacy Laws (collectively, “Health Care Privacy and Security Policies”) and has complied in all material respects with such Health Care Privacy and Security Policies. Seller has, since January 1, 2016, to the extent required for compliance in all material respects with Health Care Privacy Laws in the conduct of the Business, entered into written and signed business associate agreements with each Person who is a “business associate” (as defined in HIPAA) of such Person and has a written and signed business associate agreement with each “covered entity” (as defined in HIPAA) and business associate of which such person is a business associate. Since January 1, 2016, except as has not been and would not reasonably be expected to be material to the Business or the Assigned Assets, no “breach” (as defined in HIPAA) has occurred with respect to unsecured “protected health information” (as defined in HIPAA) in the possession or under the control of Seller or, to the knowledge of Seller, its business associates with respect to the Business or the Assigned Assets.

4.19 Assigned Assets; Solvency.

(a) Except as set forth in Section 4.19(a) of the Disclosure Schedule, the Assigned Assets, together with (a) the Shared Contracts, and (b) the services to be provided by Seller and its Affiliates to Purchaser and its Affiliates pursuant to the Transaction Documents, constitute all of the rights and assets necessary to, or required for, the conduct of the Business as it is conducted as of the date of this Agreement; provided, that, with respect to the Business Products that are not Existing Products, the foregoing representation and warranty is made subject to the knowledge of Seller. Except as set forth in Section 4.19(a) of the Disclosure Schedule, the Assigned Assets, together with (i) the Shared Contracts, and (ii) the services to be provided by Seller and its Affiliates to Purchaser and its Affiliates pursuant to the Transaction Documents are sufficient in all material respects for the conduct of the Business in substantially the same manner as it is conducted as of the date of this Agreement.

(b) Seller is not entering into this Agreement with the actual intent to hinder, delay, or defraud any creditor of Seller. The Assigned Assets do not constitute all or substantially all of the assets of Seller. The remaining assets of Seller after the Closing shall not be unreasonably small in relation to the business in which Seller shall engage after the Closing. Upon and immediately following the Closing Date, after giving effect to all of the transactions contemplated by this Agreement (including the payment of the Purchase Price), Seller shall not be insolvent and shall have sufficient capital to continue in business and pay its debts as they become due.

4.20 No Brokers.

There are no claims for brokerage commissions, finders' fees or similar compensation in connection with the transactions contemplated by this Agreement based on any Contract made by or on behalf of Seller for which Purchaser would be liable following the Closing.

4.21 Product Liability and Product Warranty.

Section 4.21 of the Disclosure Schedule contains a copy of Seller's standard terms and conditions for its customers for the Business Products. To the knowledge of Seller, since January 1, 2016, no Business Products have been out of conformity with any applicable warranties so as to subject it or the Business to Liability beyond rework or replacement of the Business Product in the ordinary course of business consistent with past practice, and, Seller does not have any Liability for other material damages in connection therewith other than return, rework or replacement of nonconforming Business Products in the ordinary course of business consistent with past practice. Except for warranty obligations and returns in the ordinary course of business consistent with past practice, there are no outstanding or, to the knowledge of Seller, threatened warranty claims against Seller, the Business or the Assigned Assets. Since January 1, 2016, there have been no product recalls with respect to any of the Business Products, and, to the knowledge of Seller, there are no recalls of any Business Products currently under consideration. Except for ordinary course inquiries by Governmental Entities and except as would not have a Seller Material Adverse Effect, there are not presently pending, or, to the knowledge of Seller, threatened in writing, any civil, criminal or administrative actions, suits, demands, claims, hearings, notices of violation, investigations, proceedings or demand letters relating to any alleged hazard or alleged defect in design, manufacture, materials or workmanship, including any failure to warn or alleged breach of express or implied warranty or representation, relating to any Business Product manufactured, distributed or sold by or on behalf of the Business.

4.22 Product Registrations.

Section 4.22 of the Disclosure Schedule sets forth, as of the date of this Agreement, a list of the marketing approvals, clearances or other authorizations necessary to market the Business Products and granted to Seller or its Affiliates by, or pending with, any Governmental Entity (the "Product Registrations"), except for those approvals, clearances and authorizations that are not material to the Business. All Business Products sold under the Product Registrations are manufactured and marketed in accordance with the specifications and standards contained in such Product Registrations, except where the failure to comply therewith would not have a Seller Material Adverse Effect.

4.23 Environmental Matters.

Except as would not, individually or in the aggregate, have a Seller Material Adverse Effect, Seller, with respect to the Business, (a) is, and, since January 1, 2016, has been, in compliance in all material respects with applicable Environmental Laws; (b) has not received any written communication from any Person alleging that Seller is in violation of or has any liability arising under any applicable Environmental Law, except to the extent the substance of any such communication has been materially resolved; (c) has obtained all material approvals and permits required under applicable Environmental Laws to conduct the Business as conducted as of the date of this Agreement (“Environmental Permits”); (d) is, and since January 1, 2016, has been, in material compliance with all terms and conditions of such Environmental Permits; (e) is not subject to any pending or, to the knowledge of Seller, threatened, Environmental Claim against itself or any Person whose liability Seller has retained or assumed either contractually or by operation of Law; and (f) to the knowledge of Seller, there has been no Release of Hazardous Materials at, on, or under the Transferred Real Property that could reasonably be expected to give rise to material liability under Environmental Law.

4.24 Labor Matters.

(a) Seller is not obligated by, or subject to, any material Order by any Governmental Entity with respect to labor and employment issues in relation to the Business Employees.

(b) Seller is not a party or subject to any pending or, to the knowledge of Seller, threatened, labor, employment, or civil rights Action, dispute, controversy or grievance, or any unfair labor practice proceeding with respect to claims of, or obligations to, any Business Employee or group of Business Employees. There has been no strike, work stoppage, work slowdown, or similar labor activity with respect to the Business Employees since January 1, 2016, and none are pending or, to the knowledge of Seller, threatened, and neither Seller nor any of its Affiliates has received any written notice that any labor representation request is pending or is threatened with respect to the Business Employees. No labor union, works council, European works council or other staff body or group or similar labor organization represents the Business Employees, and there has been no efforts to organize or unionize the labor force with respect to any Business Employees since January 1, 2016. The execution and delivery of this Agreement shall not (either alone or in conjunction with any event) require any notification or consultation with any union, works council, employee representative, or other labor organization.

(c) Seller has not engaged in layoffs, redundancies, plant closings, terminations or relocations sufficient in number to trigger application of the WARN Act that would be reasonably expected to cause Purchaser to have any material liability or other material obligation under the WARN Act.

(d) To the knowledge of Seller, no claims alleging sexual harassment by a Business Employee have been asserted since January 1, 2016.

(e) Seller has properly classified any Person who provides or provided services to Seller as an independent contractor or other non-employee for any purpose.

4.25 Representations Limited.

Except as otherwise specifically provided in this Article IV (as modified by the Disclosure Schedule) or in any closing certificate delivered to Purchaser hereunder in respect thereof, (a) the Business and the Assigned Assets are being acquired AS IS AND WHERE IS, WITHOUT ANY OTHER EXPRESSED OR IMPLIED WARRANTY and neither Seller nor any directors, officers, Employees, equityholders, agents, Affiliates or Representatives thereof, nor any other Person, has made or shall be deemed to have made any representation or warranty to Purchaser, express or implied, at Law or in equity, with respect to Seller, the Business, the Business Products, the Assigned Assets, the Assumed Liabilities, or the assets, Liabilities, results of operations or financial condition of Seller generally, including any representations and warranties as to the accuracy or completeness of any Evaluation Material, or any other information provided to Purchaser or any of its Affiliates or Representatives or as to the future sales, revenue, profitability or success of the Business or the Business Products, or any representations or warranties arising from statute or otherwise in Law, from a course of dealing or a usage of trade, and (b) Seller disclaims any representations and warranties other than those expressly set forth in this Article IV (as modified by the Disclosure Schedule) and in any closing certificate in respect of such representations and warranties expressly set forth in this Article IV (as modified by the Disclosure Schedule) and delivered to Purchaser hereunder.

4.26 NantWorks Representations.

NantWorks hereby represents and warrants to Purchaser that the following representations and warranties are true and correct as of the date hereof:

(a) NantWorks has all requisite limited liability company power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby.

(b) The execution, delivery, and performance by it of this Agreement and the consummation of the transactions contemplated hereby and thereby do not and shall not (i) violate or result in a breach of or constitute a violation or default under any Contract to which NantWorks is a party or is otherwise bound in a manner that would prevent or materially delay the consummation of the transactions contemplated by this Agreement or the other Transaction Documents; or (ii) result in a material breach or material violation by NantWorks of any of the terms, conditions or provisions of any Law or Order to which NantWorks is subject.

(c) This Agreement has been duly executed and delivered by NantWorks and, assuming that this Agreement are valid and binding obligations of Purchaser and the other parties thereto, this Agreement constitutes a valid and binding obligation of NantWorks, enforceable in accordance with the terms hereof and thereof, subject to the Enforceability Exceptions.

(d) NantWorks has duly executed and delivered this Agreement and has obtained the necessary authorization, if any, to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby.

ARTICLE V

REPRESENTATIONS AND WARRANTIES OF PURCHASER

Except as set forth in the Purchaser Disclosure Schedule (and subject to the terms set forth in the following sentence), each of Parent and Acquisition Sub hereby represents and warrants to Seller that the following representations and warranties are true and correct as of the date hereof (except where a representation or warranty is made herein as of a specified date). The Purchaser Disclosure Schedule is arranged in sections corresponding to the numbered and lettered sections and subsections contained in this Article V, and the disclosures in any section or subsection of the Purchaser Disclosure Schedule shall qualify each other section and subsection in this Article V to the extent it is reasonably apparent from a reading of the text of the disclosure that such disclosure is applicable to such other sections and subsections.

5.01 Organization and Power.

(a) Parent (i) is a corporation, duly organized, validly existing and in good standing under the Laws of the state of Delaware, (ii) has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as currently conducted, and (iii) is qualified to do business and in good standing in every jurisdiction in which its ownership of property or the conduct of business as now conducted requires it to be so qualified, except where the failure to be so qualified does not have, and would not be expected to have, a material adverse effect on Parent.

(b) Acquisition Sub (i) is a corporation, duly organized, validly existing and in good standing under the Laws of the state of Delaware, (ii) has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as currently conducted, and (iii) is qualified to do business and in good standing in every jurisdiction in which its ownership of property or the conduct of business as now conducted requires it to be so qualified, except where the failure to be so qualified does not have, and would not be expected to have, a material adverse effect on Parent or Acquisition Sub.

5.02 Authorization; No Breach; Valid and Binding Agreement.

(a) Each of Parent and Acquisition Sub has all requisite corporate power and authority to execute and deliver this Agreement and the other Transaction Documents to which it is a party and to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance by each of Parent and Acquisition Sub of this Agreement and the other Transaction Documents to which it is a party and the consummation by each of Parent and Acquisition Sub of the transactions contemplated hereby and thereby have been duly and validly approved by all requisite corporate action.

(b) The execution, delivery, and performance by each of Parent and Acquisition Sub of this Agreement and the other Transaction Documents to which it is a party and the consummation of the transactions contemplated hereby and thereby do not and shall not (i) violate, conflict with, result in any breach of, or constitute a default under any of the provisions of any of the Purchaser Organizational Documents; (ii) violate or result in a breach of or constitute a violation or default under any Contract to which Parent or Acquisition Sub is a party or is otherwise bound in a manner that would prevent or materially delay the consummation of the transactions contemplated by this Agreement or the other Transaction Documents; or (iii) result in a material breach or material violation by Parent or Acquisition Sub of any of the terms, conditions or provisions of any Law or Order to which Parent or Acquisition Sub is subject.

(c) This Agreement and the other Transaction Documents to which Parent or Acquisition Sub is a party have been duly executed and delivered by Parent or Acquisition Sub, as applicable and, assuming that this Agreement and such Transaction Documents are valid and binding obligations of Seller and the other parties thereto, this Agreement and such Transaction Documents constitute valid and binding obligations of each of Parent and Acquisition Sub, enforceable in accordance with the terms hereof and thereof, subject to the Enforceability Exceptions.

5.03 Governmental Consents.

Except for any consent, approval or authorization which would not reasonably be expected to have a material adverse effect on Parent or Acquisition Sub, no consent, approval or authorization of any Governmental Entity is required to be obtained by Parent or Acquisition Sub in connection with its execution, delivery and performance of this Agreement, the other Transaction Documents, or the consummation by Parent or Acquisition Sub of the transactions contemplated hereby and thereby.

5.04 No Brokers.

There are no claims for brokerage commissions, finders' fees or similar compensation for which Seller would be liable following the Closing in connection with the transactions contemplated by this Agreement or the other Transaction Documents based on any Contract made by or on behalf of Parent or Acquisition Sub.

5.05 Financial Ability.

As of the Closing, Parent has, and shall have, immediately available funds sufficient to consummate the transactions contemplated by this Agreement and the other Transaction Documents and perform and discharge all of its payment obligations under this Agreement, the other Transaction Documents, and in connection with the transactions contemplated by this Agreement and the other Transaction Documents, as and when due and payable in accordance with the terms hereunder and thereunder.

5.06 No Litigation.

There are no pending or threatened Actions by or against Parent or Acquisition Sub or any of their Affiliates that would (a) prohibit or materially hinder, delay, or otherwise impair Parent or Acquisition Sub's ability to perform their obligations under this Agreement and the other Transaction Documents (including their ability to pay the Purchase Price), (b) affect the legality or enforceability of this Agreement or the other Transaction Documents, or (c) prevent or materially delay the consummation of the transactions contemplated by this Agreement or the other Transaction Documents.

5.07 Acknowledgement by Parent and Acquisition Sub.

(a) Parent and Acquisition Sub have conducted their own independent review and analysis of the Evaluation Materials, the Business, the Business Products, the Assigned Assets, the Assumed Liabilities, and the results of operations and financial condition of the Business. Each of Parent and Acquisition Sub acknowledges that it has been provided access to the personnel, properties, premises and records of Seller for such purpose and that each of Parent and Acquisition Sub and their Representatives have been provided with the opportunity to ask questions of the officers and management employees of Seller and to acquire such additional information about the Business, the Business Products, the Assigned Assets, the Assumed Liabilities, and the results of operations and financial condition of the Business as Parent and Acquisition Sub and their Representatives have requested. Parent and Acquisition Sub are informed and sophisticated participants in the transactions contemplated by this Agreement and the other Transaction Documents and have undertaken such investigation of and have been provided with and have evaluated such documents and information as each of Parent and Acquisition Sub has deemed necessary in connection with the execution, delivery and performance of this Agreement and the other Transaction Documents and the consummation of the transactions contemplated by this Agreement and the other Transaction Documents.

