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

FORM 10 - Q

(Mark One)

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

For the quarterly period ended June 30, 2018

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	**27-3019889**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
9920 Jefferson Blvd Culver City, California	**90232**
(Address of principal executive offices)	**(Zip Code)**

(310) 883-1300
(Registrant's telephone number, including area code)

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 and posted on its corporate Web site, if any, 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.

Large accelerated filer	☐		Accelerated filer	☒
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	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 ☒

As of August 7, 2018 , the registrant had 109,471,643 shares of common stock, par value $0.0001 per share, outstanding.

NantHealth, Inc.
Form 10-Q
As of and for the quarterly period ended June 30, 2018
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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, Liquid GPS, DeviceConX, HBox, Vitality, VitalsConX, NaviNet, NaviNet Open, Eviti, Eviti | Connect, and other marks relating to our product lines are used in this Quarterly Report on Form 10-Q. Solely for convenience, the trademarks and service marks referred to in this Quarterly Report on Form 10-Q 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.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This Quarterly Report on Form 10-Q, including without limitation the sections entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “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 of our sequencing and molecular analysis solutions;
- 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 payors, 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;
- 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 expectation regarding the period during which we qualify as an emerging growth company under 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; and
- 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.

We caution you that the foregoing list does not contain all of the forward-looking statements made in this Quarterly Report on Form 10-Q.

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 appear throughout this Quarterly Report on Form 10-Q 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 we 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 Quarterly Report on Form 10-Q. 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 II, Item 1A, entitled “Risk Factors,” and in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Part I, Item 2 of this Quarterly Report on Form 10-Q. We undertake no obligation to update any forward-looking statements for any reason, or to conform these statements to actual results or to changes in our expectations.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

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

	June 30, 2018 (Unaudited)	December 31, 2017
Assets		
Current assets		
Cash and cash equivalents	$ 29,409	$ 61,660
Accounts receivable, net	18,968	11,491
Inventories	731	839
Deferred implementation costs	11	1,960
Related party receivables, net	860	585
Prepaid expenses and other current assets	6,225	5,358
Total current assets	56,204	81,893
Property, plant, and equipment, net	24,366	18,517
Deferred implementation costs, net of current	4	3,951
Goodwill	115,930	114,625
Intangible assets, net	69,278	69,424
Investment in related party	142,203	156,863
Related party receivable, net of current	1,915	1,727
Other assets	1,874	2,195
Total assets	$ 411,774	$ 449,195
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 4,881	$ 3,164
Accrued and other current liabilities	11,767	18,134
Deferred revenue	15,218	10,057
Related party payables, net	5,618	4,504
Total current liabilities	37,484	35,859
Deferred revenue, net of current	8,108	7,126
Related party liabilities	14,575	11,500
Related party promissory note	112,666	112,666
Related party convertible note, net	8,156	7,947
Convertible notes, net	77,065	74,845
Deferred income taxes, net	4,419	5,838
Other liabilities	1,180	112
Total liabilities	263,653	255,893
Stockholders' equity		
Common stock, $0.0001 par value per share, 750,000,000 shares authorized; 109,385,560 and 108,383,602 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively (including 3,490 shares of restricted stock)	11	10
Additional paid-in capital	885,887	886,669
Accumulated deficit	(737,535)	(693,233)
Accumulated other comprehensive loss	(242)	(144)
Total stockholders' equity	148,121	193,302
Total liabilities and stockholders' equity	$ 411,774	$ 449,195

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

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

	Three Months Ended June 30, 2018	Three Months Ended June 30, 2017	Six Months Ended June 30, 2018	Six Months Ended June 30, 2017
Revenue:				
Software-as-a-service related	$ 16,220	$ 14,946	$ 32,386	$ 29,743
Software and hardware related	885	3,279	2,340	3,877
Maintenance	2,388	3,468	4,835	5,487
Total software-related revenue	19,493	21,693	39,561	39,107
Sequencing and molecular analysis	924	450	1,764	960
Home health care services	1,630	1,371	2,986	2,551
Total net revenue	22,047	23,514	44,311	42,618
Cost of Revenue:				
Software-as-a-service related	5,741	5,195	12,342	11,428
Software and hardware related	789	1,024	1,675	2,028
Maintenance	234	129	449	290
Amortization of developed technologies	1,293	1,142	2,466	2,885
Total software-related cost of revenue	8,057	7,490	16,932	16,631
Sequencing and molecular analysis	1,689	1,512	3,120	3,105
Home health care services	836	650	1,599	1,434
Total cost of revenue	10,582	9,652	21,651	21,170
Gross Profit	11,465	13,862	22,660	21,448
Operating Expenses:				
Selling, general and administrative	18,388	19,225	39,122	36,660
Research and development	5,889	8,376	11,040	17,302
Amortization of acquisition-related assets	1,054	1,054	2,108	2,108
Total operating expenses	25,331	28,655	52,270	56,070
Loss from operations	(13,866)	(14,793)	(29,610)	(34,622)
Interest expense, net	(4,262)	(4,013)	(8,460)	(7,982)
Other income (expense), net	(1,334)	13	(1,154)	248
Loss from related party equity method investment, including impairment	(2,945)	(38,885)	(6,206)	(43,411)
Loss from continuing operations before income taxes	(22,407)	(57,678)	(45,430)	(85,767)
(Benefit from) provision for income taxes	(601)	18	(1,651)	55
Net loss from continuing operations	(21,806)	(57,696)	(43,779)	(85,822)
Loss from discontinued operations, net of tax	(1,591)	(12,368)	(1,785)	(25,357)
Net loss	$ (23,397)	$ (70,064)	$ (45,564)	$ (111,179)
Net loss per share:				
Continuing operations				
Basic and diluted - common stock	$ (0.20)	$ (0.48)	$ (0.40)	$ (0.71)
Discontinued operations				
Basic and diluted - common stock	$ (0.01)	$ (0.10)	$ (0.02)	$ (0.20)
Total net income (loss) per share				
Basic and diluted - common stock	$ (0.21)	$ (0.58)	$ (0.42)	$ (0.91)
Weighted average shares outstanding:				
Basic and diluted - common stock	109,120,438	121,756,108	108,851,348	121,687,454

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

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	**2017**	**2018**	**2017**
Net loss	$ (23,397)	$ (70,064)	$ (45,564)	$ (111,179)
Other comprehensive income (loss) from foreign currency translation gain (loss)	(208)	61	(98)	80
Total other comprehensive income (loss)	(208)	61	(98)	80
Comprehensive loss	$ (23,605)	$ (70,003)	$ (45,662)	$ (111,099)

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

NantHealth, Inc.
Condensed and Consolidated Stockholders' Equity
(Dollars in thousands)
(Unaudited)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Equity
	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	—	—	2,655	—	—	2,655
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	208,344	—	(339)	—	—	(339)
Assignment of NantHealth Labs (formerly Liquid Genomics, see Note 18)	—	—	(3,785)	—	—	(3,785)
Other comprehensive income	—	—	—	—	110	110
Net loss	—	—	—	(22,168)	—	(22,168)
Balance at March 31, 2018	108,591,946	10	885,200	(714,138)	(34)	171,038
Stock-based compensation	—	—	1,808	—	—	1,808
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	793,614	1	(1,657)	—	—	(1,656)
Assignment of NantHealth Labs (formerly Liquid Genomics, see Note 18)	—	—	536	—	—	536
Other comprehensive loss	—	—	—	—	(208)	(208)
Net loss	—	—	—	(23,397)	—	(23,397)
Balance at June 30, 2018	109,385,560	$ 11	$ 885,887	$ (737,535)	$ (242)	$ 148,121

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

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

	Six Months Ended June 30,	
	2018 (2)	**2017 (2)**
Cash flows from operating activities:		
Net loss	$ (45,564)	$ (111,179)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	10,883	16,435
Amortization of debt discounts and deferred financing offering cost	2,429	2,139
Change in fair value of derivatives liability	(2)	(239)
Stock-based compensation	4,432	887
Deferred income taxes, net	(1,785)	375
Provision for bad debt expense	53	198
Inventory provision	—	46
Loss from related party equity method investment including impairment	6,206	43,411
Other non-cash expense	219	—
Impairment of equity securities (see note 10)	1,750	—
Accounts receivable, net	(3,322)	2,205
Inventories	108	6
Related party receivables, net	(463)	(135)
Prepaid expenses and other current assets	1,109	(166)
Deferred implementation costs	34	(1,504)
Accounts payable	1,228	(3,986)
Accrued and other current liabilities	(6,992)	(6,223)
Deferred revenue	929	(3,581)
Related party payables, net	3,830	6,272
Other assets and liabilities	1,338	301
Net cash used in operating activities	(23,580)	(54,738)
Cash flows from investing activities:		
Purchase of property and equipment including internal use software	(5,327)	(10,316)
Assignment of NantHealth Labs (formerly Liquid Genomics), net of cash assigned (see Note 18)	68	—
Net cash used in investing activities	(5,259)	(10,316)
Cash flows from financing activities:		
Tax payments related to stock issued, net of stock withheld, for vested equity awards	(1,996)	(2,711)
Net cash used in financing activities	(1,996)	(2,711)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(280)	81
Net decrease in cash, cash equivalents and restricted cash	(31,115)	(67,684)
Cash, cash equivalents and restricted cash, beginning of period (1)	62,010	160,703
Cash, cash equivalents and restricted cash, end of period (1)	$ 30,895	$ 93,019

	Six Months Ended June 30,	
	2018	**2017 (2)**
Supplemental disclosure of cash flow information:		
Interest paid	$ 2,943	$ 2,836
Interest received	3	30
Non-cash investing and financing activities:		
Purchase of property and equipment (including internal use software)	577	863

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

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

(1) Cash and cash equivalents included restricted cash of $ 350 and $ 1,486 at December 31, 2017 and June 30, 2018, respectively, and $350 at December 31, 2016 and June 30, 2017.

(2) The statements for 2017 and 2018 include cash flows of discontinued operations.

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. 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, payer engagement and connected care solutions on a stand-alone basis. 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 August 25, 2017, the Company sold substantially all of the assets of the Company’s provider/patient engagement solutions business (see Note 3). The sale enabled the Company to focus on its core competencies of genomic sequencing, clinical decision support, connected care and payer engagement.