(b) Each of Parent and Acquisition Sub acknowledges that it is consummating the transactions contemplated by this Agreement and the other Transaction Documents without any representations or warranties, express or implied, by Seller, any of its Affiliates or any other Person, other than those expressly set forth in Article IV hereof (as modified by the Disclosure Schedule) or in any closing certificate in respect thereof and delivered to Parent or Acquisition Sub by Seller pursuant to this Agreement. Each of Parent and Acquisition Sub acknowledges that, except for the matters that are expressly covered by the provisions of Article II and such closing certificate, it is relying on its own investigation and analysis in entering into this Agreement, the other Transaction Documents, and the transactions contemplated hereby and thereby.

(c) In furtherance of the foregoing, and not in limitation thereof, each of Parent and Acquisition Sub acknowledges that no representation or warranty, express or implied, of Seller, any of its Affiliates or Representatives or any other Person, with respect to Seller, the Business, the Business Products, the Assigned Assets, or the Assumed Liabilities, including any financial projection or forecast delivered to Parent or Acquisition Sub or any of their Affiliates or Representatives with respect to the revenues or profitability which may arise from the operation of the Business either before or after the Closing Date, shall (except as otherwise expressly represented or warranted in Article IV herein or in any closing certificate in respect thereof and delivered to Parent or Acquisition Sub by Seller pursuant to this Agreement) form the basis of any Action against Seller or any of its Affiliates or Representatives with respect thereto or with respect to any related matter. With respect to any projection or forecast delivered by or on behalf of Seller to Parent and Acquisition Sub, each of Parent and Acquisition Sub acknowledges that (i) there are uncertainties inherent in attempting to make such projections and forecasts; (ii) the accuracy and correctness of such projections and forecasts may be affected by information that may become available through discovery or otherwise after the date of such projections and forecasts; and (iii) it is familiar with each of the foregoing.

5.08 No Other Representations and Warranties.

Each of Parent and Acquisition Sub agrees that none of Seller, its Subsidiaries, any Representatives of the foregoing or any of their respective Affiliates, members, managers, equityholders, directors, officers, employees, Representatives or advisors have made and shall not be deemed to have made, nor has Parent or Acquisition Sub or any of their Affiliates relied on, any representation, warranty, covenant or agreement, express or implied, with respect to Seller, the Business, the Business Products, the Assigned Assets, the Assumed Liabilities or the transactions contemplated by this Agreement and the other Transaction Documents, or the completeness or accuracy of any information made available to Parent or Acquisition Sub, other than those representations, warranties, covenants and agreements explicitly set forth in this Agreement or in any closing certificate in respect thereof and delivered to Parent or Acquisition Sub by Seller pursuant to this Agreement.

ARTICLE VI

COVENANTS AND OTHER AGREEMENTS

6.01 General.

From the date of this Agreement through the earlier to occur of (a) the Closing, or (b) the termination of this Agreement pursuant to Section 9.01, each of the Parties shall use commercially reasonable efforts to take all action and to do all things reasonably necessary, proper, or advisable in order to consummate and make effective the transactions contemplated by this Agreement and the other Transaction Documents (including satisfaction, but not waiver, of the closing conditions set forth in Article VII herein) and to obtain all Consents and make all notices and filings that are otherwise required to be made or obtained in connection with the transactions contemplated by this Agreement. Notwithstanding any other provision of this Agreement to the contrary, Seller shall not have any obligation to pay any fee to any third Person for the purpose of obtaining such Consent or any costs and expenses of any third Person resulting from the process of obtaining any such Consent.

6.02 Operation of Business.

(a) From the date of this Agreement through the earlier to occur of (i) the Closing, or (ii) the termination of this Agreement pursuant to Section 9.01, except as Purchaser may approve in writing otherwise (with such approval not to be unreasonably withheld, delayed or conditioned), or as otherwise expressly contemplated or permitted by this Agreement or the other Transaction Documents, Seller shall: (A) conduct the Business in its ordinary course of business and consistent with past practice, (B) use commercially reasonable efforts to preserve substantially intact the Assigned Assets, retain the services of the Business Employees and maintain relationships with customers, vendors, suppliers, commercial partners, Business Employees and other business relations, in each case, with respect to or otherwise relating to the Business, the Assigned Assets and the Business Products. Without limiting the foregoing, except as set forth in Schedule 6.02(a), from the date hereof until the earlier to occur of (i) the Closing, or (ii) the termination of this Agreement pursuant to Section 9.01, Seller shall, with respect to or otherwise relating to the Business, the Assigned Assets and the Business Products:

- (i) preserve and maintain all Transferred Permits in a manner necessary to conduct the Business as presently conducted;

(ii) pay the debts, Taxes and other obligations of the Business when due, except for debts, Taxes and other obligations of the Business reasonably contested in good faith by appropriate proceedings and for which adequate reserves have been established;

(iii) continue to collect accounts receivable of the Business in a manner consistent with past practice, without discounting such accounts receivable in a manner outside the ordinary course of business;

(iv) maintain the Transferred Tangible Personal Property in substantially the same condition as it was on the date of this Agreement, subject to reasonable wear and tear;

(v) continue in full force and effect without modification all insurance policies primarily relating to the Business;

(vi) defend and protect the Assigned Intellectual Property from infringement or usurpation;

(vii) maintain the Product Records in accordance with past practice;

(viii) perform all of its obligations under all Transferred Contracts that are Material Contracts in all material respects and not amend, modify, terminate or waive the performance of any material term of any such Contract, other than in the ordinary course of business; and

(ix) comply in all material respects with all applicable Laws.

(b) Except as set forth in Schedule 6.02(b), from the date of this Agreement through the earlier to occur of (i) the Closing, or (ii) the termination of this Agreement pursuant to Section 9.01, except as Purchaser may approve in advance in writing otherwise (with such approval not to be unreasonably withheld, delayed or conditioned), or as otherwise expressly contemplated or permitted by this Agreement or the other Transaction Documents, Seller shall not do any of the following:

(i) except for immaterial increases consistent with past practice, grant to any Business Employee any increase in compensation or benefits,

(ii) except for immaterial increases consistent with past practice, grant to any Business Employee any increase in severance or termination pay;

(iii) enter into or amend any employment, consulting, indemnification, severance or termination agreement with any Business Employee, except in the ordinary course of business or to reflect changes in applicable Law;

(iv) (A) hire, materially modify the job responsibility of, or terminate (other than for “cause”) any Business Employee with annual base compensation above \$[***], (B) reassign the duties of any employee of Seller or its Subsidiaries with an annual base salary above \$[***] such that such individual ceases to be, or becomes, a Business Employee, or (C) implement or effect any reduction in force, lay-off, early retirement program, severance program or other program concerning the termination of employment of Business Employees;

(v) enter into, amend, or extend a collective bargaining agreement or other Contract with any labor union or other employee representative body, with respect to Business Employees;

- (vi) enter into any new contract, agreement, obligation or other understanding to incur any capital expenditure relating to the Business, the Assigned Assets or the Business Products in excess of \$[***] individually or \$[***] in the aggregate;
- (vii) make any material change in accounting methods, principles or practices affecting the Business or the Assigned Assets, except insofar as may have been required by a change in GAAP or applicable Law;
- (viii) accelerate or delay collection of accounts receivable of the Business beyond or in advance of its due date or the date when such liability would have been paid in the ordinary course of business consistent with past practice;
- (ix) revalue any Assigned Assets, including writing down or writing off the value of Transferred Inventory or writing off notes or accounts receivable other than in the ordinary course of business consistent with past practice;
- (x) except in the ordinary course of business consistent with past practice, offer any rebates, discounts, promotions or credits, make any change to any promotional programs or make any change in the manner in which Seller generally extends rebates, discounts or credit to, customers with respect to the Business Products or the Business;
- (xi) sell, lease, sublease, license, sublicense, pledge, mortgage, encumber or otherwise dispose of or transfer or permit to become subject to any Lien, other than a Permitted Lien, on any material Assigned Asset, other than non-exclusive licenses granted in the ordinary course of business;
- (xii) (A) incur any Indebtedness or guarantee any such Indebtedness of another Person, or (B) make any loans, advances or capital contributions to, or investments in, any other Person (other than employee advances for travel, business or entertainment expenses made in the ordinary course of business), in each case of clause (A) and (B) as would impose any Lien on the Assigned Assets;
- (xiii) initiate, settle or compromise any Action primarily related to the Business or the Assigned Assets;
- (xiv) terminate or extend, waive, modify, rescind or make (or agree to) any material amendments to any Transferred Contract except (A) for auto-renewals under the existing terms of any Transferred Contract or (B) to the extent such action would not adversely affect the Assigned Assets or the Business;
- (xv) cancel any Indebtedness or claims or amendment, termination or waiver of any rights constituting Assigned Assets;
- (xvi) abandon, allow to lapse, cancel or fail to maintain in full force and effect any Registered Intellectual Property;
- (xvii) suffer any material damage, destruction or loss, or any material interruption in use, of any material Assigned Assets, whether or not covered by insurance;
- (xviii) adopt any plan of merger, consolidation, reorganization, liquidation or dissolution or filing of a petition in bankruptcy under any provisions of federal or state bankruptcy Law or consent to the filing of any bankruptcy petition against Seller under any similar Law;

(xix) except to the extent such action would not adversely affect the Assigned Assets or the Business and would not result in the imposition of any Tax on Purchaser or any of its Affiliates or with respect to any of their assets, (A) settle or compromise any Tax Liability or any claim relating to Taxes, (B) file any amended Tax Return, (C) enter into any closing agreement relating to any Tax, (D) make or change any Tax election, or (E) incur any material liability for Taxes other than in the ordinary course of business consistent with past practice; or

(xx) authorize, commit to or enter into any Contract to do any of the foregoing.

6.03 Access to Records.

From the date of this Agreement through the earlier to occur of (a) the Closing, or (b) the termination of this Agreement pursuant to Section 9.01, subject to the terms of the Confidentiality Agreement, Purchaser shall be entitled to make such reasonable investigation of the assets, properties, business, books, records and operations of Seller that are primarily related to the Business or the Assigned Assets as Purchaser may reasonably request, including any materials related to Seller's compliance with applicable Laws primarily related to the Business or the Assigned Assets. Any such investigation and examination shall be conducted at reasonable times upon reasonable prior notice to Seller and under reasonable circumstances and during normal business hours; provided, that (i) such investigation shall not unreasonably interfere with the business operations of Seller; (ii) Seller shall not be required to provide access to any information or take any other action that would constitute a waiver of the attorney-client privilege; and (iii) Seller need not supply Purchaser with any information which, in the reasonable judgment of Seller, (A) is not primarily related to the Business or the Assigned Assets, (B) Seller is under a legal obligation not to supply or (C) the disclosure of which would cause material competitive harm to Seller if the transactions contemplated by this Agreement and the other Transaction Documents are not consummated. Without the prior written consent of Seller (which consent shall not be unreasonably withheld, delayed or conditioned), neither Purchaser nor any of its Representatives shall contact any director, officer, employee, customer or supplier of Seller or its Affiliates with respect to the transactions contemplated by this Agreement or the other Transaction Documents.

6.04 Public Announcements: Confidentiality.

(a) Prior to the Closing, neither Seller nor Purchaser shall make, or permit any Representative or Affiliate to make, any public statements, including any press releases, with respect to this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby without the prior written consent of the other Party (which consent shall not be unreasonably withheld, delayed or conditioned), except that Seller and Parent may issue a joint press release regarding this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby upon the execution and delivery hereof. Notwithstanding the foregoing, each Party shall have the right to make such disclosures as it may deem necessary or advisable to comply with applicable Law, including pursuant to the rules and regulations of the U.S. Securities and Exchange Commission and/or the rules and regulations of any applicable securities exchange; provided, however, that the Party seeking to make such disclosure shall, to the extent practicable, allow the other Party reasonable time to comment on such disclosure in advance of such disclosure.

(b) Following the Closing, Purchaser and Seller shall jointly agree on the content and substance of all public announcements concerning this Agreement, the other Transaction Documents, and the transactions contemplated hereby or thereby, other than those that are permitted pursuant to the foregoing sentence. Seller and Purchaser shall consult with each other concerning the means by which employees, customers, suppliers and others having dealings with Seller related to the Business shall be informed of this Agreement and the other Transaction Documents, and Seller shall have the right to be present for any such communication.

(c) The Parties acknowledge that the information being provided to one another in connection with the transactions contemplated by this Agreement (including the terms and conditions of this Agreement and the other Transaction Documents) is subject to the Confidentiality Agreement. Notwithstanding the foregoing or anything contained herein, each Party shall have the right to disclose this Agreement and any other Transaction Document to potential or actual investors, acquirers, debt and equity financing sources, and/or strategic partners (together with their respective Representatives) so long as such Persons are bound by customary confidentiality obligations (or a professional obligation of confidentiality) to such Party (or an Affiliate thereof).

6.05 Tax Matters.

(a) Allocation. Purchaser and Seller agree that the Purchase Price (plus any Assumed Liabilities, to the extent properly taken into account for income Tax purposes) shall be allocated for all Tax purposes consistently with Section 1060 of the Code as shown on an allocation schedule prepared in accordance with this Section 6.05(a) (the "Allocation Schedule"). Purchaser shall provide the Allocation Schedule to Seller within ninety (90) days after the Closing Date, which Allocation Schedule shall be consistent with the methodology set forth on Schedule 6.05(a) hereof, and shall consider in good faith any written comments of Seller submitted to Purchaser within thirty (30) days of Purchaser's delivery thereof. If, within twenty (20) days after the delivery of the Allocation Schedule, Seller notifies Purchaser in writing that it objects to the allocation set forth in the Allocation Schedule, the Parties shall use commercially reasonable efforts to resolve such dispute within twenty (20) days. In the event that the Parties are unable to resolve such dispute within twenty (20) days, the Parties shall jointly retain an Independent Accountant to resolve the disputed items; provided, however, that the determination of such Independent Accountant shall be limited to deciding whether the Allocation Schedule is consistent with the methodology set forth in Schedule 6.05(a) hereof. Upon resolution of the disputed items, the allocation reflected on the Allocation Schedule shall be adjusted to reflect such resolution. If any Tax Return reflecting the Allocation Schedule is required under applicable Law to be filed prior to resolution of any disputed items by the Independent Accountant, such Tax Return shall be prepared and filed in a manner consistent with Seller's proposed Allocation Schedule, and amended if necessary to be consistent with such resolution. Any and all fees, expenses and costs of the Independent Accountant shall be borne by the Party whose proposed determination of all disputed items submitted to the Independent Accountant, in the aggregate, yields the larger discrepancy to that of the Independent Accountant's final determination of such disputed items. Each Party agrees to (i) prepare and timely file all applicable Tax Returns in a manner consistent with the final Allocation Schedule, and (ii) act in accordance with any such Allocation Schedule for all Tax purposes, in each case unless otherwise required by a "determination" within the meaning of Section 1313 of the Code.