As of June 30, 2018 , the Company conducted the majority of its operations in the United States, Canada, the United Kingdom, and Singapore.

Basis of Presentation and Principles of Consolidation

The accompanying unaudited Condensed Consolidated Financial Statements include the accounts of NantHealth and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. These interim Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and, in the opinion of management, include all adjustments, which are normal and recurring in nature, necessary for a fair presentation of the Company's financial position and results of operation. These Financial Statements should be read in conjunction with the audited Consolidated Financial Statements for the fiscal year ended December 31, 2017 . The results of operations of the entities disposed of are included in the unaudited condensed consolidated financial statements up to the date of disposal and, where appropriate, these operations have been reflected as discontinued operations. The accompanying Condensed Consolidated Balance Sheet as of December 31, 2017 has been derived from the audited Consolidated Financial Statements at that date, without retrospective application of ASC 606, *Revenue from Contracts with Customers* ("ASC 606"). The balance sheets do not include all of the disclosures required by GAAP. Operating results for interim periods are not necessarily indicative of the results that may be expected for a full fiscal year. The adoption of ASC 606 led to the treatment of costs to fulfill certain software and hardware related implementation services being accounted for as single performance obligations with the software and hardware products, and services provided. Classification in prior periods has been conformed to the current period presentation. As a result of the reclassification, we have changed the names of several of our reported product categories. Software and hardware has become Software and hardware related, Software-as-a-service has become Software-as-a-service related, and Other services has become Home health care services.

The Company believes its existing cash, cash equivalents and 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 based upon the Company’s 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. 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 were private placement of membership interests prior to its IPO, debt financing agreements, including the promissory note with Nant Capital, LLC (“NantCapital”), convertible notes, and its IPO.

Note 2. Summary of Significant Accounting Policies

There have been no significant changes to the accounting policies as disclosed in the Company's Annual Report on Form 10-K, apart from the application of ASC 606, described below. The other accounting policies, including the accounting policy for revenue recognition under ASC 605, *Revenue Recognition* , and ASC 985, *Software* , applied to periods before January 1, 2018, are described in the Company’s Annual Report on Form 10-K.

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 Condensed Consolidated Financial Statements and accompanying notes. Actual results may differ from those estimates.

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 Condensed 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 Condensed Consolidated unit level. Accordingly, management has determined that the Company operates in one reportable segment.

Revenue from Contracts with Customers

Transition to FASB ASC 606

On January 1, 2018, the Company adopted ASC 606, *Revenue from Contracts with Customers* , using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented in accordance with ASC 606, while prior period amounts continue to be reported in accordance with the Company’s historic accounting under ASC 605, which are included in Note 2, Summary of Significant Accounting Policies, to the Consolidated and Combined Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

The Company recorded a decrease of $ 1,263 , net of tax, to the opening accumulated deficit as of January 1, 2018 due to the cumulative impact of adopting ASC 606. The most significant changes were to begin recognizing revenues from certain software and hardware implementation projects based on an estimate of percentage of completion, rather than at completion of the contract; to recognize estimated revenues from nursing and therapy services as the services are performed, rather than on final determination of contractual billable amounts; and to capitalize commissions as assets for contracts with performance obligations of more than one year. The adoption also led to certain costs, in relation to Software-as-a-Service ("SaaS") contracts, and previously treated as deferred implementation costs in current and long-term assets, being treated as software developed for internal use. This resulted in an increase of $5,827 of software developed for internal use, being recorded at January 1, 2018 with a corresponding decrease in deferred implementation costs.

On implementing ASC 606, the Company has concluded that its accounts receivable should be reported separately from deferred revenue, therefore the outstanding and unpaid invoices for undelivered services, are not excluded from accounts receivable at June 30, 2018. This led to an increase of $5,247 in accounts receivable and a corresponding increase in deferred revenue at January 1, 2018.

This table summarizes the impact on the Company’s financial statements due to the adoption of ASC 606:

(Dollars in thousands, except per share amounts)

	As Reported December 31, 2017	Adjustments due to ASC 606	Balance as at January 1, 2018
Balance Sheet			
Accounts receivable, net	$ 11,491	$ 5,247	$ 16,738
Deferred implementation costs, current	1,960	(1,960)	—
Prepaid expenses and other current assets	5,358	1,117	6,475
Property, plant, and equipment, net	18,517	5,827	24,344
Deferred implementation costs, net of current	3,951	(3,949)	2
Other assets	2,195	562	2,757
Deferred revenue, current	10,057	3,184	13,241
Deferred revenue, net of current	7,126	2,030	9,156
Deferred income taxes	5,838	367	6,205

The impact of the adoption of ASC 606 as of June 30, 2018 is presented here:

	As of June 30, 2018		
	As Reported	Adjustments due to ASC 606	Without new Revenue Standard
Balance Sheet			
Accounts receivable, net	$ 18,968	$ (4,456)	$ 14,512
Deferred implementation costs, current	11	2,368	2,379
Prepaid expenses and other current assets	6,225	(1,359)	4,866
Property, plant, and equipment, net	24,366	(5,907)	18,459
Deferred implementation costs, net of current	4	3,705	3,709
Other assets	1,874	(640)	1,234
Deferred revenue, current	15,218	(2,766)	12,452
Deferred revenue, net of current	8,108	(456)	7,652
Deferred income taxes	4,419	(578)	3,841

The impact of the adoption of ASC 606 during the three and six months ended June 30, 2018 is presented here:

	Three Months Ended June 30, 2018		
	As Reported	Adjustments due to ASC 606	Without new Revenue Standard
Statement of Operations			
Total net revenue	$ 22,047	$ (821)	$ 21,226
Cost of revenue	10,582	(47)	10,535
Operating expenses	25,331	11	25,342
(Benefit from) provision for income taxes	(601)	(120)	(721)

(Dollars in thousands, except per share amounts)

	Six Months Ended June 30, 2018		
	As Reported	Adjustments due to ASC 606	Without new Revenue Standard
Statement of Operations			
Total net revenue	$ 44,311	$ (1,357)	$ 42,954
Cost of revenue	21,651	(82)	21,569
Operating expenses	52,270	484	52,754
(Benefit from) provision for income taxes	(1,651)	(239)	(1,890)

The Company's accounting policies under the new standard are applied prospectively and are noted below.

Revenue Recognition

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect 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 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 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 analysis of whole genome DNA, RNA, and proteomic testing under the Company's reseller agreement with NantOmics, LLC ("NantOmics"), and from blood samples via our liquid/blood-based tumor profiling platform through the Company's subsidiary, NantHealth Labs, Inc. ("NantHealth Labs", previously named Liquid Genomics, Inc.) (see Note 18). 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 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.

- **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.

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 noncancellable 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.

The Company has allocated transaction price of $18,461 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.

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 actual, or estimated, 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 will also record 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 will commence 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 will have been resolved, and the Company will be able to reasonably measure the remaining progress toward complete satisfaction of its remaining professional services obligations. In such cases, the Company will commence 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, will be 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 actual, or estimated, direct implementation labor hours as a measure of progress.

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.

Contract Balances

The Company records deferred revenue when cash payments are received, or payment is due, in advance of our fulfillment of performance obligations. There were revenues of $ 3,895 and $ 7,966 recognized during the three and six months ended June 30, 2018 that were included in the deferred revenue balance at the beginning of respective 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 $ 655 at June 30, 2018 from $ 796 at January 1, 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 $ 1,343 at June 30, 2018 and $ 866 at January 1, 2018, and amortization during the three and six months ended June 30, 2018 was $ 201 and $240 , 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.

Practical Expedients

The Company does not disclose the value of unsatisfied performance obligations for: contracts with an original expected length of one year or less; or where variable consideration, related to the company's performance, is allocated to goods and services delivered as a series and accounted for as a single performance obligation.

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 client 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 cost of revenue includes personnel-related costs, amortization of deferred implementation, and 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 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 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 the Company's subsidiary, NantHealth Labs, and amounts due to NantOmics under the reseller agreement (see Note 18) for the sequencing and analysis of whole genome, DNA, RNA, and 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 personnel-related, as well as direct expenses relating to the Company's nursing and therapy services provided to patients in a home care setting.

Recent Accounting Pronouncements

Effective January 1, 2018, the Company adopted Accounting Standard Update ("ASU") No. 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities* , associated with the recognition and measurement of financial assets and liabilities. During the first quarter of 2018, the FASB issued further clarifications with the issuance of ASU No. 2018-03, effective for fiscal years beginning after December 15, 2017 and interim periods beginning after June 15, 2018, and ASU No. 2018-04, effective upon issuance. The Company has early adopted ASU No. 2018-03 and adopted ASU No. 2018-04 effective January 1, 2018 concurrently with ASU No. 2016-01. ASU No. 2016-01 requires that equity investments, except those accounted for under the equity method of accounting, be measured at fair value and changes in fair value are recognized in net income. ASU No. 2016-01 also provides a new measurement alternative for equity investments that do not have a readily determinable fair value (cost method investments). These investments are measured at cost, less any impairment, adjusted for observable price changes. The amendments related to equity securities without readily determinable fair values (including disclosure requirements) are applied prospectively to equity investments that exist as of the date of adoption. Effective January 1, 2018, the Company elected to record its preferred stock equity investment in Innovative Oncology Business Solutions, Inc. ("IOBS"), which does not have a readily determinable fair value using the alternative method. Adoption of the Updates did not have a material effect on the Company's accounting for equity investments, fair value disclosures and other disclosure requirements.

The Company owns non-marketable equity securities that are accounted for as an equity investment at cost minus impairment and plus or minus changes resulting from observable price changes because the preferred stock held by the Company is not considered in-substance common stock and such preferred stock does not have a readily determinable fair value. All investments are reviewed on a regular basis for possible impairment. If an investment's fair value is determined to be less than its net carrying value, the investment is written down to its fair value. Such an evaluation is judgmental and dependent on specific facts and circumstances. Factors considered in determining whether an impairment indicator is present include: the investees' earning performance, change in the investees' industry and geographic area in which it operates, offers to purchase or sell the security for a price less than the cost of the investment, issues that raise concerns about the investee's ability to continue as a going concern and any other information that the Company may be aware of related to the investment. Factors considered in determining whether an observable price change has occurred include: the price at which the investee issues equity instruments similar to those of the Company's investment and the rights and preferences of those equity instruments compared to the Company's.

Effective January 1, 2018, the Company adopted ASU No. 2016-15, *Classification of Certain Cash Receipts and Cash Payments* . ASU No. 2016-15 adds or clarifies guidance on the classification of certain cash receipts and payments in the statement of cash flows. Also, effective January 1, 2018, the Company adopted ASU No. 2016-18, *Statement of Cash Flows: Restricted Cash, a consensus of the FASB's Emerging Issues Task Force* . ASU No. 2016-18 requires that the statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Entities are required to reconcile such total to amounts on the balance sheet and disclose the nature of the restrictions. Prior periods were retrospectively adjusted to conform to the current period's presentation. There was no material impact on the Company's statement of cash flows on adoption of either update.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting* . The amendments in ASU No. 2017-09 provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. Pursuant to this ASU, an entity should account for the effects of a modification unless all of the following are met: (1) the fair value (or calculated value or intrinsic value, if such an alternative measurement method is used) of the modified award is the same as the fair value (or calculated value or intrinsic value, if such an alternative measurement method is used) of the original award immediately before the original award is modified; (2) the vesting conditions of the modified award are the same as the vesting conditions of the original award immediately before the original award is modified; and (3) the classification of the modified award as an equity instrument or a liability instrument is the same as the classification of the original award immediately before the original award date is modified. ASU No. 2017-09 is effective for all entities for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted, including adoption in any interim period for which financial statements have not yet been issued or made available for issuance. The amendments of this ASU should be applied prospectively to an award modified on or after the adoption date. We adopted the standard beginning in the first quarter of 2018. If we encounter a change to the terms or conditions of any of our share-based payment awards we will evaluate the need to apply modification accounting based on the new guidance. The general treatment for modifications of share-based payment awards is to record the incremental value arising from the change as additional compensation cost. The adoption of this standard did not result in a significant impact to our financial statements during the quarterly reporting period ended March 31, 2018.

In June 2018, the FASB issued ASU No. 2018-07, *Stock Compensation (Topic 718)* : *Improvements to Nonemployee Share-Based Payment Accounting,* to simplify accounting for nonemployee stock based compensation. Upon adoption of this ASU, in most cases expense recognition for nonemployee stock compensation will be in line with employee stock compensation, using a grant date fair value, without periodic revaluation. This update will become effective for the Company's annual and interim goodwill impairment tests beginning in the first quarter of 2019, and early adoption is permitted. The Company is still evaluating the impact of this standard update.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles – Goodwill and Other* (Topic 350) 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. Upon adoption of this ASU, goodwill impairment 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 may result in more or less impairment being recognized than under current guidance. This update will become effective for the Company's annual and interim goodwill impairment tests beginning in the first quarter of 2020, and early adoption is permitted. The Company is still evaluating the impact of this standard update.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* . The update 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 currently accounted for as operating leases. This guidance will become effective for interim and annual reporting periods beginning with the year ending December 31, 2019. Early adoption is permitted.

The Company expects that this guidance will have a material impact on the Consolidated Balance Sheets when adopted at January 1, 2019. However, it is not expected to have a material impact on the Consolidated Statements of Operations. In July 2018, the FASB issued A SU No. 2018-11, Leases (Topic 842): Targeted Improvements, to provide a new transition method. Under this method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. T he Company expects to use this method. The Company continues to assess optional practical expedients available and expects to elect certain of those currently available. From initial evaluation, the Company believes the most significant impacts will relate to operating leases of office space and data centers. The Company is implementing new business processes and controls around the review of lease agreements and expects to have calculated the modified retrospective impact to our Consolidated Financial Statements during fiscal 2018.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force), the American Institute of Certified Public Accountants, and the Securities and Exchange Commission ("SEC") did not have, or are not believed by management to have, a material impact on the Company's present or future Condensed Consolidated Financial Statements.

Note 3. 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 is also responsible for fulfilling certain customer service obligations of the Business post-closing. As of June 30, 2018, the Company accrued $2,253 in the Condensed Consolidated Balance Sheet for these obligations, which includes estimates for certain unresolved items.

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 and, as of June 30, 2018 and December 31, 2017 , the estimated fair value was not material.

During the three and six months ended June 30, 2018 , the Company recorded other income of $140 and $337 , respectively, associated with the services under the transition services agreement.

(Dollars in thousands, except per share amounts)

The total loss upon sale to Allscripts, at August 25, 2017, consisted of the following:

Cash received as consideration	$ 1,742
Deferred consideration related to working capital adjustments	1,021
Estimated costs to be incurred by the Company to fulfill certain customer service obligations of the Business post-closing	(883)
Fair value of common stock	42,750
Net consideration received	44,630
Less: Carrying value of net assets sold	(55,255)
Plus: Reclassification of cumulative translation adjustments of foreign subsidiaries	117
Loss from sale of Business	$ (10,508)

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 represented a strategic shift in the Company's operations as the sale enables the Company to focus on genomic sequencing, clinical decision support, connected care and payer engagement.

The operating results of the Company's discontinued operations are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Major line items constituting loss from discontinued operations				
Net revenue	$ —	$ 2,716	$ —	$ 6,121
Cost of revenue	—	7,020	—	14,531
Selling, general and administrative	1,591	3,719	1,785	7,162
Research and development	—	3,470	—	7,943
Amortization of software license and acquisition-related assets	—	760	—	1,520
Other (income) expense	—	(44)	—	(82)
Loss from sale of Business		—	—	—
Gain from dissolution of a business component	—	—	—	—
Loss from discontinued operations, before income taxes	(1,591)	(12,209)	(1,785)	(24,953)
Provision for income taxes	—	159	—	404
Loss from discontinued operations, net of income taxes	$ (1,591)	$ (12,368)	$ (1,785)	$ (25,357)

Cumulative translation adjustment gains or losses of foreign subsidiaries related to divested businesses are reclassified into income once the liquidation of the respective foreign subsidiaries is substantially complete. At the completion of the sale of the Business, the Company reclassified $ 117 of cumulative translation adjustment gains from accumulated comprehensive loss to the Company's loss from sale of Business.

The significant operating and investing cash and non-cash items of the discontinued operations included in the unaudited condensed consolidated statements of cash flows for the three and six months ended June 30, 2017 were depreciation and amortization from discontinued operations of $3,551 and $6,906 , respectively,

Dissolution of Net.Orange Ltd

On August 29, 2017, the Company dissolved its wholly-owned U.K. subsidiary, Net.Orange Ltd. The Company reclassified $ 860 of cumulative translation adjustment gains from accumulated comprehensive loss to the Company's results of discontinued operations.

Note 4. Accounts Receivable, net

(Dollars in thousands, except per share amounts)

Previously, accounts receivable, net excluded amounts related to post contract client support ("PCS") and other services that were billed but not yet delivered at each period end. These undelivered services were also excluded from the deferred revenue balances on the accompanying Condensed Consolidated Balance Sheets. The amount of outstanding and unpaid invoices excluded from both the accounts receivable and deferred revenue balances as of December 31, 2017 was $6,198 . Due to implementing ASC 606 outstanding and unpaid invoices for undelivered services, are not excluded from accounts receivable at June 30, 2018 (see Note 2).

Accounts receivable are included on the Condensed Consolidated Balance Sheets, net of the allowance for doubtful accounts. The allowance for doubtful accounts at June 30, 2018 and December 31, 2017 was $149 and $149 , respectively.

Note 5. Inventories

Inventories as of June 30, 2018 and December 31, 2017 consisted of $731 and $839 of finished goods, respectively.

Note 6. Prepaid Expenses and Other Current Assets and Accrued and Other Current Liabilities

Prepaid expenses and other current assets as of June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 2018	December 31, 2017
Prepaid expenses	$ 2,150	$ 2,791
Restricted cash (1)	350	350
Other current assets	3,725	2,217
Prepaid expenses and other current assets	$ 6,225	$ 5,358

(1) Additional $1,136 of noncurrent restricted cash as of June 30, 2018, is included in the Company's Consolidated Balance Sheets as part of Other assets. Current and noncurrent 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 June 30, 2018.

Accrued and other current liabilities of June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 2018	December 31, 2017
Payroll and related costs	$ 4,030	$ 7,051
NaviNet acquisition accrued earnout	850	5,408
Other accrued and other current liabilities	6,887	5,675
Accrued and other current liabilities	$ 11,767	$ 18,134

(Dollars in thousands, except per share amounts)

Note 7. Property, Plant, and Equipment, net

Property, plant and equipment, net as of June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 2018	December 31, 2017
Computer equipment and software	$ 13,801	$ 13,998
Furniture and equipment	3,552	3,211
Leasehold and building improvements	5,284	4,233
Construction in progress	1,649	—
Property, plant, and equipment, excluding internal use software	24,286	21,442
Less: Accumulated depreciation and amortization	(17,062)	(15,248)
Property, plant and equipment, excluding internal use software, net	7,224	6,194
Internal use software	27,655	17,690
Construction in Progress - Internal use software	1,487	629
Less: Accumulated depreciation and amortization, internal use software	(12,000)	(5,996)
Internal use software, net	17,142	12,323
Property, plant, and equipment, net	$ 24,366	$ 18,517

Depreciation and amortization expense from continuing operations was $3,037 and $6,107 , respectively for the three and six months ended June 30, 2018 , of which $2,217 and $4,343 , respectively, related to internal use software costs. Depreciation and amortization expense from continuing and discontinued operations was $3,485 and $6,596 , respectively, for the three and six months ended June 30, 2017 , of which $1,526 and $2,856 , respectively, related to internal use software costs.

Amounts capitalized to internal use software for the three and six months ended June 30, 2018 were $1,718 and $3,344 , respectively. Amounts capitalized to internal use software for the three and six months ended June 30, 2017 were $3,468 and $4,506 , respectively.