(b) Tax Returns.

(i) In the case of any real or personal property Taxes (or other similar ad valorem Taxes or Taxes imposed on a periodic basis) attributable to the Business or the Assigned Assets that are imposed for a period beginning on or before, and ending after the Closing Date (each, a "Straddle Period Tax"), any such Straddle Period Taxes shall be prorated between Purchaser and Seller on a daily basis. The Party required by Law to pay any such Straddle Period Tax (the "Paying Party") shall file the Tax Return related to such Straddle Period Tax within the time period prescribed by Law and shall timely pay such Straddle Period Tax. To the extent any such payment exceeds the obligation of the Paying Party hereunder, the Paying Party shall provide the other party (the "Non-Paying Party") with notice of the amount of such Straddle Period Taxes, and within ten (10) days of receipt of such notice, the Non-Paying Party shall reimburse the Paying Party for the Non-Paying Party's share of such Straddle Period Taxes.

(c) Transfer Taxes. All transfer, documentary, sales, use, stamp, value added, goods and services, excise, registration and other similar Taxes, and all conveyance fees, recording charges and other similar fees and charges (including any penalties and interest) incurred in connection with consummation of the transactions contemplated by this Agreement and the other Transaction Documents (“Transfer Taxes”) shall be paid [***] when due, and the Party required by applicable Law to file any Tax Return in respect of Transfer Taxes shall, at its expense, prepare, or cause to be prepared, and file, or cause to be filed, such Tax Returns and other documentation with respect to such Transfer Taxes, and if required by Law, the other Party hereto shall and shall cause its Affiliates to, join in the execution of any such Tax Returns and other documentation. The Parties hereto agree to reasonably cooperate to minimize any Transfer Taxes to the extent permitted by applicable Law.

(d) Cooperation. To the extent relevant to the Business or the Assigned Assets, each Party shall (i) provide the other with such assistance as may reasonably be required in connection with the preparation of any Tax Return and the conduct of any audit or other examination by any Governmental Entity or in connection with judicial or administrative proceedings relating to any Liability for Taxes, and (ii) retain and provide the other with all records or other information that may be relevant to the preparation of any Tax Returns, or the conduct of any audit, examination or other proceeding relating to Taxes (each, a “Tax Contest”). Such cooperation shall include obtaining and providing appropriate forms, providing the necessary powers of attorney, retaining and providing records and information that are reasonably relevant to any such Tax Return or Tax Contest, and making employees available on a mutually convenient basis to provide additional information and explanation of any materials provided hereunder. Notwithstanding the foregoing, Seller shall not be required to provide any Tax Returns or related workpapers that are not Product Records. Seller shall retain all documents, including prior years’ Tax Returns, supporting work schedules and other records or information with respect to all sales, use and employment and other Tax Returns with respect to the Assigned Assets and the Business, and, absent the receipt by Seller of the relevant Tax clearance certificates, shall not destroy or otherwise dispose of any such records for six (6) years after Closing without the prior written consent of Purchaser.

6.06 Employee Matters.

(a) Prior to the Closing, Purchaser shall make, or shall cause its Affiliates to make, offers of employment to all of the Business Employees, effective as of and contingent upon the Closing. Effective upon the Closing, Seller shall terminate, or shall cause its applicable Affiliates to terminate, the employment of all Business Employees, and effective upon the Closing, Purchaser shall hire all Business Employees who accept offers of employment, and such Business Employees shall be transitioned to Purchaser or its applicable Affiliate. Seller will pay \$[***], in aggregate, to the [***].

(b) Purchaser agrees that during the period commencing at the Closing Date and ending on the first anniversary thereof, each Transferred Employee shall (i) be paid an annual base salary or base wages at a rate not lower than the rate in effect for such employee immediately prior to the Closing, and (ii) be provided with incentive pay opportunities that are no less favorable than those provided to such employees immediately prior to the Closing.

(c) Purchaser agrees that, during the period commencing at the Closing Date and ending on [***], the current and former Transferred Employees who are receiving benefits under the Employee Plans and Employee Benefit Arrangements immediately prior to the Closing (“Affected Employees”) shall thereafter continue to be provided with benefits under employee benefit plans and arrangements that are no less favorable in the aggregate than, in the reasonable discretion of Purchaser, those provided by Purchaser to similarly situated employees from time to time during such period.

(d) As of and following the Closing, Purchaser shall cause service by the Affected Employees with Seller (or applicable predecessors or Affiliates of Seller) to be taken into account for purposes of eligibility to participate, eligibility to commence benefits, vesting and, solely for purposes of severance and vacation benefits, benefit entitlements (except to the extent such treatment would result in duplicative of benefits for the same period of service) under Purchaser's employee benefit plans (other than any defined benefit pension plan) in which such employees participate.

(e) As of and following the Closing, Purchaser shall use commercially reasonable efforts to (i) cause to be waived any pre-existing condition limitations and any waiting-period limitations under welfare benefit plans, policies or practices of Purchaser or its Subsidiaries in which employees of Seller participate, and (ii) cause to be credited any deductibles, co-payment amounts and out-of-pocket expenses incurred by such employees and their beneficiaries and dependents during the portion of the calendar year prior to participation in Purchaser employee benefit plans.

(f) Nothing herein shall require Purchaser to maintain the employment of any Transferred Employee for any period of time. Purchaser may terminate the employment of any Transferred Employee at any time and for any reason. Furthermore, nothing herein shall require Purchaser to continue visa sponsorship for any Transferred Employee. Purchaser's visa sponsorships for any Transferred Employee shall be determined in Purchaser's sole and absolute discretion.

(g) Purchaser and Seller agree that the payroll Tax reporting obligations of any Transferred Employees shall be treated in accordance with the Standard Procedure of Section 4 of Revenue Procedure 2004-53.

6.07 Covenant Not to Compete.

Each of Seller and NantWorks covenants and agrees that none of Seller, its Subsidiaries, Patrick Soon-Shiong or Persons Controlled by Patrick Soon-Shiong shall, alone or jointly with another, directly or indirectly, for or on behalf of any Person: (a) for a period beginning with the Closing Date and ending on the fourth (4th) anniversary of the Closing Date (the "Non-Compete Period"), market, offer to sell, or sell any medical device data system (MDDS) that is competitive with the Business Products, and (b) for a period beginning with the Closing Date and ending on the fourth (4th) anniversary of the Closing Date, hire any of the Business Employees identified in Schedule 6.07(b), or solicit or induce any individual employed by Purchaser who was an employee of Seller or any of its Subsidiaries immediately prior to the Closing to leave such employment (other than through standard publications in trade journals and other general forms of advertising) (collectively, the "Restrictions"); provided, that:

(x) The following shall not constitute a violation or breach of Section 6.07(a): the marketing, offer for sale, or sale of a patient data integration and exchange system for the purposes of enabling clinical decision support, integrated care coordination, care collaboration, data analytics (including the application of artificial intelligence and supercomputing algorithms), drug development support, clinical trial accrual and/or providing patient, provider, payor and pharma knowledge of best practices and care, drug utilization by patients, providers and payers, centralized telehealth care coordination, asset based management and/or workflow management (including a patient data exchange system and a universal patient identifier with a patient health data vault in the cloud) (an example of such knowledge-based services is included in U.S. Patent No. 10,437,959 B2); provided, however, that the foregoing exception shall not apply with respect to any hardware-based MDDS solution prohibited under Section 6.07(a) and, where any such hardware-based MDDS solution is needed by Seller or its customer during the Non-Compete Period, Seller agrees to use commercially reasonable efforts to promote and use Purchaser's hardware product in connection with such activity or sale; and

(y) The Parties and NantWorks agree and acknowledge that the Business Products do not include the provision of knowledge-based services to end users.

Each of Seller and NantWorks agrees that, given the contacts established by Seller throughout the world, the scope of this Section 6.07 is reasonable.

6.08 No Negotiation.

(a) During the period from the date of this Agreement until the earlier of the termination of this Agreement pursuant to Section 9.01 or the Closing Date, Seller shall not, and shall cause its Affiliates not to, directly or indirectly, (i) solicit, initiate, discuss, or knowingly encourage the submission of any inquiry, contact, proposal or offer from any Person relating specifically to the acquisition of the Business, any Business Product (other than the sale or licensing of Business Products in the ordinary course of business consistent with past practice) or the Assigned Assets, whether by merger, purchase of stock, purchase of assets, exclusive license, or otherwise (any such inquiry, contact, proposal or offer, an "Acquisition Proposal"), (ii) negotiate, discuss, or approve any offer or indication of interest with respect to an Acquisition Proposal, enter into any agreement or understanding in respect of an Acquisition Proposal or undertake any transactions similar to the foregoing, or (iii) furnish any information with respect to, or assist or participate in, any effort or attempt by any Person to do or seek to do any of the foregoing in respect of an Acquisition Proposal. Without limiting the generality of the foregoing, Seller acknowledges and agrees that any violation of or the taking of any action inconsistent with any of the restrictions set forth in the preceding sentence by any Representative of Seller acting on behalf of Seller, shall be deemed to constitute a breach of this Section 6.08(a) by Seller.

(b) Seller shall promptly (and in no event later than one (1) Business Day after receipt of any Acquisition Proposal, any inquiry or indication of interest that could lead to an Acquisition Proposal or any request for nonpublic information in respect of an Acquisition Proposal) notify Purchaser orally and in writing of any Acquisition Proposal or any inquiry or indication of interest that could lead to an Acquisition Proposal (including the identity of the Person making or submitting such Acquisition Proposal, inquiry or indication of interest, and the material terms thereof) that is made or submitted by any Person prior to the Closing. Seller shall keep Purchaser reasonably informed with respect to the status of any such Acquisition Proposal, inquiry or indication of interest, and any material modification or proposed material modification thereto.

(c) Seller shall, and shall cause each of its Representatives to, immediately cease and cause to be terminated any existing discussions with any Person (other than Purchaser) that relate to any Acquisition Proposal.

6.09 Notice of Certain Events.

(a) From the date hereof until the earlier to occur of the Closing or the termination of this Agreement pursuant to Section 9.01, Seller shall promptly notify Purchaser in writing of:

(i) any fact, circumstance, event or action the existence, occurrence or taking of which (A) has had, or would reasonably be expected to have, individually or in the aggregate, a Seller Material Adverse Effect, (B) has resulted in, or would reasonably be expected to result in, any representation or warranty made by Seller hereunder not being true and correct or (C) has resulted in, or would reasonably be expected to result in, the failure of any of the conditions set forth in Section 7.01 to be satisfied; and

(ii) any Actions commenced or, to Seller's knowledge, threatened against, relating to or involving or otherwise affecting the Business, the Assigned Assets or the Business Products that, if pending on the date of this Agreement, would have been required to have been disclosed pursuant to Section 4.11.

(b) Notwithstanding the foregoing, the failure by Seller to promptly notify Purchaser pursuant to Section 6.09(a) shall not be treated as a breach of covenant for the purposes of Section 7.01 unless the failure by Seller to provide such notice results in a material prejudice to Purchaser.

(c) Purchaser's receipt of information pursuant to this Section 6.09 shall not operate as a waiver or otherwise affect any representation, warranty or agreement given or made by Seller in this Agreement (including Section 8.02) and shall not be deemed to amend or supplement the Disclosure Schedule.

6.10 Further Assurances.

From time to time, as and when requested by any Party, the Parties shall execute and deliver, or cause to be executed and delivered, all such documents and instruments and shall take, or cause to be taken, all such further or other actions as a Party may reasonably deem necessary or desirable in order to carry out the intent and accomplish the purposes of this Agreement and the other Transaction Documents and, subject to the conditions of this Agreement and the other Transaction Documents, the consummation of the transactions contemplated hereunder and thereunder.

6.11 R&W Policy.

Unless otherwise required by applicable Law, from and after the date of this Agreement, Purchaser will not (and will cause its Affiliates and its and their respective Representatives not to) amend, modify, supplement, terminate, cancel or waive any provision of the R&W Policy in a manner adverse to Seller without Seller's prior written consent.

ARTICLE VII

CONDITIONS TO CLOSING

7.01 Conditions of Purchaser's Obligation.

Purchaser's obligation to effect this Agreement and the other Transaction Documents is subject to the satisfaction as of the Closing of the following conditions precedent (any of which conditions precedent may be waived by Purchaser):

(a) Representations and Warranties. Each representation and warranty set forth in Article IV (other than Fundamental Representations) shall be true and correct in all respects (without giving effect to any qualifications as to materiality or "Seller Material Adverse Effect") as of the date hereof and as of the Closing Date with the same force and effect as if made as of the Closing Date (except to the extent such representations and warranties expressly relate to another date, in which case as of such other date), except for such failures of such representations and warranties to be true and correct as would not, individually or in the aggregate, have a Seller Material Adverse Effect. Each of the Fundamental Representations set forth in Article IV shall be true and correct in all respects as if such representations or warranties were made on and as of the date of this Agreement and as of the Closing Date, other than those Fundamental Representations set forth in Article IV that expressly relate to another date (in which case such representations or warranties shall have been true and correct as of such other date).

(b) Covenants. Seller shall have performed and observed in all material respects each covenant and other obligation required to be performed or observed by Seller pursuant to the Transaction Documents at or prior to the Closing.

(c) Proceedings. No Action shall be pending before any Governmental Entity the result of which would prevent or prohibit the consummation of this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby, or cause this Agreement, the other Transaction Documents, or any such transactions contemplated hereby or thereby to be rescinded following consummation, and no Order having any such effect shall exist.

(d) No Seller Material Adverse Effect. No Seller Material Adverse Effect shall have occurred from the date of this Agreement.