Note 8. Intangible Assets, net

The Company's definite-lived intangible assets as of June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 2018	December 31, 2017
Customer relationships	$ 52,000	$ 52,000
Developed technologies	36,700	32,000
Trade name	3,000	3,000
	91,700	87,000
Less: accumulated amortization	(22,422)	(17,576)
Intangible assets, net	$ 69,278	$ 69,424

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. 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 operations was $2,347 and $4,574 , respectively, for the three and six months ended June 30, 2018 and amortization expense from continuing and discontinued operations was $4,619 and $9,839 , respectively, for the three and six months ended June 30, 2017 .

At February 28, 2018, the Company recorded $4,700 of finite-lived intangible assets and accumulated amortization of $271 related to the assignment of NantHealth Labs (see Note 18). These intangibles are amortized over a period of thirteen years.

(Dollars in thousands, except per share amounts)

The estimated future amortization expense over the next five years and thereafter for the intangible assets that exist as of June 30, 2018 is as follows:

	Amounts
Remainder of 2018	$ 4,484
2019	9,150
2020	8,400
2021	8,400
2022	8,400
Thereafter	30,444
Total future intangible amortization expense	$ 69,278

Note 9. Goodwill

Goodwill as of June 30, 2018 and December 31, 2017 was $115,930 and $ 114,625 , respectively. Goodwill as of December 31, 2017 excluded $16,444 associated with discontinued operations based on the relative fair value of the Business disposed to the total reporting unit as of August 25, 2017 (see Note 3).

On February 28, 2018, the Company recognized $1,305 of goodwill related to the assignment of NantHealth Labs (See Note 18).

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.

Note 10. Investments

Equity method investment

Investment in NantOmics

In 2015, the Company purchased a total of 169,074,539 Series A-2 units of NantOmics, LLC (“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 represent 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. 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, these amounts were recorded as a reduction in the carrying amount of the Company's investment and an increase in its equity method loss. 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.

The investment in related party is assessed for possible impairment when events indicate that the fair value of the investment may be below the 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 the 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 the investment is not changed for subsequent recoveries in fair value.

(Dollars in thousands, except per share amounts)

The fair value of the Company's equity method investment is determined using the income approach. The income approach utilizes a discounted cash flow model incorporating management's expectations for 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 at the date of valuation. Differences between the 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 our 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.

At June 30, 2017 and at December 31, 2016, the Company determined that other than temporary impairments of $35,991 and $29,816 , respectively, in the value of the investment in NantOmics had occurred, predominantly attributed to declines in the value of goodwill. The declines in the fair value were primarily caused by delays in the Company's GPS revenue growth and changes in the risk profile of the financial projections for NantOmics. The Company based its financial projections on information that the Company believed were reasonable; however, actual results may differ materially from those projections. The other than temporary impairments were based on judgments and estimates that were forward looking in nature and it is reasonably possible that the estimate of the impairments of the equity method investment in NantOmics will change in the near term due to the following: actual NantOmics cash distribution is materially lower than expected, significant adverse changes in NantOmics's operating environment, increase in the discount rate, and changes in other key assumptions. 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.

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 18). An additional 564,779 units were transferred by May 31, 2018. This reduced NantHealth's ownership of NantOmics to approximately 13.6% .

The Company reports its share of NantOmics' income or loss and the amortization of basis differences using a one quarter lag. For the three months ended June 30, 2018 and June 30, 2017 , the Company recognized equity losses of $2,945 and $38,885 , respectively. For the six months ended June 30, 2018 and June 30, 2017 , the Company recognized equity losses of $6,206 and $43,411 , respectively.

The Company used the following summarized financial information for NantOmics for the six months ended March 31, 2018 and 2017, to record its equity method losses for the six months ended June 30, 2018 and 2017 :

	Trailing six months ended March 31	
	2018	**2017**
Revenues	$ 2,966	$ 3,806
Gross loss	(6,287)	(3,051)
Loss from operations	(26,684)	(21,654)
Net loss	(44,039)	(31,506)
Net loss attributable to NantOmics	(43,042)	(29,633)

Investment in equity securities without readily determinable fair values

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 June 30, 2018 and December 31, 2017 , 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 has 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 has concluded the fair value of the investment is nil as of June 30, 2018 and recognized an impairment charge of $1,750 in Other expenses. No other arrangements exist that could require the Company to provide additional financial support or otherwise expose the Company to a loss.

Note 11. 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., an entity affiliated with Dr. Patrick Soon-Shiong, the Company’s Chairman and Chief Executive Officer (“Cambridge”), 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 overallotment 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 30, 2022 and to subordinate such promissory note in right of payment to the Convertible Notes (see Note 18).

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.

(Dollars in thousands, except per share amounts)

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.

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 will be 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 Condensed 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 were 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 June 30, 2018 , the remaining life of the Convertible Notes is approximately 42 months .

The following table summarizes how the issuance of the Convertible Notes is reflected in the Company's Condensed Consolidated Balance Sheets as of June 30, 2018 and December 31, 2017 .

	Related party	Others	Total
Balance as of June 30, 2018			
Gross proceeds	$ 10,000	$ 97,000	$ 107,000
Unamortized debt discounts and deferred financing offering costs	(1,844)	(19,935)	(21,779)
Net carrying amount	$ 8,156	$ 77,065	$ 85,221
Balance as of December 31, 2017			
Gross proceeds	$ 10,000	$ 97,000	$ 107,000
Unamortized debt discounts and deferred financing offering costs	(2,053)	(22,155)	(24,208)
Net carrying amount	$ 7,947	$ 74,845	$ 82,792

(Dollars in thousands, except per share amounts)

The following table sets forth the Company's interest expense recognized in the Company's Condensed Consolidated Statements of Operations:

	Three Months Ended June 30, 2018			Six Months Ended June 30, 2018		
	Related party	Others	Total	Related party	Others	Total
Accrued coupon interest expense	$ 137	$ 1,334	$ 1,471	$ 275	$ 2,668	$ 2,943
Amortization of debt discounts	100	957	1,057	203	1,946	2,149
Amortization of deferred financing offering costs	3	135	138	5	275	280
Total convertible notes interest expense	$ 240	$ 2,426	$ 2,666	$ 483	$ 4,889	$ 5,372

Note 12. Fair Value Measurements

Assets and liabilities measured at fair value on a recurring basis as of June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 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)
Assets - Cash equivalents	$ 29,409	$ 29,409	$ —	$ —
Assets - Marketable securities	1,136	—	1,136	—
Liabilities - Interest make-whole derivative	5	—	—	5

	December 31, 2017			
	Total fair value	Quoted price in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets - Cash equivalents	$ 57,683	$ 57,683	$ —	$ —
Assets - Marketable securities	361	—	361	—
Liabilities - Interest make-whole derivative	7	—	—	7

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. The fair values of the Company’s marketable securities and cash equivalents (consisting of mainly money market accounts) are based on quoted market prices in active markets with no valuation adjustment.

The Company's investment securities as of June 30, 2018 and December 31, 2017 include certificates of deposit. The fair value of these investments approximate carrying values, and the Company has classified these instruments as Level 2 in the fair value hierarchy. The securities have maturity dates of one to three years.

(Dollars in thousands, except per share amounts)

Level 3 Inputs

In December 2016, the Company issued $107,000 in aggregate principal amount of Convertible Notes due December 15, 2021, of which $10,000 in principal amount, was issued to a related party (see Note 11). 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 Condensed Consolidated Balance Sheets, with subsequent changes to fair value recorded through earnings at each reporting period as part of other income, net on the Company's Condensed Consolidated Statements of Operations as change in fair value of derivative liability.

The following tables set forth a summary of changes in the fair value of Level 3 liabilities for the three and six months ended June 30, 2018 :

	March 31, 2018	Additions	Change in fair value	June 30, 2018
Interest make-whole derivative - related party and others	$ 5	$ —	$ —	$ 5

	December 31, 2017	Additions	Change in fair value	June 30, 2018
Interest make-whole derivative - related party and others	$ 7	$ —	$ (2)	$ 5

As of June 30, 2018 and December 31, 2017 , 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 June 30, 2018			
Related party	$ 6,735	$ 8,156	$ 10,000
Others	65,331	77,065	97,000
	$ 72,066	$ 85,221	$ 107,000
Balance as of December 31, 2017			
Related party	$ 7,327	$ 7,947	$ 10,000
Others	71,076	74,845	97,000
	$ 78,403	$ 82,792	$ 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.

Note 13. Commitments and Contingencies

The Company's principal commitments consist of obligations under its outstanding debt obligations, non-cancelable leases for its office space and certain equipment and vendor contracts to provide research services, and purchase obligations under license agreements and reseller agreements.

Lease Arrangements

(Dollars in thousands, except per share amounts)

The Company leases both real estate and equipment used in its operations and classifies those leases as either operating or capital leases for accounting purposes. As of June 30, 2018 and December 31, 2017 , the Company had no material capital leases and the remaining lives of its operating leases ranged from one to ten years .

Rental expense associated with operating leases is charged to expense in the year incurred and is included in the Condensed Consolidated Statements of Operations. For the three and six months ended June 30, 2018 , the rental expense was charged to selling, general and administrative expense in the amount of $1,412 and $2,376 respectively. For the three and six months ended June 30, 2017 the amounts from continuing and discontinued operations were $1,261 and $2,515 respectively.

In March and April 2018, the Company had entered into two new real estate leases in Philadelphia and Boston, which increased the Company's future minimum rental commitments. As of June 30, 2018 , the Company's future minimum rental commitments under its noncancelable operating leases are as follows:

	Amounts
2018	$ 3,060
2019	2,571
2020	2,594
2021	2,412
2022	2,394
Thereafter	3,937
Total minimum rental commitments	$ 16,968

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. Except as discussed below, in the opinion of management, the ultimate outcome of proceedings of which management is aware, even if adverse to them, would not have a material adverse effect on the Company's Condensed 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. 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 our 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. A trial date has been set for August 2019. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

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 agreed to a stay of the case pending resolution of the motion to dismiss in in the federal Deora case. 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. On July 30, 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. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

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 offers 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.

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 it was electing to terminate the Sublease Agreement.

In its Verified Complaint, 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. The parties are currently engaged in discovery, including non-party discovery. 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 is currently scheduled for August 22, 2018.