(e) Closing Deliverables of Seller. Seller shall have delivered, or cause to be delivered, to Purchaser the following:

(i) evidence reasonably satisfactory to Purchaser that Seller has received the consents, permits, authorizations, exemptions and approvals listed in Schedule 7.01(e);

(ii) a certificate of a duly authorized officer of Seller, dated as of the Closing Date, expressly certifying that each of the conditions contained in Section 7.01(a), Section 7.01(b) and Section 7.01(d) are satisfied in all respects;

(iii) a certificate of a duly authorized officer of Seller, dated as of the Closing Date, expressly certifying the resolutions duly adopted by the board of directors of Seller authorizing the execution, delivery and performance by Seller of each Transaction Document to which Seller is a party and the consummation of the transactions contemplated thereby;

(iv) a statement executed by a duly authorized officer of Seller, meeting the requirements of Section 1.1445-2(b)(2) of the Treasury Regulations, to the effect that Seller is not a “foreign person” as defined under such Treasury Regulations; and

(v) all Transaction Documents to which Seller is a party duly executed by Seller (without duplication of the other clauses of this Section 7.01(e)).

(f) Representations and Warranties Insurance Policy. The R&W Policy shall have been incepted at the date of this Agreement and shall remain in full force and effect as of the Closing Date.

7.02 Conditions of Seller’s Obligation.

Seller’s obligation to effect this Agreement and the other Transaction Documents is subject to the satisfaction as of the Closing of the following conditions precedent (any of which conditions precedent may be waived by Seller):

(a) Representations and Warranties. The representations and warranties of Purchaser contained in Article V (other than the representations and warranties made by Purchaser and set forth in Sections 5.01 - 5.04) shall each be true and correct in all respects (without giving effect to any qualifications as to materiality) as of the date hereof and as of the Closing Date with the same force and effect as if made as of the Closing Date (except to the extent such representations and warranties expressly relate to another date, in which case as of such other date), except for such failures of such representations and warranties to be true and correct as do not and would not, individually or in the aggregate, have a material adverse effect on the ability of Purchaser to consummate the transactions contemplated by this Agreement and the other Transaction Documents. Each representations and warranties made by Purchaser and set forth in Sections 5.01 - 5.04 shall be true and correct in all respects as if such representations or warranties were made on and as of the date of this Agreement and as of the Closing Date, other than those representations and warranties made by Purchaser and set forth in Sections 5.01 - 5.04 that expressly relate to another date (in which case such representations or warranties shall have been true and correct as of such other date).

(b) Covenants. Purchaser shall have performed and observed in all material respects each covenant and other obligation required to be performed or observed by it pursuant to the Transaction Documents at or prior to the Closing.

(c) Proceedings. No Action shall be pending before any Governmental Entity the result of which would prevent or prohibit the consummation of this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby, or cause this Agreement, the other Transaction Documents, or any such transactions contemplated hereby or thereby to be rescinded following consummation, and no Order having any such effect shall exist.

(d) Payment of Consideration. Purchaser shall have delivered, or caused to be delivered to Seller and Escrow Agent the wire transfers required to be made pursuant to Section 3.02.

(e) Closing Deliverables of Purchaser. Purchaser shall have delivered, or caused to be delivered, to Seller all Transaction Documents to which Purchaser is a party duly executed by Purchaser.

(f) Representations and Warranties Insurance Policy. The R&W Policy shall have been incepted at the date of this Agreement and shall remain in full force and effect as of the Closing Date.

ARTICLE VIII
INDEMNIFICATION

8.01 Survival of Representations, Warranties, Covenants, Agreements and Other Provisions.

(a) The representations and warranties of Seller contained in Article IV and in any closing certificate in respect thereof, and all claims with respect thereto, shall survive the Closing for a period of thirteen (13) months after the Closing Date; provided, that, the representations and warranties contained in Section 4.01(Organization; Power), Section 4.02 (Authorization; No Breach; Valid and Binding Agreement) and Section 4.20 (No Brokers) (collectively, the “Fundamental Representations”) and the representations and warranties in Section 4.04 (Taxes), and all claims with respect thereto, shall survive until, and terminate on, the sixtieth (60th) day after the expiration of the applicable statute of limitations; provided, further, that, notwithstanding any provision of this Agreement, the date or dates specified in the R&W Policy with respect to the time periods, including the time periods within which to make claims and/or regarding which any Purchaser Indemnified Persons may obtain recoveries under such policy shall govern claims and/or recoveries under such policy. Each of the covenants and agreements contained in this Agreement requiring performance by Seller after the Closing, and all claims with respect thereto, shall survive until, and terminate on, the thirtieth (30th) day after the expiration of the applicable statute of limitations. Each of the covenants and agreements contained in this Agreement requiring performance by Seller at or prior to the Closing, and all claims with respect thereto, shall terminate upon the Closing.

(b) The representations and warranties of Purchaser contained in Article V and in any closing certificate in respect thereof, and all claims with respect thereto, shall survive the Closing for a period of thirteen (13) months after the Closing Date; provided, that, the representations and warranties contained in Sections 5.01 (Organization and Power), Section 5.02 (Authorization; No Breach; Valid and Binding Agreement), Section 5.03 (Governmental Consents), and Section 5.04 (No Brokers), and all claims with respect thereto, shall survive until, and terminate on, the sixtieth (60th) day after the expiration of the applicable statute of limitations. Each of the covenants and agreements contained in this Agreement requiring performance by Purchaser after the Closing, and all claims with respect thereto, shall survive until, and terminate on, the thirtieth (30th) day after the expiration of the applicable statute of limitations. Each of the covenants and agreements contained in this Agreement requiring performance by Purchaser at or prior to the Closing, and all claims with respect thereto, shall terminate upon the Closing.

(c) All covenants and other agreements contained in the other Transaction Documents shall survive the Closing in accordance with the terms thereunder.

8.02 Indemnification by Seller.

Subject to the limitations set forth in this Article VIII, from and after the Closing, Seller shall indemnify Purchaser and its Affiliates and its and their respective officers, directors, managers, partners, agents, equityholders, members, stockholders, attorneys and other Representatives (collectively, "Purchaser Indemnified Persons") and hold them harmless against any Losses suffered or incurred by Purchaser Indemnified Persons, or any of them, arising or resulting from or based upon (a) any inaccuracy in or breach of any representation or warranty made by Seller in Article IV and in any closing certificate in respect thereof, (b) any non-fulfillment or breach by Seller of any covenant or agreement contained in this Agreement, or in the other Transaction Documents to which Seller is a party, and required to be performed by Seller after the Closing, (c) any Excluded Liability, and/or (d) any Excluded Asset, in the case of each of clause (a) through (d), including fees or other costs related to the defense of any proceeding that is terminated by settlement, judgment, order or conviction, or upon a plea of nolo contendere or its equivalent. No claim for indemnification hereunder may be made after the expiration of the applicable survival period specified in Section 8.01(a); provided, that, if and to the extent Purchaser has properly delivered prior to the expiration of the applicable survival period an Indemnification Claim Notice with respect to any claim, such claim shall survive until finally resolved or judicially determined.

8.03 Indemnification by Purchaser.

Subject to the limitations set forth in this Article VIII, from and after the Closing, Purchaser shall indemnify Seller and its Affiliates and its and their respective officers, directors, managers, partners, agents, equityholders, members, stockholders, attorneys and other Representatives (collectively, "Seller Indemnified Persons") and hold them harmless against any Losses suffered or incurred by Seller Indemnified Persons, or any of them, arising or resulting from or based upon (a) any inaccuracy in or breach of any representation or warranty made by Purchaser in Article V and in any closing certificate in respect thereof, (b) any non-fulfillment or breach by Purchaser of any covenant or agreement contained in this Agreement, or in the other Transaction Documents to which Purchaser is a party, and required to be performed by Purchaser after the Closing, (c) any Assigned Assets (from and after the Closing) and/or (d) any Assumed Liability, in the case of each of clause (a) through (d), including fees or other costs related to the defense of any proceeding that is terminated by settlement, judgment, order or conviction, or upon a plea of nolo contendere or its equivalent. No claim for indemnification hereunder may be made after the expiration of the applicable survival period specified in Section 8.01(b); provided, that if and to the extent Seller has properly delivered prior to the expiration of the applicable survival period an Indemnification Claim Notice with respect to any claim, such claim shall survive until finally resolved or judicially determined.

8.04 Limitations on Indemnification.

The rights of Purchaser Indemnified Persons and Seller Indemnified Persons to indemnification pursuant to the provisions of this Article VIII are subject to the following limitations:

(a) No Purchaser Indemnified Person will be entitled to indemnification under Section 8.02(a) for any individual claim if the indemnifiable Losses relating to such claim do not exceed [***], other than in respect of any Losses arising or resulting from or based upon any inaccuracy in or breach of any Fundamental Representations or the representations and warranties in Section 4.04 (Taxes), or fraud or willful breach committed by Seller or of which Seller had actual knowledge.

(b) No Seller Indemnified Person will be entitled to indemnification under Section 8.03(a) for any individual claim if the indemnifiable Losses relating to such claim do not exceed [***], other than in respect of any Losses arising or resulting from or based upon any inaccuracy in or breach of any of the representations and warranties in Sections 5.01-5.04, or fraud or willful breach either committed by Purchaser or of which Purchaser had actual knowledge.

(c) No Indemnified Party will be entitled to indemnification under Section 8.02(a) (in the case of the Purchaser Indemnified Persons) or Section 8.03(a) (in the case of Seller Indemnified Persons), other than in respect of any Losses arising or resulting from or based upon any inaccuracy in or breach of any Fundamental Representations or the representations and warranties in Section 4.04 (Taxes) (in the case of the Purchaser Indemnified Persons) or any of Sections 5.01, 5.02, 5.03 or 5.04 (in the case of the Seller Indemnified Persons), or fraud either committed by Seller or Purchaser, as applicable, or of which Seller or Purchaser, as applicable, had actual knowledge, unless and until the aggregate amount of all Losses described in Section 8.02(a) or Section 8.03(a) (as applicable, and subject to such exclusions) exceeds [***] (the “Deductible”).

(d) The Purchaser Indemnified Persons’ sole and exclusive sources of recovery for indemnification claims under Section 8.02(a), other than Losses arising or resulting from or based upon any inaccuracy in or breach of any Fundamental Representations or the representations and warranties in Section 4.04 (Taxes), or fraud or willful breach either committed by Seller or of which Seller had actual knowledge (such Losses, subject to such exclusions, “General R&W Losses”), shall be recourse against (i) the cash held in the Escrow Fund and (ii) the R&W Policy; it being understood and agreed that the Purchaser Indemnified Persons may recover General R&W Losses only after the Purchaser Indemnified Persons have suffered, incurred or paid for any such indemnifiable Losses subject to indemnification under this Article VIII in an aggregate amount equal to 50% of the retention/deductible under the R&W Policy, and that the Escrow Fund represents the remaining 50% of the retention/deductible under the R&W Policy for which Seller is responsible. The Purchaser Indemnified Persons shall not seek recourse against Seller for any General R&W Losses, except to the extent of the funds available as the Escrow Fund.

(e) With respect to indemnification claims pursuant to Section 8.02(a) other than claims relating to General R&W Losses, the Purchaser Indemnified Persons shall be entitled to bring such claims directly against Seller and shall be permitted to recover Losses directly from Seller if and only to the extent that (i) the Escrow Fund is no longer available and (ii) such claims have not been satisfied through the R&W Policy; it being understood and agreed that the Purchaser Indemnified Persons shall look first to the Escrow Fund and, unless the subject matter of a claim is expressly excluded from coverage pursuant to and as set forth in the R&W Policy, then to the R&W Policy before bringing any claim directly against Seller; it being further understood and agreed that the Purchaser Indemnified Persons may recover such Losses only after the Purchaser Indemnified Persons have suffered, incurred or paid for any such indemnifiable Losses subject

to indemnification under this Article VIII in an aggregate amount equal to 50% of the retention/deductible under the R&W Policy, and that the Escrow Fund represents the remaining 50% of the retention/deductible under the R&W Policy for which Seller is responsible.

(f) In no event shall the aggregate Liability of Seller for any and all Losses suffered, incurred or paid by the Purchaser Indemnified Persons exceed the Purchase Price, unless an indemnity claim is being made in respect of fraud and Seller either committed or had actual knowledge of such fraud (in which event there shall be no limitation on the Liability of Seller hereunder except if and to the extent imposed under applicable Law).

(g) The amount of any Losses for which indemnification is provided under this Article VIII shall be net of any amounts actually recovered by the Indemnified Party from any third party (including insurance proceeds) as a result of the facts or circumstances giving rise to the Losses.

(h) [***]

(i) In connection with an Indemnified Party's rights under this Article VIII, [***] as to any matter under, relating to or arising out of this Agreement or the other Transaction Documents or the transactions contemplated hereby or thereby; provided, however, that the foregoing in this Section 8.04(i) shall not apply in connection with [***].

(j) Any Liability for Losses shall be determined without duplication of recovery by reason that the set of facts giving rise to such Liability constitutes a breach of more than one representation, warranty, covenant or undertaking, or one or more rights to indemnification.

(k) The indemnities provided under this Article VIII are intended only for Seller Indemnified Persons and Purchaser Indemnified Persons, as applicable, and are in no way intended to, nor shall they, constitute an agreement for the benefit of, or be enforceable by, any other Person.

8.05 Indemnification Procedures.

(a) Any Indemnified Party shall promptly notify the indemnifying party (an "Indemnifying Party") in writing of claims for indemnification (each, an "Indemnification Claim Notice"), providing in reasonable detail (i) a description and, if known, the estimated amount of any Losses incurred or reasonably expected to be incurred by the Indemnified Party, (ii) a reasonable explanation of the basis for the Indemnification Claim Notice to the extent of the facts then known by the Indemnified Party, and (iii) a demand for payment of such Losses; provided, that failure to give such notification promptly shall not affect the indemnification provided hereunder except to the extent, and only to the extent that, the Indemnifying Party shall have been actually prejudiced as a result of such failure.

(b) If an Indemnifying Party does not object in writing within the thirty (30)-day period after receipt of an Indemnification Claim Notice by delivery of a written notice of objection containing a reasonably detailed description of the facts supporting an objection to the applicable indemnification claim (the "Indemnification Claim Objection Notice"), such failure to so object shall be an irrevocable acknowledgment by the Indemnifying Party that the Indemnified Party is entitled to the full amount of the claim for Losses set forth in such Indemnification Claim Notice.

(c) If an Indemnifying Party objects in writing within the thirty (30)-day period after receipt of an Indemnification Claim Notice by delivery of an Indemnification Claim Objection Notice, such Indemnifying Party and Indemnified Party shall attempt in good faith to agree upon the rights of the respective

parties with respect to each of such claims. If the Indemnifying Party and Indemnified Party should so agree, a memorandum setting forth such agreement shall be prepared and signed by both parties. If no such agreement can be reached after good faith negotiation within thirty (30) days after the receipt of an Indemnification Claim Objection Notice, the claim shall be resolved pursuant to Section 11.14.