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

The monetary and other impact of these actions may remain unknown for substantial periods of time. The cost to defend, settle or otherwise resolve these matters may be significant and divert management's attention. We cannot assure you that we will prevail in these lawsuits. If we are ultimately unsuccessful in these matters, we could be required to pay substantial amounts which might materially adversely affect our business, operating results and financial condition.

Note 14. Income Taxes

The provision for income taxes for the three and six months ended June 30, 2018 in continuing operations was a benefit of $ 601 and $1,651 , respectively. For the three and six months ended June 30, 2017 the provision for income taxes in continuing operations was $ 18 and $55 respectively. The tax provision for income taxes for the three and six months ended June 30, 2018 and June 30, 2017 in continuing operations included an income tax provision for the consolidated group based on an estimated annual effective tax rate.

The effective tax rates for the three and six months ended June 30, 2018 were 2.68% and 3.63% in continuing operations, respectively. The effective tax rates for the three and six months ended June 30, 2017, were 0.03% and 0.06% in continuing operations, respectively. The effective tax rates for the three months ended June 30, 2018 and June 30, 2017 respectively differed from the U.S. federal statutory rates of 21% in 2018 and 34% in 2017 primarily as a result of a reduction to the deferred tax liability related to an indefinite lived intangible, nondeductible expenses, state income taxes, foreign income tax rate differential and the impact of valuation allowance on its deferred tax assets.

The Company has evaluated all available evidences supporting the realization of its deferred tax assets, including the amount and timing of future taxable income, and has determined that it is more likely than not that its net deferred tax assets will not be realized in the U.S. and certain foreign jurisdictions. Due to uncertainties surrounding the realization of the deferred tax assets, the Company maintains a full valuation allowance against substantially all deferred tax assets. If/when the Company determines that it will be able to realize some portion or all of its deferred tax assets, an adjustment to its valuation allowance on its deferred tax assets would have the effect of increasing net income in the period(s) such determination is made. The Company files income tax returns in the U.S. Federal jurisdiction, various U.S. state jurisdictions and certain foreign jurisdictions. 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, 2012 or prior, however, its tax attributes, such as net operating loss (“NOL”) carryforwards and tax credits, are still subject to examination in the year they are used.

The Tax Cuts and Jobs Act was enacted on December 22, 2017. The Act reduces the US federal corporate income tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred, modifies the rules with respect to the deductibility of certain executive compensation, and creates new taxes on certain foreign sourced earnings. We are applying the guidance in SAB 118 when accounting for the enactment-date effects of the Act. At June 30, 2018, we have not completed our accounting for the tax effects of the Act. We have made a reasonable estimate of certain effects of the act as of December 31, 2017. In other cases, we have not been able to make a reasonable estimate and continue to account for those items based on our existing accounting under ASC 740, Income Taxes, and the provisions of the tax laws that were in effect immediately prior to enactment. Our estimates may also be affected as we gain a more thorough understanding of the tax law. These changes would likely not be material to income tax expense given the companies valuation allowance against the U.S. net deferred tax assets.

Note 15. Stockholders’ Equity

Allscripts Stock

As discussed in Note 3, 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.

LLC Agreement and Amended Certificate of Incorporation

Prior to the LLC Conversion, the Company’s operations were governed by its LLC Agreement. Upon the consummation of the LLC Conversion, the Company converted into a corporation, and the LLC Agreement no longer governs the Company's operations or the rights of its equityholders.

The LLC Agreement provided that the board of directors had the power and discretion to manage and control the business, property and affairs of the company, but that certain actions required the consent of certain of the Company's former members. Under the LLC Agreement, the Company had units authorized, including Series A through H units. Each equityholder holding Series A, B, D, E, F, G or H units had one vote for each unit held. Profits interests units awarded under the Nant Health, LLC Profits Interests Plan (the "Profits Interests Plan") took the form of Series C units of the Company. Holders of Series C units did not have the right to vote. The LLC Agreement also set forth the rights of and restrictions on unitholders, including certain rights of first refusal and preemptive and co-sale rights. The LLC Agreement also provided that, upon the LLC Conversion, the allocation of shares of the Company's common stock among the pre-IPO equityholders was dependent upon the IPO price of its common stock, based on the relative rights of the pre-IPO equityholders as set forth in the LLC Agreement. As a result, as part of the LLC Conversion, the Company set the actual allocation of shares among its pre-IPO equityholders based upon the IPO price of its common stock.

Concurrently with the consummation of the LLC Conversion, the LLC Agreement was terminated, other than certain provisions relating to certain pre-termination tax matters and certain liabilities.

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 June 30, 2018 and December 31, 2017 , 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 June 30, 2018 and December 31, 2017 , there were no outstanding shares of preferred stock.

Other Equity Contributions

In December 2016, the Company entered into an agreement to provide genomic and proteomic sequencing and related bioinformatics services to an institution related to cancer research. The agreement provides that the institution pay the Company a fixed per-test fee in exchange for the services to be provided by the Company. A private charitable 501(c)(3) non-profit organization controlled by the Company's Chairman and CEO also made a charitable gift to the institution in December 2016. The gift does not contractually or otherwise require the institution to use the Company's molecular profiling solutions or any of the Company's other products or services. No amounts related to this arrangement have been recognized in the Company's Condensed Consolidated Balance Sheets or Statements of Operations as of or for the three and six months ended June 30, 2018 or June 30, 2017. During July 2017, the agreement with the institution was canceled.

(Dollars in thousands, except per share amounts)

Note 16. Stock-Based Compensation

The following table reflects the components of stock-based compensation expense recognized in the Company's Condensed Consolidated Statements of Operations:

	Three Months Ended June 30,		Six Months Ended June 30, 2018	
	2018	2017	2018	2017
Series C / Restricted Stock:				
Research and development	$ 27	$ 31	$ 51	$ 46
Phantom units:				
Cost of revenue	118	204	250	486
Selling, general and administrative	162	788	415	(644)
Research and development	152	(666)	326	(154)
Discontinued operations	—	295	—	1,201
Total phantom units stock-based compensation expense	432	621	991	889
Stock options:				
Selling, general and administrative	—	(13)	—	(48)
Restricted Stock Units:				
Cost of revenue	9	—	19	—
Selling, general and administrative	1,270	—	3,223	—
Research and development	70	—	148	—
Total restricted stock units stock-based compensation expense	1,349	—	3,390	—
Total stock-based compensation expense	1,808	639	4,432	887
Amount capitalized to internal-use software	116	205	260	729
Total stock-based compensation cost	$ 1,924	$ 844	$ 4,692	$ 1,616

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.

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 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 (see Note 15) 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).

(Dollars in thousands, except per share amounts)

Phantom Unit Plan

On March 31, 2015, the Company approved the Nant Health, LLC Phantom Unit Plan (the “Phantom Unit Plan”). The maximum number of phantom units that may be issued under the Phantom Plan is equal to 11,590,909 minus the number of issued and outstanding Series C units of the Company. As of June 30, 2018 , there were 691,625 phantom units outstanding under the Phantom Unit Plan, after giving effect to the 1 -for- 5.5 reverse stock split, effected in connection with the Company's IPO. 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. The Company’s IPO satisfied the liquidity event condition and the phantom units now entitle their holders to cash or non-cash 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 Condensed Consolidated Balance Sheet. 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 Condensed Consolidated Balance Sheet as of June 30, 2018 and December 31, 2017 .

The following table summarizes the activity related to the unvested phantom units during the six months ended June 30, 2018 :

	Number of Units		Weighted Average Grant date value per phantom unit
Unvested phantom units outstanding - December 31, 2017	1,292,784	$	15.01
Vested	(320,856)	$	15.75
Forfeited	(33,863)	$	14.61
Unvested phantom units outstanding - March 31, 2018	938,065	$	14.76
Vested	(188,426)	$	14.24
Forfeited	(58,014)	$	14.34
Unvested phantom units outstanding - June 30, 2018	691,625	$	14.94

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 18) as well as certain consultants of the Company. No phantom units were granted during the three and six months ending June 30, 2018 or 2017 . Stock-based compensation expense for the phantom units issued to these participants is re-measured at the end of each reporting period until the awards vest. All other grants of phantom units have been made to employees of the Company. 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 June 30, 2018 , the Company had $2,238 of unrecognized stock-based compensation expense related to phantom units which will be recognized over a weighted-average period of 1.1 years . Of that amount, $2,159 of unrecognized expense is related to employee grants with a weighted-average period of 1.1 years and $79 of unrecognized expense is related to non-employee grants with a weighted-average period of 1.5 years .

During the three and six months ended June 30, 2018 , the Company issued 114,469 and 318,394 shares, respectively, of common stock to participants of the Phantom Unit Plan based in the United States, after withholding approximately 58,304 and 175,171 shares, respectively, to satisfy tax withholding obligations. The Company made cash payments of $203 and $512 to cover employee withholding taxes upon the settlement of these vested phantom units during the three and six months ended June 30, 2018 , respectively. During the three months ended June 30, 2018 the Company also paid $55 to cash-settle 15,653 vested phantom units. During the six months ended June 30, 2018 , the Company also paid $55 to cash-settle 15,717 vested phantom units, 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.

(Dollars in thousands, except per share amounts)

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.

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 3,486 and 3,486 were vested and converted into unrestricted common stock during 2017 and 2016, respectively. As of June 30, 2018 , and December 31, 2017 , there were 3,490 shares of restricted stock outstanding under the 2016 Plan

Total stock-based compensation expense of $42 is expected to be recognized on a straight-line basis over approximately the next 0.3 years for the unvested restricted stock outstanding as of June 30, 2018 . The unrecognized stock compensation relates to nonemployees and the awards are being accounted for pursuant to ASC 505-50. Stock compensation expense for the Series C units/restricted stock issued to the nonemployees is 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.

Stock Options

During the year ended December 31, 2016, the Company issued 500,000 stock options, with an exercise price of $ 14.00 , under the 2016 equity incentive plan, to Mark Burnett, who was a non-employee member of the Company's Board of Directors until June 2018. The award is being accounted for pursuant to ASC 505-50. Stock compensation expense issued to the nonemployees is 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. The Company has utilized the Black-Scholes option-pricing model to determine the fair value of the stock options.