8.06 Third Party Claims.

(a) In the event that any Indemnified Party desires to make a claim against an Indemnifying Party (which term shall be deemed to include all Indemnifying Parties if more than one) in connection with any third party Action for which it may seek indemnification hereunder (a "Third Party Claim"), the Indemnified Party shall promptly notify the Indemnifying Party of such Third Party Claim and of its claims of indemnification with respect thereto; provided, that failure to promptly give such notice shall not relieve the Indemnifying Party of its indemnification obligations under this Article VIII, except to the extent, if any, that the Indemnifying Party has actually been materially prejudiced thereby.

(b) The Indemnifying Party shall have the right to assume the defense of the Third Party Claim with counsel of its choice by written notice to the Indemnified Party within twenty (20) calendar days after the Indemnifying Party has received notice of the Third Party Claim; provided, that, if the Indemnifying Party is Seller, such Indemnifying Party shall not have the right to assume the defense of any such Third Party Claim that (i) is asserted directly by or on behalf of a Person that is a supplier or customer of the Business, (ii) seeks an injunction or other equitable relief against the Indemnified Party or (iii) concerns Intellectual Property Rights. Thereafter, the Indemnified Party shall deliver to the Indemnifying Party, within five (5) calendar days after the Indemnified Party's receipt thereof, copies of all notices and documents (including court papers) received by the Indemnified Party relating to the Third Party Claim. If the Indemnifying Party so elects to assume the defense of a Third Party Claim, the Indemnifying Party shall not be liable to the Indemnified Party for legal fees and expenses subsequently incurred by the Indemnified Party in connection with the defense thereof. If the Indemnifying Party assumes such defense, the Indemnified Party shall have the right, at its own expense, to participate in the defense thereof and, at its own expense, to employ counsel, separate from the counsel employed by the Indemnifying Party, it being understood that the Indemnifying Party shall control such defense; provided, that, if in the reasonable opinion of counsel to the Indemnified Party, (A) there are legal defenses available to an Indemnified Party that are different from or additional to those available to the Indemnifying Party; or (B) there exists a conflict of interest between the Indemnifying Party and the Indemnified Party that cannot be waived, the Indemnifying Party shall be liable for the reasonable fees and expenses of counsel to the Indemnified Party in each jurisdiction for which the Indemnified Party determines counsel is required. If the Indemnifying Party chooses to defend or prosecute any Third Party Claim, all the Parties hereto shall cooperate in the defense or prosecution thereof. Such cooperation shall include the retention and (upon the Indemnifying Party's request) the provision to the Indemnifying Party of records and information which are reasonably relevant to such Third Party Claim, and making officers, directors, employees and agents of the Indemnified Party available on a mutually convenient basis to provide information, testimony at depositions, hearings or trials, and such other assistance as may be reasonably requested by the Indemnifying Party. In the event that the Indemnifying Party fails to assume the defense of the Third Party Claim in accordance with this Section 8.06(b), then the Indemnified Party shall have the right to defend, at the sole cost and expense of the Indemnifying Party, the Third Party Claim.

(c) Whether or not the Indemnifying Party shall have assumed the defense of a Third Party Claim, the Indemnified Party shall not admit any Liability with respect to, or settle, compromise or discharge, such Third Party Claim without the Indemnifying Party's prior written consent (which consent shall not be unreasonably withheld, delayed or conditioned) unless such Liabilities are satisfied exclusively through the R&W Policy and the Indemnifying Party is not required to admit any Liability. The Indemnifying Party shall not admit any Liability with respect to, or settle, compromise or discharge any Third Party Claim without the Indemnified Party's prior written consent (which consent shall not be unreasonably withheld, delayed or conditioned); provided, that the Indemnified Party shall agree to any settlement, compromise or discharge of a Third Party Claim that the Indemnifying Party may recommend if and only if (i) the Indemnified Party is not required to admit any Liability; (ii) the Indemnified Party shall have no Liability with respect to such Third Party Claim and shall be released in full in connection with such Third Party Claim, and (iii) such settlement, compromise or discharge of such Third Party Claim would not impose any injunction or other equitable remedies on the Indemnified Party or its business. No Indemnified Party will be required to provide an Indemnification Claim Notice to an Indemnifying Party, permit an Indemnifying Party to assume the defense of or obtain an Indemnifying Party's consent in connection with the settlement of any claim for indemnification by an Indemnified Party, so long as (i) the Indemnifying Party is not required to admit any Liability and (ii) if and only if the Indemnified Party is a Purchaser Indemnified Person, such claim is to be satisfied exclusively through a claim made by a Purchaser Indemnified Person under the R&W Policy. To the extent of any conflict between this Section 8.06 and Section 6.05(d), Section 6.05(d) shall control.

8.07 Indemnification Payments.

Any amount payable by Purchaser (in the case of a claim for indemnification by a Seller Indemnified Person) shall be payable by wire transfer of immediately available funds to an account or accounts designated by the Seller Indemnified Person within five (5) Business Days following the final determination of the claim for indemnification giving rise to such payment obligation. Any amount payable by Seller (in the case of a claim for indemnification by a Purchaser Indemnified Person) shall be satisfied in accordance with Section 8.04(e) by wire transfer of immediately available funds to an account or accounts designated by the Purchaser Indemnified Persons within five (5) Business Days following the final determination of the claim for indemnification giving rise to such payment obligation.

8.08 Remedies.

Except in the case of fraud or willful breach or as provided in Section 11.16, the indemnification provisions described in this Article VIII provide the sole and exclusive remedy following the Closing as to all Losses any Indemnified Party may incur, suffer or sustain relating to or arising from this Agreement or the other Transaction Documents, and each Party hereby waives, to the full extent they may do so, any other rights or remedies that may arise under any applicable statute, rule or regulation; provided that this Section 8.08 shall not modify or limit any rights Purchaser Indemnified Persons may have under the R&W Policy.

8.09 Tax Treatment.

Any payment under this Article VIII shall be treated by the Parties for income Tax purposes as a Purchase Price adjustment.

ARTICLE IX
TERMINATION

9.01 Termination.

This Agreement may be terminated:

(a) at any time prior to the Closing by mutual written agreement of Purchaser and Seller

(b) by either Purchaser or Seller, if (i) this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby shall violate any Order that shall have become final and nonappealable, or (ii) there shall be a Law which makes this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby illegal or otherwise prohibited;

(c) by either Purchaser or Seller, if a material breach of any provision of this Agreement has been committed (in the case of termination by Purchaser, such a material breach by Seller, and in the case of termination by Seller, such a material breach by Purchaser), such material breach results in a closing condition becoming incapable of being satisfied and such material breach has not been waived in writing by the non-breaching Party; provided, that a material breach described above, to the extent that such material breach is curable, shall not give rise to a right to terminate this Agreement under this Section 9.01(c) unless and until (i) the non-breaching Party delivers a written notice to the breaching Party, notifying the breaching Party of such material breach (including a reasonable description thereof), and (ii) the breaching Party fails to cure such material breach within fifteen (15) days after delivery of such written notice; and provided, further, that the Party seeking termination under this Section 9.01(c) is not in material breach of any material provision of this Agreement; or

(d) by either Purchaser or Seller, if (i) the Closing has not occurred on or prior to June 30, 2020 for any reason; and (ii) the terminating Party is not, on the date of termination, in material breach of any material provision of this Agreement.

9.02 Effect of Termination.

In the event of termination of this Agreement pursuant to Section 9.01 herein all obligations of the Parties under this Agreement shall terminate, except that the obligations of the Parties in this Section 9.02 and Section 6.04 (Public Announcements; Confidentiality) herein and Article XI herein shall survive; and provided, further, that nothing in Section 9.01 or this Section 9.02 shall be deemed to release any Party from liability for any pre-termination breach by such Party of any provision of this Agreement occurring or arising prior to such termination. In the event of termination of this Agreement, and regardless of the reason for the termination, the Confidentiality Agreement shall continue in full force and effect in accordance with its terms.

ARTICLE X

DEFINITIONS

10.01 Definitions.

For purposes hereof, the following terms when used herein shall have the respective meanings set forth below:

“Acquisition Proposal” has the meaning set forth in Section 6.08(a).

“Acquisition Sub” has the meaning set forth in the Preamble hereto.

“Action” means any action, suit, litigation, arbitration, investigation, claim, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding) at law or in equity or other similar dispute (whether federal, state, local or foreign).

“Affiliate” of any particular Person means any other Person controlling, controlled by or under common control with such particular Person, where “control” means the possession, directly or indirectly, of the power to direct the management and policies of a Person whether through the ownership of voting securities, contract or otherwise.

“Agreed Accounting Principles” means GAAP principles consistently applied, with such exceptions as are set forth on Schedule 2.02.

“Agreed Adjustments” has the meaning set forth in Section 2.03(c).

“Agreement” has the meaning set forth in the Preamble hereto.

“Allocation Schedule” has the meaning set forth in Section 6.05(a).

“Allscripts” means Allscripts Healthcare, LLC and its Affiliates.

“Allscripts Resale Contract” means that certain Amended and Restated Mutual License and Reseller Agreement by and between Allscripts and Seller, as amended; provided, that, any amendment, restatement or modification of such agreement (including the applicable form of end-user license agreement attached thereto) entered into after the date hereof that materially increases the obligations or liabilities under the Allscripts Resale Contract to be performed by Purchaser or for which Purchaser will be responsible following the Closing pursuant to Section 3.03(b) may not be entered into without Purchaser’s prior written consent (such consent not to be unreasonably withheld, delayed or conditioned).

“Allscripts Shared Contracts” means (a) the Allscripts Resale Contract, (b) all end-user license agreements identified as Transferred Contracts on Schedule 1.02(a)(iii), as in effect on the date hereof, that were entered into by reason of the resale of products and services of the Business by Allscripts pursuant to the Allscripts Resale Contract, (c) all end-user license agreements entered into between the date of this Agreement and the Closing Date, inclusive, by reason of the resale of products and services of the Business by Allscripts pursuant to the Allscripts Resale Contract, and (d) all end-user license agreements entered into during the [***] period following the Closing Date by reason of the resale of products and services of the Business by Allscripts pursuant to the Allscripts Resale Contract.

“Assigned Assets” has the meaning set forth in Section 1.02(a).

“Assigned Copyrights” means all Copyrights, copyright registrations, and applications therefor owned by Seller as of the Closing and primarily related to the Business or the Business Products (including all Copyrights in or to the Software in the Business Products), and all other copyright rights corresponding thereto, including those registered copyrights as set forth on Schedule 1.02(a)(ii)(C).

“Assigned Intellectual Property” means (a) the Assigned Patents, (b) the Assigned Trademarks, (c) the Assigned Copyrights, and (d) the Assigned Know-How.

“Assigned Know-How” means all medical, technical, regulatory, and other information, including all know-how, Trade Secrets, test data, and marketing, pricing, distribution, and sales data owned by Seller as of the Closing Date, in each case, that is primarily related to the Business or the Business Products.

“Assigned Patents” means the Patents set forth on Schedule 1.02(a)(ii)(A).

“Assigned Trademarks” means all Trademarks, whether registered or unregistered, all statutory and common law rights therein and all applications and registrations therefor, and all goodwill associated therewith owned by Seller as of the Closing and primarily related to the Business or the Business Products, including the Trademarks set forth on Schedule 1.02(a)(ii)(B).

“Assignment and Bill of Sale and Assumption Agreement” means the Assignment and Bill of Sale and Assumption Agreement by and between Seller and Acquisition Sub, dated as of the Closing Date, in substantially the form attached hereto as Exhibit B.

“Assignment of Patents” means the Assignment of Patents by and between Seller and Acquisition Sub, dated as of the Closing Date, in substantially the form attached hereto as Exhibit C.

“Assignment of Trademarks” means the Assignment of Trademarks by and between Seller and Acquisition Sub, dated as of the Closing Date, in substantially the form attached hereto as Exhibit D.

“Assumed Liabilities” means, collectively, (a) all Liabilities of Seller under any Transferred Contract; (b) all Liabilities arising from any activities with respect to the Assigned Assets, the Business Products or the Business, including all such Liabilities arising from research, development, testing and/or exploitation of the Assigned Assets and/or the Business Products; and (c) Transfer Taxes and Straddle Period Taxes allocable to Purchaser pursuant to this Agreement; in each case, other than Excluded Liabilities.

“Business” means Seller’s “Connected Care” business, comprised of the development, manufacturing, design, marketing, sale and support of (a) licenses for use of a Business Product comprised of Software and (b) units of Business Products comprised of hardware, as well as the offer and provision of services and support relating thereto.

“Business Day” means a day which is neither a Saturday or Sunday, nor any other day on which banking institutions in Los Angeles County, California are authorized or obligated by Law to close.

“Business Employee” means the Employees set forth on Schedule 6.06.

“Business Product” means each of (i) those certain products (including all Software and hardware thereof) known as DeviceConX, VitalsConX, HBox and Shuttle Cable, including all past, present, and future contemplated versions thereof that are in a bona fide stage of development by Seller as of the date of this Agreement, and (ii) all updates, upgrades, enhancements, improvements thereof, and all new versions and replacements thereof, in each case for the purposes of this clause (ii), that have been released by Seller or that are in a bona fide stage of development by Seller as of the Closing Date. For the avoidance of doubt, that certain product (including all Software and hardware thereof) known as Vitality GlowCap shall not be deemed to be a Business Product or otherwise a part of the Business or the Acquired Assets for all purposes of the transactions contemplated by this Agreement.

“Closing” has the meaning set forth in Section 3.01.

“Closing Date” has the meaning set forth in Section 3.01.

“Closing Working Capital” means an amount, which may be positive or negative, equal to the Closing Working Capital Assets less the Closing Working Capital Liabilities.

“Closing Working Capital Assets” means, as of the close of business on the Closing Date, the sum of the current assets of Seller included in the Assigned Assets, as determined in accordance with the Agreed Accounting Principles and within the categories set forth in Schedule A.

“Closing Working Capital Liabilities” means, as of the close of business on the Closing Date, the sum of the liabilities of Seller included in the Assumed Liabilities, as determined in accordance with the Agreed Accounting Principles and within the categories set forth in Schedule A.

“Code” means the U.S. Internal Revenue Code of 1986, as amended.

“Confidentiality Agreement” means the Confidentiality and Non-Disclosure Agreement by and between Parent and Seller, dated as of January 29, 2019.