Mark Burnett did not seek nomination for re-election at the annual meeting of stockholders on June 8, 2018. As a result 125,000 unvested options were terminated.

Restricted Stock Units

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 classifies these awards as equity awards in its Condensed Consolidated Balance Sheet. 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 Condensed Consolidated Balance Sheet as of June 30, 2018 and December 31, 2017 .

The following table summarizes the activity related to the unvested restricted stock units during the three and six months ended June 30, 2018 :

	Number of Units	Weighted-Average Grant-Date Fair Value
Unvested restricted stock units outstanding - December 31, 2017	3,106,024	$ 3.43
Vested	(42,717)	4.33
Forfeited	(147,186)	3.39
Unvested restricted stock units outstanding - March 31, 2018	2,916,121	$ 3.42
Vested	(1,222,745)	3.42
Forfeited	(43,812)	3.39
Unvested phantom units outstanding - June 30, 2018	1,649,564	$ 3.42

(Dollars in thousands, except per share amounts)

The Company recognized compensation expense related to restricted stock units of $1,349 , and $3,390 for the three and six months ended June 30, 2018 respectively, and nil for the three and six months ended June 30, 2017 . Unrecognized compensation expense related to unvested restricted stock units was $5,108 at June 30, 2018 , which is expected to be recognized as expense over the weighted-average period of 1.8 years .

During the three and six months ended June 30, 2018 , the Company issued 756,930 and 769,647 shares, respectively, of common stock to participants of the Equity Incentive Plan based in the United States, after withholding approximately 423,075 , to satisfy tax withholding obligations. The Company made cash payments of $1,434 to cover employee withholding taxes upon the settlement of these vested restricted stock units during the three and six months ended June 30, 2018 . During the three and six months ended June 30, 2018 the Company also paid $144 and $245 , respectively, to cash-settle 42,740 and 72,739 vested restricted stock units, held by participants of the 2016 Plan based outside of the United States, to pay cash in lieu of fractional shares for vested units held by participants based in the United States, and by agreement with the Chief Operating Officer in relation to certain grants made to him.

Note 17. 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 and redeemable common stock for the three and six months ended June 30, 2018 and 2017 :

	Three Months Ended June 30,		Six Months Ended June 30, 2018	
	2018	2017	2018	2017
	Common Stock	Common Stock	Common Stock	Common Stock
Net loss per share numerator:				
Net loss from continuing operations	$ (21,806)	$ (57,696)	$ (43,779)	$ (85,822)
Net loss from discontinued operations	(1,591)	(12,368)	(1,785)	(25,357)
Net loss for basic and diluted net loss per share	$ (23,397)	$ (70,064)	$ (45,564)	$ (111,179)
Weighted-average shares for basic net loss per share	109,120,438	121,756,108	108,851,348	121,687,454
Effect of dilutive securities	—	—	—	—
Weighted-average shares for dilutive net loss per share	109,120,438	121,756,108	108,851,348	121,687,454
Basic and diluted net loss per share from continuing operations	$ (0.20)	$ (0.48)	$ (0.40)	$ (0.71)
Basic and diluted net loss per share from discontinued operations	$ (0.01)	$ (0.10)	$ (0.02)	$ (0.20)
Basic and diluted total net loss per share	$ (0.21)	$ (0.58)	$ (0.42)	$ (0.91)

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:

	Three and Six Months Ended June 30,	
	2018	2017
Unvested restricted stock	3,490	6,976
Unvested phantom units	691,625	3,515,718
Unvested restricted stock units	1,649,564	—
Unexercised Stock options	—	500,000
Convertible notes	8,815,655	8,815,655

Note 18. 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 three and six months ended June 30, 2018 , the Company incurred $390 and $1,433 of expenses respectively, related to selling, general and administrative services provided to the Company by NantWorks and affiliates, net. During the three and six months ended June 30, 2017 , the Company incurred $1,680 and $3,065 of expenses, related to selling, general and administrative services provided to the Company by NantWorks and affiliates, net of services provided to NantWorks and affiliates. Additionally, the Company incurred $101 of expenses during three and six months ended June 30, 2018 , related to research and development services provided by NantWorks and affiliates. The Company incurred $219 and $239 of expenses during the three and six months ended June 30, 2017 , related to research and development services provided by NantWorks and affiliates.

Related Party Receivables and Payables

As of June 30, 2018 and December 31, 2017 , the Company had related party receivables, net of related party payables of $2,775 and $2,312 , respectively, primarily consisting of a receivable from Ziosoft KK of $2,082 , which was related to the sale of Qi Imaging. As of June 30, 2018 and December 31, 2017 the Company had related party payables, net of receivables balances, and related party liabilities of $20,193 and $16,004 , 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 non-cancellable 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.

(Dollars in thousands, except per share amounts)

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.

As of June 30, 2018 and December 31, 2017 , the Company has $1,493 and $419 , respectively, of outstanding related party payables under the Second Amended Reseller Agreement. During the three and six months ended June 30, 2018 , $1,086 and $2,262 of direct costs were recorded as cost of revenue related to the Second Amended Reseller Agreement. During the three and six months ended June 30, 2017 , $1,163 and $2,388 of direct costs were recorded as cost of revenue related to the Second Amended Reseller Agreement.

Cambridge Purchase Agreement

On December 15, 2016, the Company entered into a purchase agreement (the “Cambridge Purchase Agreement”) with Cambridge Equities, L.P., an entity affiliated with the Company's Chairman and CEO Dr. Patrick Soon-Shiong (“Cambridge”), 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 11). The accrued and unpaid interest on the convertible notes was $24 and $24 at June 30, 2018 and December 31, 2017 , respectively, as part of current related party liabilities on the Condensed Consolidated Balance Sheet.

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 $148 and $196 , respectively, to the Company's sequencing and molecular analysis revenue for the three months and six months ending June 30, 2018. This revenue was substantially all earned from agreements with affiliates, described below. As a result of consolidating NantHealth Labs at February 28, 2018, net loss of the Company increased by $697 during the six months ended June 30, 2018.

		Amounts
NantOmics Series A-2 shares transferred, or to be 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"), NantCell, Inc. ("NantCell"), and NantBioScience, Inc. ("NantBio"), all affiliates of the Company.

Under these agreements, the Company recorded $137 and $182 of revenue during the three and six months ended June 30, 2018 , respectively. As of June 30, 2018 , the Company has $530 of accounts receivable from related parties and $315 of deferred revenue due to these agreements.

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 was 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 30, 2022 and to subordinate the Promissory Note in right of payment to the Convertible Notes (see Note 11). No other terms of the promissory note were changed. As of June 30, 2018 and December 31, 2017 , the total principal and interest outstanding on the note amounted to $127,243 and $124,166 , respectively. The accrued and unpaid interest on the note was $14,577 and $11,500 , respectively as of June 30, 2018 and December 31, 2017 , as part of non current related party liabilities on the Condensed 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 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 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 June 30, 2018 , there was no outstanding balance on the promissory note.

On August 8, 2018, the Company executed an additional promissory note in favor of NantCapital. (see Note 19).

Note 19. Subsequent Events

Related Party 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, 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 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 11). The promissory note includes customary negative covenants and a Performance to Plan - Adjusted EBITDA covenant, that stipulates the profit measure, as defined in the agreement, may not negatively deviate from board approved financial plans by more than 25% .

Item 2. 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 "Condensed Consolidated Financial Statements" and notes thereto included elsewhere in this Quarterly Report on Form 10-Q, or Quarterly 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 Quarterly Report and in our Annual Report on Form 10-K, particularly in Item 1A, "Risk Factors".

Overview

We are a leading next-generation, evidence-based, personalized healthcare company focused on enabling our clients to fundamentally change the diagnosis, treatment and pharmacoeconomics of cancer and other critical illnesses. We believe a molecular-driven, systems-based approach to making clinical treatment decisions based on large-scale, real time biometric and phenotypical data will become the standard of care initially for patients with cancer and, ultimately, other critical illnesses. We derive revenue from selling molecular sequencing and analysis services (including our unique, Comprehensive GPS Cancer test, for which we obtained exclusive rights from an affiliate that provides sequencing and analysis of tumor & normal samples and our liquid/blood-based tumor profiling test service, Liquid GPS, which analyzes cell-free DNA (cfDNA) and cell-free RNA (cfRNA)), and from selling software solutions to healthcare payers, self-insured employers and healthcare systems.

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, Payer Engagement and Connected Care 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 oncology community to drive adoption of molecular sequencing and analysis services;
- pursue reimbursement of molecular sequencing and analysis services from regional and national third-party payers and government payers;
- publish scientific and medical advances;
- strengthen our commercial organization to increase our NantHealth solutions client base and to broaden usage of our solutions by existing clients; and
- develop new features and functionality for NantHealth solutions to address the needs of current and future healthcare provider and payor, self-insured employer and biopharmaceutical company clients.

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 of our GPS Cancer 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 June 30, 2018 , our accumulated deficit was approximately $737.5 million . We expect to continue to incur operating losses over the near term as we drive 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.

2018 Acquisition of 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 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 was transferred to NantOmics as of May 31, 2018.

We believe that we have a substantial opportunity to leverage NantHealth Labs' testing as a complementary offering to our current portfolio of sequencing and molecular analysis solutions. There are significant synergies available and we intend to leverage our current sales and marketing efforts to drive provider acceptance and adoption. A key value proposition for liquid biopsy tests is ease of use (e.g., no tissue biopsy necessary, and fast delivery time). This complements our GPS Cancer test by enabling repeated measurement and monitoring of select biomarker response to therapy. NantHealth Labs services are provided under the "Liquid GPS" brand.

Evolution of GPS Cancer Test Platform

NantHealth and NantOmics, LLC (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. We also believe that our proprietary quantitative proteomics platform remains the most advanced technology available and a strategic asset of NantOmics. This platform continues to have potential commercial and research applications going forward.

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. On August 25, 2017, the Company and Allscripts completed the sale pursuant to the APA.

Allscripts conveyed to the Company 15,000,000 shares of the 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 the disposition. Allscripts paid the Company $1.7 million of cash consideration as an estimated working capital payment, and the Company 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 sold business post-closing.