“Consent” means, with respect to a Contract, any consent or approval of any Person other than any Party to this Agreement which, in accordance with the terms of such Contract, is required to be obtained for the assignment thereof to Purchaser.

“Consequential Damages” means punitive damages, damages for reputational harm, lost profits, lost business opportunities or diminution in value and other special or exemplary damages or Liabilities.

“Contaminants” has the meaning set forth in Section 4.06(i).

“Contract” means any written and legally binding agreement, contract, lease, loan agreement, security agreement, license, or other similar instrument to which the party in question is a party or by which a party or its assets is bound.

“Control” when used with reference to any Person means the power to direct the management or policies of such Person, directly or indirectly, by or through stock or other equity ownership, agency or otherwise, or pursuant to or in connection with an agreement, arrangement or understanding (written or oral); and the terms “Controlling” and “Controlled” shall have meanings correlative to the foregoing.

“Copyrights” means all works of authorship (including Software) and all rights of any kind or nature therein, including copyrights, moral rights, and mask work rights, whether registered or unregistered and whether arising under the Laws of the United States or any other jurisdiction anywhere in the world, and all registrations and applications for registration with respect thereto.

“Deductible” has the meaning set forth in Section 8.04(c).

“Disclosure Schedule” means the disclosure schedule constituting exceptions to and applicable disclosures associated with Seller’s representations and warranties set forth in Article IV hereof, prepared and delivered by Seller concurrently with the execution of this Agreement.

“Employee” means each and every person providing services to Seller under a contract of employment.

“Employee Benefit Arrangements” means any pension, supplemental pension, deferred compensation, option or other equity-based program, accidental death and dismemberment, life and health insurance and benefits (including medical, dental, vision and hospitalization), short- and long-term disability, fringe benefit, cafeteria plan, flexible spending account programs, severance, employment, change of control, bonus and other arrangements, plans, contracts, policies or practices providing compensation or benefits to any employee or director of Seller, and with respect to which Seller, or any of its Affiliates, has or may have any Liability, other than Employee Plans.

“Employee Plans” means each and all “employee benefit plans,” as defined in Section 3(3) of ERISA, maintained or contributed to by Seller or any of its Affiliates or in which Seller or any of its Affiliates participates or participated for the benefit of employees of Seller or any of its Affiliates, and with respect to which Seller or any of its Affiliates has or may have any Liability.

“Enforceability Exceptions” has the meaning set forth in Section 4.02(c).

“Environmental Claim” means any claim, action, cause of action, suit, proceeding or written notice alleging liability (including liability for investigatory costs, cleanup costs, governmental response costs, natural resources damages, property damages, personal injuries or penalties) arising out of, based on or resulting from (a) the presence, Release or threatened Release of any Hazardous Materials at any Transferred Real Property or (b) any violation of or liability under any Environmental Law.

“Environmental Law” means applicable federal, state, local or foreign Law relating to pollution or protection of the environment or natural resources.

“Environmental Permits” has the meaning set forth in Section 4.23.

“ERISA” means the Employee Retirement Income Security Act of 1974, as amended.

“Escrow Agent” has the meaning set forth in Section 3.02(b).

“Escrow Agreement” has the meaning set forth in Section 3.02(b).

“Escrow Fund” has the meaning set forth in Section 3.02(b).

“Escrow Period” has the meaning set forth in Section 3.02(b).

“Estimated Working Capital” means the Closing Working Capital, but determined on an estimated basis by Seller in good faith and as reflected in the certificate referred to in Section 2.02.

“Evaluation Material” means any information, documents or materials regarding Seller, the Business, the Business Products, the Assigned Assets, or the Assumed Liabilities furnished or made available to Purchaser and/or its Representatives in the online data room, any management presentations attended by Purchaser or in any other reasonable form for dissemination of such information, documents or materials in expectation of, or in connection with, the transactions contemplated by this Agreement and the other Transaction Documents.

“Excluded Assets” has the meaning set forth in Section 1.02(b).

“Excluded Liabilities” means the following Liabilities of Seller: [***]

“Existing Product” means each of those certain products (including all Software and hardware thereof) known as DeviceConX, VitalsConX, HBox and Shuttle Cable offered or sold by Seller as of, or offered or sold by Seller during the [***] period preceding, the Closing Date.

“FCPA” means the U.S. Foreign Corrupt Practices Act of 1977.

“Financial Statements” means the unaudited pro forma balance sheet and statement of operations for the Business as of and for the fiscal year ended December 31, 2018 and as of, and for the nine (9) month period ended September 30, 2019.

“Fundamental Representations” has the meaning set forth in Section 8.01(a).

“GAAP” means United States generally accepted accounting principles consistently applied.

“General R&W Losses” has the meaning set forth in Section 8.04(a).

“Government Contract” means any prime contract, subcontract, teaming agreement or arrangement, joint venture, basic ordering agreement, blanket purchase agreement, letter agreement, purchase order, delivery order, task order, grant, cooperative agreement, change order or other commitment or funding vehicle that exists between Seller and (a) any Governmental Entity, (b) any prime contractor to any Governmental Entity, or (c) any subcontractor with respect to any contract described in clause (a) or (b).

“Governmental Entity” means any federal, national, state, foreign, supranational, provincial, local or other government or any governmental, regulatory, administrative or self-regulatory authority, agency, bureau, board, commission, court, judicial or arbitral body, department, political subdivision, tribunal or other instrumentality thereof.

“Government Official” means collectively, any officer or employee of a Governmental Entity, any government-owned or government-controlled corporation or any public international organization, or any Person acting in an official capacity for or on behalf of any Governmental Entity or such organization, any political party or official thereof and any candidate for political office.

“Government Payments” means (a) any and all federal, state, municipal, local and foreign taxes, assessments and other governmental charges, duties, impositions and liabilities, including pension plan contributions, unemployment insurance contributions and employment insurance contributions, worker’s compensation and deductions at source, including taxes based on or measured by gross receipts, income,

profits, sales, capital, use, occupation, goods and services, value added, ad valorem, transfer, franchise, withholding, customs duties, payroll, recapture, employment, excise and property taxes, together with all interest, penalties, fines and additions imposed with respect to such amounts, (b) any liability for the payment of any amounts of the type described in (a) above as a result of any express or implied obligation to indemnify any other Person or as a result of any obligations under any agreements or arrangements with any other Person with respect to such amounts and including any liability for Government Payments of a predecessor entity.

“Hazardous Materials” means all substances that, in relevant form and concentration, are defined or regulated as hazardous or toxic under any Environmental Law.

“Health Care Privacy and Security Policies” has the meaning set forth in Section 4.18(f).

“Health Care Privacy Laws” means HIPAA and all other applicable Laws regarding patient privacy and the security, use or disclosure of personal health care information and records.

“HIPAA” means the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (Title XIII of the American Recovery and Reinvestment Act of 2009), including the implementing regulations contained in 45 CFR Parts 160, 162 and 164.

“Indebtedness” means the aggregate amount (including the current portion thereto), without duplication, of Seller’s: (a) indebtedness for borrowed money, (b) obligations for the deferred purchase price of property, goods or services (including any unpaid purchase price obligations relating to acquisitions), (c) obligations evidenced by bonds, debentures, notes, letters of credit, or similar instruments; (d) obligations to pay amounts under any lease which obligation is required to be classified and accounted for as a capital lease on the balance sheet of Seller as of such date as determined in accordance with GAAP; (e) obligations in respect of any interest rate or currency swap, hedge, cap or similar agreement; and (f) other financial obligations that would be considered debt in accordance with GAAP.

“Indemnification Claim Notice” has the meaning set forth in Section 8.05(a).

“Indemnification Claim Objection Notice” has the meaning set forth in Section 8.05(b).

“Indemnified Party” means any Purchaser Indemnified Person or Seller Indemnified Person making a claim for indemnification under Sections 8.02 or 8.03, as the case may require.

“Indemnifying Party” has the meaning set forth in Section 8.05(a).

“Independent Accountant” has the meaning set forth in Section 2.03(c).

“Intellectual Property Rights” means any and all rights arising from or associated with any of the following, whether protected, created or arising under the Laws of the United States or any other jurisdiction anywhere in the world: (a) Patents, (b) Trademarks, (c) Copyrights, (d) Trade Secrets (e) mask works and industrial design rights and any applications for registration therefor, (f) rights in databases and data collections (including knowledge databases, customer lists and customer databases), whether registered or unregistered, and any applications for registration therefor, (g) URLs and domain names and associated registrations, (h) rights in inventions (whether or not patentable) and improvements thereto, (i) publicity and privacy rights, including all rights with respect to use of a Person’s name, signature, likeness, image, photograph, voice, identity, personality, and biographical and personal information and materials, and (j) any

other proprietary, intellectual or industrial property rights of any kind or nature now known or hereafter recognized in any jurisdiction worldwide, and tangible embodiments of any and all of the foregoing.

“IT Systems” means those computer systems, hardware, servers, databases, software, networks, telecommunications systems and related infrastructure that are both used or held for use by Seller in the operation of the Business or the Assigned Assets and that are, in each case, set forth on Schedule 4.18(e).

“knowledge of Seller” and “Seller’s knowledge” mean the actual knowledge of Patrick Soon-Shiong, Ronald Louks, Bob Petrou, Wesley Madden, Charles Glisan, Brandon Villery, Keith Krebs, Chris House and Mark Mozley.

“Law” means any law, statute, rule, regulation, ordinance, regulation, code, directive, and other pronouncement having the effect of law of the United States of America, any foreign country or any domestic or foreign state, county, city or other political subdivision or of any Governmental Entity.

“Liability” or “Liabilities” means any and all debts, liabilities and obligations of any nature whatsoever, whether accrued or fixed, absolute or contingent, mature or unmatured or determined or indeterminable.

“License Agreement” means that certain License Agreement substantially in the form of Exhibit E attached hereto, to be entered into at the Closing by and between Seller and Purchaser.

“Liens” means liens, pledges, mortgages, security interests, charges, or other encumbrances.

“Losses” means any direct or indirect Liability, indebtedness, claim, loss, Taxes, damage, Lien, deficiency, obligation, judgment, penalty, responsibility or other costs or expenses (including reasonable attorneys’ fees and expenses paid in connection with any of the foregoing).

“Material Contracts” has the meaning set forth in Section 4.05(a).

“Non-Assignable Right” has the meaning set forth in Section 3.03(a).

“Non-Paying Party” has the meaning set forth in Section 6.05(b)(i).

“Open Source Software” means any Software or other material that is distributed as “free software,” “open source software” or under similar licensing or distribution terms (including, but not limited to, the GNU General Public License (GPL), GNU Lesser General Public License (LGPL), Mozilla Public License (MPL), BSD licenses, the Artistic License, the Netscape Public License, the Sun Community Source License (SCSL), the Sun Industry Standards License (SISL), and the Apache License).

“Order” means any writ, judgment, decree, injunction or similar order of any Governmental Entity, in each case whether preliminary or final.

“Parent” has the meaning set forth in the Preamble hereto.

“Party” or “Parties” have the meanings set forth in the Preamble hereto.

“Patents” means patents and patent applications worldwide of any kind or nature (including industrial designs and utility models), any rights in inventions (whether or not patentable) and improvements thereto, and any priority applications, renewals, reissues, reexaminations, extensions, continuations,

continuations-in-part, divisions, confirmations, registrations, revalidations, additions, and substitutions relating to any of the patents and patent applications, as well as all related counterparts to such patents and patent applications, including foreign counterparts, wheresoever issued or pending anywhere in the world.

“Paying Party” has the meaning set forth in Section 6.05(b)(i).

“Permits” means all permits, licenses, grants, easements, clearances, variances, Orders, certificates, exemptions, registrations, authorizations, certificates of occupancy and other permits, consents and approvals required by any Governmental Entity to lawfully operate the Business.

“Permitted Liens” means (a) Liens for Taxes or assessments and similar charges, which either are (i) not yet due and payable, or (ii) being contested in good faith and by any appropriate Action and for which adequate reserves have been established, (b) Liens incurred in the ordinary course of business to secure landlords, sublandlords, licensors, sublicensors or licensees under real estate leases, licenses or other rental or lease agreements, (c) deposits or pledges incurred in the ordinary course of business and made in connection with, or to secure payment of, utilities or similar services, workers’ compensation, unemployment insurance, pension or other social security, governmental insurance and governmental benefits mandated under applicable Laws, or to secure the performance of tenders, statutory obligations, surety and appeal bonds, bids, leases, government contracts, performance and return of money bonds and similar obligations, (d) mechanics’, materialmen’s, or contractors’ Liens or any similar statutory Lien for amounts not yet due and payable and incurred in the ordinary course of business, (e) zoning, entitlement, building and other similar restrictions which are not violated by the current conduct of the business and do not materially detract from the value of the property encumbered thereby or materially impair the use of such property, (f) purchase money Liens in any property acquired by Seller in the ordinary course of business, (g) non-exclusive licenses of Intellectual Property Rights granted in the ordinary course of business, and (h) easements, covenants, rights of way or other encumbrances or restrictions, if any, that do not impair the use of the assets to which they relate or materially detract from the value of such assets.

“Person” means an individual, a partnership, a corporation, a limited liability company, an association, a joint stock company, a trust, a joint venture, an unincorporated organization, a Governmental Entity or any other entity.

“Personal Data” means any information defined under applicable Law as personal information, personal data, protected health information, or other personally identifiable information.

“Policies” has the meaning set forth in Section 4.17.

“Preliminary Accounting Report” has the meaning set forth in Section 2.03(a)(ii).

“Preliminary Working Capital” has the meaning set forth in Section 2.03(a)(i).

“Privacy and Information Security Requirements” means (a) all applicable Laws governing privacy or information security with respect to the Processing of Personal Data, (b) all applicable Laws concerning the security of Products and/or IT Systems, (c) all provisions of Contracts to which Seller is a party or is otherwise bound setting forth requirements for privacy or information security with respect to the Processing of Personal Data, or the security of Products and/or IT Systems, and (d) the Privacy Notices, and any other public representations by Seller in respect of Seller’s Processing of Personal Data.

“Privacy Notices” means any external notices, policies, or disclosures by Seller in respect of Seller’s Processing of Personal Data, or privacy practices, with respect to the Business or the Assigned Assets.

“Process” or “Processing” mean the collection, use, storage, processing, distribution, transfer, import, export, protection (including security measures), disposal or disclosure or other activity regarding data (whether electronically or in any other form or medium).

“Products” means products or services that are (a) designed, manufactured, marketed, licensed, leased, sold, performed, made available or otherwise distributed or disposed of by Seller or in connection with the Business or the Assigned Assets or (b) currently under development by Seller in connection with the Business or the Assigned Assets, including Software being developed at or for customers or other third parties.

“Product Data” means all data, adverse event data, product quality and product complaint data, safety and efficacy data, analytical and quality control data, manufacturing information and all regulatory communications, in each case, of Seller, to the extent not comprising Assigned Know-How, in existence as of the Closing Date, that is primarily related to the Business or the Business Products, and within the possession or control of Seller.

“Product Records” means all regulatory communications and written records of Seller, including all books of account, ledgers, general, financial and accounting records, files, invoices, billing records, customers’ and suppliers’ lists, other distribution lists, product and pricing information, manuals, and marketing study reports (in all cases, in any form or medium), in each case, of Seller, in existence as of the Closing Date, to the extent relating to the Business or the Business Products, and within the possession or control of Seller; provided, however, that the following shall expressly not constitute “Product Records”: (a) all Tax Returns, other than (i) property Tax Returns, (ii) Tax Returns for employment Taxes, and (iii) Tax Returns for sales, use, value-added, goods and services and similar Taxes, in each case of (i), (ii) and (iii), to the extent relating to the Business, the Assigned Assets or the Business Products; (b) all books, documents, records and files prepared in connection with or relating to the transactions contemplated under this Agreement, including any strategic, valuation, financial and/or Tax analyses relating to the divestiture of the Assigned Assets and the Assumed Liabilities; and (c) all attorney work product, attorney-client communications and other items protected by established legal privilege.

“Product Registrations” has the meaning set forth in Section 4.22.

“Purchase Price” means \$47,250,000, as adjusted based on the Closing Working Capital as described in Section 2.02, Section 2.03 and Section 2.04.

“Purchaser” has the meaning set forth in the Preamble hereto.

“Purchaser Disclosure Schedule” means the disclosure schedule constituting exceptions to and applicable disclosures associated with Purchaser’s representations and warranties set forth in Article V hereof, prepared and delivered by Purchaser concurrently with the execution of this Agreement.

“Purchaser Indemnified Persons” has the meaning set forth in Section 8.02.

“Purchaser Organizational Documents” means the certificate of incorporation and bylaws, in each case, as amended, supplemented, modified, or amended and restated of each of Parent and Acquisition Sub.

“R&W Policy” means the insurance coverage under that certain Representations and Warranties Insurance Policy incepted on the date of this Agreement and to be issued at the Closing by Ethos Specialty Insurance Services LLC in favor of Purchaser, in the form attached hereto as Exhibit G.

“Registered Intellectual Property” has the meaning set forth in Section 4.06(a).

“Release” means any release, spill, emission, discharge, leaking, pumping, injection, deposit, disposal, dispersal, leaching or migration into the indoor or outdoor environment (including ambient air, surface water, groundwater and surface or subsurface strata) or into or out of any property, including the movement of Hazardous Materials through or in the air, soil, surface water, groundwater or property.

“Representative” means, with respect to a Person, such Person’s officers, managers, directors, employees, investment bankers, attorneys, accountants, consultants or other agents or advisors.

“Restrictions” has the meaning set forth in Section 6.07.

“Seller” has the meaning set forth in the Preamble hereto.

“Seller Indemnified Persons” has the meaning set forth in Section 8.03.

“Seller Material Adverse Effect” means any change, event, circumstance, condition or effect that is or would reasonably be expected to be, individually or in the aggregate, (a) materially adverse to the Business, the Business Products or the operation of the Assigned Assets by Seller or (b) a material impairment on the ability of Seller to perform its obligations under this Agreement and the other Transaction Documents to which it is a party, except, with respect to clause (a), for any such change, event, circumstance, condition or effect resulting from (i) changes after the date hereof generally affecting the industry in which Seller operates (provided that such changes do not have a materially disproportionate effect on Seller, as compared to other companies similarly situated and operating in the industry in which Seller conducts the Business); (ii) changes in any Law or applicable accounting regulations or principles (provided that such changes do not have a materially disproportionate effect on Seller, as compared to other companies similarly situated and operating in the industry in which Seller conducts the Business); (iii) the announcement or pendency of any of the transactions contemplated by the Transaction Documents; (iv) any action taken by Seller at Purchaser’s request or in compliance with actions required pursuant to this Agreement or the other Transaction Documents; (v) acts of war or terrorism or any escalation or material worsening of any such acts of war or terrorism existing as of the date hereof; (vi) acts of God and natural disasters, including floods, tornados, hurricanes, earthquakes and fires; or (vii) changes in the economy or financial markets generally, whether foreign or domestic, or changes in Laws or actions by Governmental Entities (provided that such changes do not have a materially disproportionate effect on Seller, as compared to other companies similarly situated and operating in the industry in which Seller conducts the Business).

“Seller Organizational Documents” means Seller’s certificate of incorporation and bylaws, in each case, as amended, supplemented, modified, or amended and restated.

“Seller Taxes” means any Taxes: (a) imposed on Seller for any taxable period, (b) imposed on or with respect to the Business or the Assigned Assets for any taxable period (or portion thereof) ending on or before the Closing Date, including any Transfer Taxes or Straddle Period Taxes allocable to Seller pursuant to this Agreement, or (c) imposed on Purchaser or any of its Affiliates as a transferee or successor of Seller.

“Shared Contracts” means the Contracts set forth on Schedule 3.03(b)(i).

“Software” means computer software, files, scripts, and programs, including firmware, in any form, including source code or object code, and any related documentation.

“Specified Sections” has the meaning set forth in the Preamble hereto.

“Straddle Period Tax” has the meaning set forth in Section 6.05(b)(i).

“Subsidiary” means, with respect to any Person, any corporation of which a majority of the total voting power of shares of stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of such Person or a combination thereof, or any partnership, association or other business entity of which a majority of the partnership or other similar ownership interest is at the time owned or controlled, directly or indirectly, by such Person or one or more Subsidiaries of such Person or a combination thereof.

“Tax” or “Taxes” means any and all U.S. federal, state, local and non-U.S. taxes, assessments, levies, tariffs, duties or other charges or impositions in the nature of a tax (together with any and all interest, penalties, additions to tax and additional amounts, imposed with respect thereto or imposed in connection with any failure to timely or properly file any Tax Return) imposed by any Governmental Entity, including net income, estimated income, gross income, gross receipts, profits, business, license, occupation, franchise, capital stock, property (real, tangible or intangible), sales, use, ad valorem, transfer, value added, built-in gain, registration, employment or unemployment, social security, health, payroll, disability, severance, escheat or unclaimed property (whether or not considered a tax under applicable law) alternative or add-on minimum, customs, excise, stamp, environmental, windfall profit, commercial rent or withholding taxes, whether disputed or not and including any obligations to indemnify or otherwise pay, assume or succeed to the Tax liability of any other Person.

“Tax Contest” has the meaning set forth in Section 6.05(d).

“Tax Returns” means any return, report, information return or other document (including schedules, attachments and amendments, and including for the avoidance of doubt all Forms 1099, FinCEN Form 114, Form TD F 90-22.1 and any predecessor or successor forms thereto) filed or required to be filed with any Governmental Entity in connection with the determination, assessment or collection of any Tax or the administration of any Laws or administrative requirements relating to any Tax.

“Third Party Claim” has the meaning set forth in Section 8.06(a).

“Trade Secrets” means all proprietary or confidential information of any kind or nature, in whatever form and whether or not embodied in a tangible medium, including customer lists, concepts, ideas, methods, processes, inventions (whether or not patentable), know-how, methodologies, designs, plans, schematics, devices, bill of materials, drawings, formulae, technical data, specifications, research and development information, technology and product roadmaps, models, data, databases, and marketing materials, and all rights of any kind or nature therein, whether arising under the Laws of the United States or any state or territory thereof or any other jurisdiction anywhere in the world.

“Trademarks” means trademarks, trade names, corporate names, business names, trade styles, service marks, service names, logos, slogans, 800 numbers, domain names, URLs, social media accounts, and other source or business identifiers and general intangibles of like nature, together with all rights of any kind or nature therein and all goodwill associated therewith, whether registered or unregistered and whether

arising under the Laws of the United States or any state or territory thereof or any other jurisdiction anywhere in the world, and registrations and applications for registration with respect to any of the foregoing.

“Transaction Documents” means this Agreement and all other agreements, instruments, certificates and other documents to be entered into or delivered by any Party, pursuant to any of the foregoing, including the Escrow Agreement, the Assignment of Patents, the Assignment of Trademarks, the Assignment and Bill of Sale and Assumption Agreement, the License Agreement, the Transition Services Agreements and the R&W Policy.

“Transfer Taxes” has the meaning set forth in Section 6.05(c).

“Transferred Contracts” means, collectively, all Contracts primarily related to the Business or the Business Products, as set forth on Schedule 1.02(a)(iii).

“Transferred Domain Names” means all domain names and web page content owned by Seller as of the Closing Date that are primarily related to the Business or the Business Products, including the domain names and web page content set forth on Schedule 1.02(a)(iv).

“Transferred Employees” means the Business Employees who have accepted an offer of employment with Purchaser or one of its Affiliates.

“Transferred Inventory” means all of Seller’s work-in-process, finished goods and merchandise, spare parts, packaging and other supplies related thereto, in each case, that is primarily related to the Business or the Business Products, including the work-in-process, finished goods and merchandise, spare parts and other supplies related thereto, in each case, set forth on Schedule 1.02(a)(v).

“Transferred Permits” means the Permits primarily related to the Business or the Business Products, including the Permits set forth on Schedule 1.02(a)(vii).

“Transferred Real Property” has the meaning set forth in Section 4.08(a).

“Transferred Real Property Lease” has the meaning set forth in Section 4.08(a).

“Transferred Software” means all Software primarily related to the Business or the Business Products, including the Software set forth on Schedule 1.02(a)(i), and any Open Source Software or other third party Software distributed with, as part of, or in connection with the Business Products.

“Transferred Tangible Personal Property” means the tangible personal property primarily related to the Business or the Business Products, including the tangible personal property set forth on Schedule 1.02(a)(vi).

“Transferred Technology” means the Transferred Software, the Product Records, and the Product Data.

“Transition Services Agreements” means the Transition Services Agreements by and between Seller and Purchaser, dated as of the Closing Date, in substantially the forms attached hereto as Exhibit F.

10.02 Other Definitional Provisions.

(a) Successor Laws. Any reference to any particular Code section or Law shall be interpreted to include any revision of or successor to that section regardless of how it is numbered or classified.

ARTICLE XI

MISCELLANEOUS

11.01 Expenses.

Except as otherwise expressly provided herein, each of Seller and Purchaser shall pay all of their own fees and expenses incurred in connection with this Agreement and the transactions contemplated by this Agreement, including the fees and disbursements of counsel, financial advisors and accountants.

11.02 Notices.

All notices and other communications among the Parties shall be in writing and shall be deemed to have been duly given (a) when delivered in person, (b) when delivered after posting in the United States mail having been sent registered or certified mail return receipt requested, postage prepaid, (c) when delivered by FedEx or other nationally recognized overnight delivery service or (d) when delivered by facsimile or email (in each case in this clause (d), solely if receipt is confirmed), addressed as follows:

Notices to Seller or NantWorks:

NantHealth, Inc.
9920 Jefferson Blvd.
Culver City, California 90232
Attention: General Counsel

with a copy to:

NantHealth, Inc.
9920 Jefferson Blvd.
Culver City, California 90232
Attention: Chief Financial Officer

Notices to Purchaser:

Masimo Corporation
52 Discovery
Irvine, California 92618
Attention: Chief Executive Officer

11.03 Assignment.

This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns, except that, unless expressly permitted herein, neither this Agreement nor any of the rights, interests or obligations hereunder may be assigned or delegated by any of the Parties hereto without the prior written consent of the non-assigning Parties; except that either Purchaser or Seller may assign this Agreement and its rights and obligations hereunder to (a) a successor to all or substantially all of such Party's business or assets, whether by way of merger, sale of equity, sale of

assets or other transaction (or series of related transactions); (b) an Affiliate of Purchaser or Seller, respectively; and (c) Purchaser's or Seller's and/or its Affiliate's lender(s) under its and/or its Affiliate's financing arrangement with respect to any collateral assignment or similar agreement; provided, that in each case, Purchaser or Seller (as applicable) and, in the case of an assignment under the foregoing clause (a), the assignee, remains primarily liable for its obligations under this Agreement and for the performance and obligations of any such assignee.

11.04 Severability.

Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If the final judgment of a court of competent jurisdiction declares that any term or provision hereof is invalid or unenforceable, the Parties agree that the court making the determination of invalidity or unenforceability shall have the power to reduce the scope, duration or area of the term or provision, to delete specific words or phrases, or to replace any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be enforceable as so modified after the expiration of the time within which the judgment may be appealed.

11.05 Interpretation.

(a) The words "hereof," "herein" and "hereunder" and words of like import used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement.

(b) The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Articles, Sections, Exhibits and Schedules are to Articles, Sections, Exhibits and Schedules of this Agreement unless otherwise specified.

(c) All Exhibits and Schedules annexed hereto or referred to herein are hereby incorporated in and made a part of this Agreement as if set forth in full herein. Any capitalized terms used in any Exhibit or Schedule but not otherwise defined therein, shall have the meaning as defined in this Agreement.

(d) Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular, and words denoting either gender shall include both genders as the context requires. Where a word or phrase is defined herein, each of its other grammatical forms shall have a corresponding meaning.

(e) Whenever the words "include," "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation," whether or not they are in fact followed by those words or words of like import.

(f) The use of the word "or" shall not be exclusive.

(g) A reference to any legislation or to any provision of any legislation shall include any modification, amendment, re-enactment thereof, any legislative provision substituted therefore and all rules, regulations and statutory instruments issued or related to such legislation.

(h) Unless otherwise specifically indicated, all references to "dollars" or "\$" shall refer to the lawful currency of the United States.

(i) Any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in the construction or interpretation of this Agreement. No prior draft of this Agreement or any course of performance or course of dealing shall be used in the interpretation or construction of this Agreement. No parol evidence shall be introduced in the construction or interpretation of this Agreement unless the ambiguity or uncertainty in issue is plainly discernible from a reading of this Agreement without consideration of any extrinsic evidence. Although the same or similar subject matters may be addressed in different provisions of this Agreement, the Parties intend that, except as reasonably apparent on the face of the Agreement or as expressly provided in this Agreement, each such provision shall be read separately, be given independent significance and not be construed as limiting any other provision of this Agreement (whether or not more general or more specific in scope, substance or content). The doctrine of election of remedies shall not apply in constructing or interpreting the remedies provisions of this Agreement or the equitable power of a court considering this Agreement or the transactions contemplated hereby.