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 million of total bookings over a ten -year period, or the Allscripts “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) we agreed to provide certain transition services to Allscripts pursuant to a transition services agreement; and (d) we licensed certain software and agreed to sell certain hardware to Allscripts pursuant to a software license and supply agreement. In the event of an Allscripts 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.

The sale of the business to Allscripts qualified as a 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 to Allscripts represented a strategic shift in our operations as the sale enables us to focus on genomic sequencing, clinical decision support, connected care and payer engagement.

The consummation of the transactions contemplated by the APA is reflected in the Condensed Consolidated Financial Statements.

2017 Corporate Restructuring Plan

In August 2017, we committed to and began implementation of a comprehensive restructuring plan that included a wide range of organizational efficiency initiatives and other cost reduction opportunities. The plan was substantially completed by the end of 2017 and allowed us to focus on our core competencies of genomic sequencing, clinical decision support, connected care and payer engagement. We incurred charges from this restructuring related to severance and other cash expenditures and recognized the majority of the expenses related to this restructuring in the quarter ended September 30, 2017.

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, (2) stock based compensation expense, (3) intangible amortization, (4) corporate restructuring expenses, (5) acquisition related compensation expense (6) acquisition related sales incentives, which have been recorded as contra revenue, (7) change in fair value of derivatives liability, (8) non-cash interest expense related to convertible notes, (9) securities litigation costs, (10) impairment of investments without readily determinable fair value, and (11) the impacts of certain income tax benefits and provisions from non-operating activity.

The following table reconciles Net loss from continuing operations to Net loss from continuing operations - Non-GAAP and Shares outstanding to Shares outstanding - Non-GAAP for the three and six months ended June 30, 2018 and 2017 (Unaudited):

(Dollars in thousands, except per share amounts)	**Three Months Ended June 30,**		**Six Months Ended June 30, 2018**	
	2018	**2017**	**2018**	**2017**
Net loss from continuing operations	$ (21,806)	$ (57,696)	(43,779)	(85,822)
Adjustments to GAAP net loss:				
Loss from related party equity method investment including impairment loss	2,945	38,885	6,206	43,411
Stock-based compensation expense from continuing operations	1,808	344	4,432	(314)
Corporate restructuring from continuing operations	—	1,392	—	1,589
Acquisition related sales incentive	425	671	570	1,334
Change in fair value of derivatives liability	(1)	(24)	(1)	(239)
Non-cash interest expense related to convertible notes	1,235	1,088	2,429	2,139
Intangible amortization from continuing operations	2,347	2,196	4,574	4,993
Securities litigation costs	749	—	823	—
Impairment of equity securities	1,750	—	1,750	—
Tax benefit resulting from certain non-cash tax items	(599)	—	(1,706)	—
Total adjustments to GAAP net loss from continuing operations	10,659	44,552	19,077	52,913
Net loss - Non-GAAP from continuing operations	$ (11,147)	$ (13,144)	$ (24,702)	$ (32,909)
Weighted average shares outstanding	109,120,438	121,756,108	108,851,348	121,687,454
Net loss per share from continuing operations - Non-GAAP	**$ (0.10)**	**$ (0.11)**	**$ (0.23)**	**$ (0.27)**

The following table reconciles net loss from continuing operations per common share to net loss per common share from continuing operations Non-GAAP for the three months ended June 30, 2018 and 2017 (Unaudited):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Net loss per common share from continuing operations	$ (0.20)	$ (0.48)	$ (0.40)	$ (0.71)
Adjustments to GAAP net loss per common share from continuing operations:				
Loss from related party equity method investment including impairment loss	0.03	0.32	0.06	0.36
Stock-based compensation expense from continuing operations	0.02	—	0.04	—
Corporate restructuring from continuing operations	—	0.01	—	0.01
Acquisition related sales incentive	—	0.01	0.01	0.01
Change in fair value of derivatives liability	—	—	—	—
Non-cash interest expense related to convertible notes	0.01	0.01	0.02	0.02
Intangible amortization from continuing operations	0.02	0.02	0.03	0.04
Securities litigation costs	0.01	—	0.01	—
Impairment of equity securities	0.02	—	0.02	—
Tax benefit resulting from certain non-cash tax items	(0.01)	—	(0.02)	—
Total adjustments to GAAP net loss per common share from continuing operations	0.10	0.37	0.17	0.44
Net loss per common share from continuing operations - Non-GAAP	**$ (0.10)**	**$ (0.11)**	**$ (0.23)**	**$ (0.27)**

Components of Our Results of Operations

Revenue

We generate our revenue from the sale of software-as-a-service, 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 - Software-as-a-service related, or SaaS, revenue is generated from our clients' access to and usage of our hosted software solutions on a subscription basis for a specified contract term, which is typically annually. In our SaaS arrangements, the client 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 sale of software licenses and the sale of our hardware. The software is installed on the client's site or the client'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 DeviceConX 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 client. When associated with software, these services are generally provided in the form of training and implementation services during the software license period and do not include PCS.

Maintenance - Maintenance revenue includes ongoing post-contract client support ("PCS") or maintenance, during the paid PCS term. Additionally, PCS includes ongoing development of software updates and upgrades provided to the client on a when and if available basis. We sell our DeviceConX 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 analysis of DNA and RNA from tumor and normal samples and from blood samples via our liquid/blood-based tumor profiling platform. We recognize revenue upon the delivery of the analysis and reporting of the results to the ordering physician, or institution, or on a cash basis when we cannot conclude that a contract has been established.

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 and any other services not included in the preceding revenue sources.

Cost of Revenue

Cost of revenue consists primarily of personnel-related costs for associates providing services to our clients and supporting our revenue-generating platform infrastructure, including salaries, benefits and bonuses. Additional expenses include consultant costs, direct reimbursable travel expenses and other direct engagement costs associated with the design, development, sale and installation of our solutions, including system support and maintenance services. Our cost of revenue associated with each of our revenue sources is as follows:

Software-as-a-service related - SaaS cost of revenue includes personnel-related, amortization of deferred implementation costs, depreciation of internal use software and other direct costs associated with the delivery and hosting of Eviti, our cancer-decision support solution, and NaviNet on a subscription basis.

Software and hardware related - Software and hardware related cost of revenue includes third-party software and hardware costs directly associated with our solutions. Software and hardware related cost of revenue also includes personnel-related costs, amortization of deferred implementation costs, depreciation of internal use software and other direct costs associated with software training and implementation services provided to our clients

Maintenance - Maintenance cost of revenue includes personnel-related and other direct costs associated with the ongoing support or maintenance we provide for our clients.

Sequencing and molecular analysis - Sequencing and molecular analysis cost of revenue includes internal costs associated with these services and amounts due to NantOmics under our Reseller Agreement for sequencing and molecular analysis via NantOmics tissue-based tumor profiling platform .

Home health care services - Home health care services includes direct expenses relating to our nursing and therapy services provided to patients in a home care setting.

Cost of revenue also includes amortization of our developed technologies used to generate revenue. 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 expect to continue to grow our investment in selling and other related expenses supporting future growth in our molecular sequencing and analysis services, including GPS Cancer and Liquid GPS, as well as expanding our brand. 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. These increases include additional costs we expect to incur 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 of our research and development expenses are related to developing new software solutions and improving our existing software solutions. To date, research and development expenses have been expensed as incurred as the period between achieving technological feasibility and the release of software solutions for sale has been short and development costs qualifying for capitalization have been insignificant.

With the exception of stock based compensation, 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 significant 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 non-cash 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.

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), 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 Including Impairment Loss

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 including impairment loss. 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 our LLC status prior to June 1, 2016 and current and accumulated net operating losses.

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 Condensed Consolidated Statements of Operations data for each of the periods indicated (Unaudited):

(Dollars in thousands, except per share amounts)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Revenue:				
Software-as-a-service related	$ 16,220	$ 14,946	$ 32,386	$ 29,743
Software and hardware related	885	3,279	2,340	3,877
Maintenance	2,388	3,468	4,835	5,487
Total software-related revenue	19,493	21,693	39,561	39,107
Sequencing and molecular analysis	924	450	1,764	960
Home health care services	1,630	1,371	2,986	2,551
Total net revenue	22,047	23,514	44,311	42,618
Cost of Revenue:				
Software-as-a-service related	5,741	5,195	12,342	11,428
Software and hardware related	789	1,024	1,675	2,028
Maintenance	234	129	449	290
Amortization of developed technologies	1,293	1,142	2,466	2,885
Total software-related cost of revenue	8,057	7,490	16,932	16,631
Sequencing and molecular analysis	1,689	1,512	3,120	3,105
Home health care services	836	650	1,599	1,434
Total cost of revenue	10,582	9,652	21,651	21,170
Gross Profit	11,465	13,862	22,660	21,448
Operating Expenses:				
Selling, general and administrative	18,388	19,225	39,122	36,660
Research and development	5,889	8,376	11,040	17,302
Amortization of acquisition-related assets	1,054	1,054	2,108	2,108
Total operating expenses	25,331	28,655	52,270	56,070
Loss from operations	(13,866)	(14,793)	(29,610)	(34,622)
Interest expense, net	(4,262)	(4,013)	(8,460)	(7,982)
Other income (expense), net	(1,334)	13	(1,154)	248
Loss from related party equity method investment, including impairment	(2,945)	(38,885)	(6,206)	(43,411)
Loss from continuing operations before income taxes	(22,407)	(57,678)	(45,430)	(85,767)
(Benefit from) provision for income taxes	(601)	18	(1,651)	55
Net loss from continuing operations	(21,806)	(57,696)	(43,779)	(85,822)
Loss from discontinued operations, net of tax	(1,591)	(12,368)	(1,785)	(25,357)
Net loss	$ (23,397)	$ (70,064)	$ (45,564)	$ (111,179)
Net loss per share:				
Continuing operations				
Basic and diluted - common stock	$ (0.20)	$ (0.48)	$ (0.40)	$ (0.71)
Discontinued operations				
Basic and diluted - common stock	$ (0.01)	$ (0.10)	$ (0.02)	$ (0.20)
Total net income (loss) per share				
Basic and diluted - common stock	$ (0.21)	$ (0.58)	$ (0.42)	$ (0.91)
Weighted average shares outstanding:				
Basic and diluted - common stock	109,120,438	121,756,108	108,851,348	121,687,454