11.06 Construction.

The language used in this Agreement shall be deemed to be the language chosen by the Parties to express their mutual intent, and no rule of strict construction shall be applied against any Person. The specification of any dollar amount or the inclusion of any item in the representations and warranties contained in this Agreement or the Disclosure Schedule or Exhibits attached hereto is not intended to imply that the amounts, or higher or lower amounts, or the items so included, or other items, are or are not required to be disclosed (including whether such amounts or items are required to be disclosed as material or threatened) or are within or outside of the ordinary course of business, and no Party shall use the fact of the setting of the amounts or the fact of the inclusion of any item in this Agreement or the Disclosure Schedule or Exhibits in any dispute or controversy between the Parties as to whether any obligation, item or matter not described or included in this Agreement or in any Schedule or Exhibit is or is not required to be disclosed (including whether the amount or items are required to be disclosed as material or threatened) or is within or outside of the ordinary course of business for purposes of this Agreement. The information contained in this Agreement and in the Disclosure Schedule and Exhibits hereto is disclosed solely for purposes of this Agreement, and no information contained herein or therein shall be deemed to be an admission by any Party to any third party of any matter whatsoever (including any violation of Law or breach of contract).

11.07 Amendment and Waiver.

Any provision of this Agreement may be amended or waived only in a writing signed by Purchaser and Seller. No waiver of any provision hereunder or any breach or default thereof shall extend to or affect in any way any other provision or prior or subsequent breach or default.

11.08 Complete Agreement.

This Agreement, the other Transaction Documents, and the documents referred to herein and therein, contain the complete agreement between the Parties relating to the subject matter hereof and supersede any prior understandings, agreements or representations by or between the Parties, written or oral, which may have related to the subject matter hereof in any way, including any data room agreements, bid letters, term sheets, summary issues lists or other agreements.

11.09 Third-Party Beneficiaries.

Except as provided under Article VIII, the provisions of this Agreement shall be binding upon and shall inure to the benefit of the Parties and their successors and assigns. Nothing expressed or referred to in this Agreement shall be construed to give any Person other than the Parties to this Agreement any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement.

11.10 Waiver of Trial by Jury.

EACH OF THE PARTIES TO THIS AGREEMENT HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY RIGHT TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION OR CAUSE OF ACTION (A) ARISING UNDER THIS AGREEMENT OR THE OTHER TRANSACTION DOCUMENTS OR (B) IN ANY WAY CONNECTED WITH OR RELATED OR INCIDENTAL TO THE DEALINGS OF THE PARTIES HERETO IN RESPECT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, OR ANY OF THE TRANSACTIONS RELATED HERETO OR THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER IN CONTRACT, TORT, EQUITY OR OTHERWISE. THE PARTIES TO THIS AGREEMENT EACH HEREBY AGREES AND CONSENTS THAT ANY SUCH CLAIM, DEMAND, ACTION OR CAUSE OF ACTION SHALL BE DECIDED BY COURT TRIAL WITHOUT A JURY, AND THAT THE PARTIES TO THIS AGREEMENT MAY FILE A COPY OF THIS AGREEMENT WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF THE PARTIES HERETO TO THE WAIVER OF THEIR RIGHT TO TRIAL BY JURY.

11.11 Delivery by Facsimile or Email.

This Agreement and any signed agreement entered into in connection herewith or contemplated hereby, and any amendments hereto or thereto, to the extent signed and delivered by means of a facsimile machine or scanned pages via electronic mail (or via any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com), shall be treated in all manner and respects as an original contract and shall be considered to have the same binding legal effects as if it were the original signed version thereof delivered in person. At the request of any Party hereto or to any such contract, each other Party hereto or thereto shall re-execute original forms thereof and deliver them to all other Parties. No Party hereto or to any such contract shall raise the use of a facsimile machine, email or other electronic delivery method to deliver a signature or the fact that any signature or contract was transmitted or communicated through the use of facsimile machine, email or other electronic delivery method as a defense to the formation of a contract and each such Party forever waives any such defense.

11.12 Counterparts.

This Agreement may be executed in multiple counterparts, any one of which need not contain the signature of more than one (1) Party, but all such counterparts taken together shall constitute one and the same instrument.

11.13 Governing Law.

All issues and questions concerning the construction, validity, interpretation and enforceability of this Agreement, the other Transaction Documents, and the Exhibits and Schedules hereto shall be governed by, and construed in accordance with, the Laws of the State of California, without giving effect to any choice of Law or conflict of Law rules or provisions (whether of the State of California or any other jurisdiction) that would cause the application of the Laws of any jurisdiction other than the State of California.

11.14 Jurisdiction.

Any Action seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement, the other Transaction Documents, or the transactions contemplated hereby or thereby shall be brought and determined exclusively by the state and federal courts located in the County of Orange, State of California, and each of the Parties hereby consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such Action and irrevocably waives, to the fullest extent permitted by Law, any objection which it may now or hereafter have to the laying of the venue of any such Action in any such court or that any such Action which is brought in any such court has been brought in an inconvenient forum. Process in any such Action may be served on any Party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each Party agrees that service of process on such Party as provided in Section 11.02 shall be deemed effective service of process on such Party.

11.15 Remedies Cumulative.

Except as otherwise provided herein, any and all remedies herein expressly conferred upon a Party shall be deemed cumulative with, and not exclusive of, any other remedy conferred hereby, or by Law or equity upon such Party, and the exercise by a Party of any one remedy shall not preclude the exercise of any other remedy.

11.16 Specific Performance.

Each of the Parties acknowledges that the rights of each Party to consummate the transactions contemplated hereby are unique and recognizes and affirms that in the event of a breach of this Agreement by any Party, money damages may be inadequate and the non-breaching Party may have no adequate remedy at Law. Accordingly, the Parties agree that prior to a valid termination of this Agreement in accordance with this Agreement, such non-breaching Party shall have the right, in addition to any other rights and remedies existing in its favor at Law or in equity, to seek to enforce its rights and the other Party's obligations hereunder not only by an Action or Actions for damages but also by an Action or Actions for specific performance, injunctive and/or other equitable relief (without posting of bond or other security). Each of the Parties waives any defenses that the other Parties have an adequate remedy at Law or an award of specific performance is not an appropriate remedy for any reason at Law or equity and any requirement under Law to post a bond, undertaking or other security as a prerequisite to obtaining equitable relief.

11.17 Representation by Legal Counsel.

Each of the Parties represents that it has been represented by legal counsel in connection with this Agreement and acknowledges that it has participated in the drafting hereof. In interpreting and applying the terms and provisions of this Agreement, the Parties agree that no presumption shall exist or be implied against the Party which drafted such terms and provisions.

11.18 Electronic Data Room Materials.

For purposes of this Agreement, no information or document shall be considered to have been "made available" to Purchaser unless it was uploaded no later than 2:40 p.m. (Pacific time) on the date of this Agreement to the electronic dataroom hosted by Seller and available through the Closing at <https://www.dfinsolutions.com/products/venue>, a copy of which Seller shall use reasonable efforts to deliver to Purchaser on one or more USB flash storage devices promptly after Closing and which was fully accessible to Purchaser through the earlier of the Closing or the termination of this Agreement.

(Signature Page Follows)

IN WITNESS WHEREOF, the Parties have executed this Asset Purchase Agreement on the day and year first above written.

SELLER:

NANTHEALTH, INC.

By: /s/ Bob Petrou
Name: Bob Petrou
Its: Chief Financial Officer

PURCHASER:

MASIMO CORPORATION

By: /s/ Joe Kiani
Name: Joe Kiani
Its: Chairman of the Board and Chief Executive Officer

VCCB HOLDINGS, INC.

By: /s/ Micah Young
Name: Micah Young
Its: President

NANTWORKS, LLC, SOLELY WITH RESPECT TO THE SPECIFIED SECTIONS:

By: /s/ Charles Kim
Name: Charles Kim
Its: General Counsel

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES
EXCHANGE ACT OF 1934**

NantHealth, Inc. has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), our Common Stock.

Description of Common Stock

The following description of our Common Stock is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to our Amended and Restated Certificate of Incorporation (the "Certificate of Incorporation") and our amended and restated Bylaws (the "Bylaws"), each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K of which this Exhibit 4.1 is a part. We encourage you to read our Certificate of Incorporation, our Bylaws and the applicable provisions of the Delaware General Corporation Law, for additional information.

Common Stock

We are authorized to issue up to a total of 750,000,000 shares of common stock, par value \$0.0001 per share. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of our stockholders. Holders of our common stock have no cumulative voting rights. Further, holders of our common stock have no preemptive, conversion, redemption or subscription rights and there are no sinking fund provisions applicable to our common stock. Upon our liquidation, dissolution or winding-up, holders of our common stock are entitled to share ratably in all assets remaining after payment of all liabilities and the liquidation preferences of any of our outstanding shares of preferred stock. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors, or board, out of our assets which are legally available.

As of December 31, 2019, there were 110,619,678 shares of common stock issued and outstanding and there were approximately 117 holders of record of our common stock. As of December 31, 2019, there were 5,815,724 shares of common stock underlying outstanding options and 705,415 shares of common stock underlying restricted stock units, and 120,562 shares of common stock underlying phantom units.

Preferred Stock

Our board is authorized, subject to certain limitations prescribed by law, to designate and issue up to a total of 20,000,000 shares of preferred stock, par value \$0.0001 per share, without stockholder approval. The board may issue preferred stock from time to time in one or more series and fix the designations, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions on the shares of each such series, including dividend rights and rates, conversion rights, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any such series.

Our board may authorize the issuance of preferred stock with voting or conversion rights that could harm the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might harm the market price of our common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of preferred stock.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

The provisions of Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws may have the effect of delaying, deferring or discouraging another person from acquiring control of our company. These provisions, which are summarized below, may have the effect of discouraging takeover bids. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaw Provisions

Our amended and restated certificate of incorporation and our amended and restated bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our management team, including the following:

- *Board of directors vacancies.* Our amended and restated certificate of incorporation and amended and restated bylaws authorize only our board of directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our board of directors is permitted to be set only by a resolution adopted by our board of directors. These provisions would prevent a stockholder from increasing the size of our board of directors and then gaining control of our board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors but promotes continuity of management.
- *Advance notice requirements for stockholder proposals and director nominations.* Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.
- *No cumulative voting.* The Delaware General Corporation Law provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. Our amended and restated certificate of incorporation does not provide for cumulative voting.
- *Amendment of charter provisions.* Any amendment of the above provisions in our amended and restated certificate of incorporation requires approval by holders of at least two-thirds of our then outstanding voting securities.
- *Issuance of undesignated preferred stock.* Our board of directors has the authority, without further action by the stockholders, to issue up to 20,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock would enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or other means.

- *Exclusive forum.* Unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws, or (iv) any action asserting a claim against us governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees.

Listing

Our common stock is listed on The NASDAQ Global Select Market under the symbol "NH."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC, or AST. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, New York 11219. The transfer agent's telephone number is (800) 937-5449.

NantHealth, Inc.**Subsidiaries**

<u>Name of Subsidiary</u>	<u>Jurisdiction of Organization</u>
NaviNet, Inc.	Delaware
NaviNet Limited	United Kingdom
Assisteo Holding, Inc.	Delaware
AZ Home Health, LLC	Delaware
NantHealth Labs, Inc.	Delaware
NantHealth Singapore Pte Ltd	Singapore
New Nant Health Canada, Inc.	Canada

Note: Subsidiary companies excluded from the above listing, if considered in the aggregate, would not constitute a significant subsidiary.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-3 No. 333-223744) of NantHealth, Inc., and
- (2) Registration Statement (Form S-8 Nos. 333-211886 and 333-225670) pertaining to the 2016 Equity Incentive Plan and Phantom Unit Plan of NantHealth, Inc.

of our report dated February 28, 2020, with respect to the consolidated financial statements of NantHealth, Inc., included in this Annual Report (Form 10-K) of NantHealth, Inc. for the year ended December 31, 2019.

/s/ Ernst & Young LLP

Los Angeles, California

February 28, 2020

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Patrick Soon-Shiong and Bob Petrou, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Patrick Soon-Shiong</u> Patrick Soon-Shiong	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 28, 2020
<u>/s/ Bob Petrou</u> Bob Petrou	Chief Financial Officer (Principal Financial and Accounting Officer)	February 28, 2020
<u>/s/ Ron Louks</u> Ron Louks	Chief Operating Officer and Director	February 28, 2020
<u>/s/ Michael S. Sitrick</u> Michael S. Sitrick	Director	February 28, 2020
<u>/s/ Kirk K. Calhoun</u> Kirk K. Calhoun	Director	February 28, 2020
<u>/s/ Michael Blaszyk</u> Michael Blaszyk	Director	February 28, 2020

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Patrick Soon-Shiong, certify that:

1. I have reviewed this Annual Report on Form 10-K of NantHealth, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ Patrick Soon-Shiong

Dr. Patrick Soon-Shiong
Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Bob Petrou, certify that:

1. I have reviewed this Annual Report on Form 10-K of NantHealth, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ Bob Petrou

Bob Petrou

Chief Financial Officer

(Principal Financial and Accounting Officer)

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), I, Patrick Soon-Shiong, hereby certify that, to my knowledge:

- (i) the Company's Annual Report on Form 10-K for the year ended December 31, 2019 to which this Certification is attached as Exhibit 32.1 (the "Report") fully complies with the requirements of section 13(a) or 15(d) of the Exchange Act, and
- (ii) that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of NantHealth, Inc.

Date: February 28, 2020

By: /s/ Patrick Soon-Shiong

Dr. Patrick Soon-Shiong

Chairman, Chief Executive Officer and Director
(Principal Executive Officer)

This certification accompanies the Annual Report on Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of NantHealth, Inc. under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

**CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), I, Bob Petrou, hereby certify that, to my knowledge:

- (i) the Company's Annual Report on Form 10-K for the year ended December 31, 2019 to which this Certification is attached as Exhibit 32.2 (the "Report") fully complies with the requirements of section 13(a) or 15(d) of the Exchange Act, and
- (ii) that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of NantHealth, Inc.

Date: February 28, 2020

By: /s/ Bob Petrou

Chief Financial Officer

(Principal Financial and Accounting Officer)

This certification accompanies the Annual Report on Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of NantHealth, Inc. under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.