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Revenue:				
Software-as-a-service related	73.6 %	63.6 %	10.9 %	12.9 %
Software and hardware related	4.0 %	13.9 %	5.3 %	9.1 %
Maintenance	10.8 %	14.7 %	10.9 %	12.9 %
Total software-related revenue	88.4 %	92.3 %	89.3 %	91.8 %
Sequencing and molecular analysis	4.2 %	1.9 %	4.0 %	2.3 %
Home health care services	7.4 %	5.8 %	6.7 %	5.9 %
Total net revenue	100.0 %	100.0 %	100.0 %	100.0 %
Cost of Revenue:				
Software-as-a-service related	26.0 %	22.1 %	27.9 %	26.8 %
Software and hardware related	3.6 %	4.4 %	3.8 %	4.8 %
Maintenance	1.1 %	0.5 %	1.0 %	0.7 %
Amortization of developed technologies	5.8 %	4.9 %	5.5 %	6.7 %
Total software-related cost of revenue	36.5 %	31.9 %	38.2 %	39.0 %
Sequencing and molecular analysis	7.7 %	6.4 %	7.0 %	7.3 %
Home health care services	3.8 %	2.7 %	3.6 %	3.4 %
Total cost of revenue	48.0 %	41.0 %	48.9 %	49.7 %
Gross Profit	52.0 %	59.0 %	51.1 %	50.3 %
Operating Expenses:				
Selling, general and administrative	83.4 %	81.8 %	88.2 %	86.0 %
Research and development	26.7 %	35.6 %	24.9 %	40.6 %
Amortization of acquisition-related assets	4.8 %	4.5 %	4.8 %	4.9 %
Total operating expenses	114.9 %	121.9 %	117.9 %	131.5 %
Loss from operations	(62.9)%	(62.9)%	(66.8)%	(81.2)%
Interest expense, net	(19.3)%	(17.1)%	(19.1)%	(18.7)%
Other income (expense), net	(6.1)%	0.1 %	(2.6)%	0.6 %
Loss from related party equity method investment, including impairment	(13.3)%	(165.4)%	(14.0)%	(101.9)%
Loss from continuing operations before income taxes	(101.6)%	(245.3)%	(102.5)%	(201.2)%
(Benefit from) provision for income taxes	(2.7)%	0.1 %	(3.7)%	0.2 %
Net loss from continuing operations	(98.9)%	(245.4)%	(98.8)%	(201.4)%
Loss from discontinued operations, net of tax	(7.2)%	(52.6)%	(4.0)%	(59.5)%
Net loss	(106.1)%	(298.0)%	(102.8)%	(260.9)%

Comparison of Three and Six Months Ended June 30, 2018 and 2017 (Unaudited)

Revenue

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change: Three Months Ended June 30,		Period-To-Period Change: Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percent	Amount	Percent
Software-as-a-service related	$ 16,220	$ 14,946	$ 32,386	$ 29,743	$ 1,274	8.5 %	$ 2,643	8.9 %
Software and hardware related	885	3,279	2,340	3,877	(2,394)	(73.0)%	(1,537)	(39.6)%
Maintenance	2,388	3,468	4,835	5,487	(1,080)	(31.1)%	(652)	(11.9)%
Total software-related revenue	19,493	21,693	39,561	39,107	(2,200)	(10.1)%	454	1.2 %
Sequencing and molecular analysis	924	450	1,764	960	474	105.3 %	804	83.8 %
Home health care services	1,630	1,371	2,986	2,551	259	18.9 %	435	17.1 %
Total net revenue	$ 22,047	$ 23,514	$ 44,311	$ 42,618	$ (1,467)	(6.2)%	$ 1,693	4.0 %

Comparison of the three month periods ended June 30, 2018 and 2017

Total revenue decreased $1.5 million, or 6.2% for the three months ended June 30, 2018 compared to the prior year period. The primary driver of this decrease was a $2.2 million decrease in total software-related revenue, offset partially by a $0.5 million increase in sequencing and molecular analysis revenue. Adoption of the new revenue recognition standard, ASC 606 positively impacted the total revenue by $0.8 million.

Total software-related revenue (including software and hardware related, SaaS and maintenance) decreased by $2.2 million or 10.1% for the three months ended June 30, 2018 , primarily driven by decreased DeviceConX software and hardware revenue.

SaaS related revenue increased by $1.3 million , or 8.5% for the three months ended June 30, 2018 , primarily driven by NaviNet SaaS revenue. Adoption of the new revenue recognition standard resulted in an additional $0.2 million.

Software and hardware related revenue decreased $2.4 million, or 73% for the three months ended June 30, 2018 , compared to the prior year. This decrease was due to the timing of a large DeviceConX customer contract completed and recognized in the prior year period. The prior year period revenue was recognized under the old revenue recognition standard which deferred all revenue until the completion of implementation. Adoption of the new revenue recognition standard positively impacted software and hardware by $0.5 million. Our software and hardware related revenue results experience fluctuations due to the timing of implementation completions for our DeviceConX customers and our revenue recognition for those arrangements.

Maintenance revenue decreased $1.0 million, or 31.1% for the three months ended June 30, 2018 , compared to the prior year. This decrease was due to the timing of a large DeviceConX customer contract completed and recognized in the prior year period. The prior year period revenue was recognized under the old revenue recognition standard which deferred all revenue including maintenance until the completion of implementation. This decrease was partially offset by a larger customer base of DeviceConX post contract support maintenance services compared to the prior year period.

Sequencing and molecular analysis revenue increased $0.5 million , or 105.3% for the three months ended June 30, 2018 , compared to the prior year. This increase was primarily driven by a volume growth of GPS samples sequenced and recognized as revenue, resulting from receiving reimbursement from non-contracted payers, from deliveries for patients covered by a contract payer of the GPS Cancer test, by recognition of revenues related to a research collaboration agreement, and by the inclusion of $0.1 million of Liquid GPS revenue in the current year. 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 the company gains additional insurance coverage, including coverage under government insurance programs, we expect to be able to reduce the portion of GPS revenue which is recognized on a cash basis.

The commercial team's efforts are focused on increasing reimbursement of the GPS Cancer profile by developing partnerships, which include pilot arrangements with commercial insurance and self-insured employers, expanding physician relationships, and enhancing operational performance and efficiencies. The partnership strategy that we developed for commercial health plans supports an alignment with designated provider/oncology groups within the health plan's network. We work directly with the physician groups to support education of test ordering and interpretation and enable aggregate review of results with the plans. In the initial pilot arrangement that we have with commercial health plan, reimbursement is recognized for each test order throughout the pilot arrangement and the GPS Cancer profile value is assessed by the plan with the goal of full medical policy adoption at pilot end.

We have also continued focused 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. The GPS Cancer profile provides all information that can be found in other market molecular tests that physicians deem necessary for treatment recommendation and expands insight for the oncologist with the comprehensive information available on each patient tested.

In parallel with the private payer activities described above, we are also making extensive efforts to achieve coverage from governmental programs such as Medicare, using approval pathways including FDA in-vitro medical device clearance. Those activities are ongoing, but have uncertainty on the timelines as to formal approval.

Home health care services increased $0.3 million , or 18.9% , for the three months ended June 30, 2018, driven by a slight growth in our customer base.

Comparison of the six month periods ended June 30, 2018 and 2017

Total revenue increased $1.7 million , or 4.0% , for the six months ended June 30, 2018 compared to the prior period. The primary drivers of this increase were increases of $0.8 million in sequencing and molecular analysis, $0.5 million in total software-related revenue, and $0.4 million in home health care services. Adoption of the new revenue recognition standard, ASC 606 positively impacted the total revenue by approximately $1.3 million.

Our total software-related revenue (including software and hardware, SaaS and maintenance) increased $0.5 million , or 1.2% , for the six months ended June 30, 2018 , compared to the prior year period. The increase was primarily driven by SaaS revenue from our NaviNet solutions, offset partially by a decrease in our DeviceConX software and hardware related revenue.

SaaS related revenue increased $2.6 million , or 8.9% for the six months ended June 30, 2018 compared to the prior year. This increase was primarily driven by increased NaviNet SaaS revenue and the adoption of the new revenue recognition standard which resulted in an additional $0.5 million.

Software and hardware related revenue decreased $1.5 million, or 39.6% for the six months ended June 30, 2018 , compared to the prior year. The main contributing factor for this decrease was the timing of a large DeviceConX customer contract completed and recognized in the prior year. The prior year period revenue was recognized under the old revenue recognition standard which deferred all revenue until the completion of implementation. Adoption of the new revenue recognition standard which resulted in an additional $0.6 million. Our software and hardware related revenue results experience fluctuations due to the timing of implementation completions for our DeviceConX customers and our revenue recognition for those arrangements.

Maintenance revenue decreased $0.7 million, or 11.9% for the six months ended June 30, 2018 compared to the prior year period. This decrease was due to the timing of a large DeviceConX customer contract completed and recognized in the prior year period. The prior year period revenue was recognized under the older revenue recognition standard which deferred all revenue including maintenance until the completion of implementation. The decrease was partially offset by an increase in size of the customer base for DeviceConX post contract support maintenance service compared to the prior year.

Sequencing and molecular analysis revenue increased $0.8 million, or 83.8% for the six months ended June 30, 2018 compared to the prior year period. This increase was primarily driven by a volume growth of GPS samples sequenced and recognized as revenue resulting from receiving reimbursement from non-contracted payers, from deliveries for patients covered by a contract payer of the GPS test, by recognition of revenues related to a research collaboration agreement, and by the inclusion of $0.2 million of Liquid GPS revenue in the current year. 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 the Company gains 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.

Home health care services increased $0.4 million , or 17.1% for the six months ended June 30, 2018 compared to the prior year period. This increase was mainly due to a slight growth in our customer base as well as the adoption of the new revenue recognition standard.

Cost of Revenue

					Period-To-Period Change			
(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Three Months Ended June 30,		Six Months Ended June 30, 2018	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Software-as-a-service related	$ 5,741	$ 5,195	$ 12,342	$ 11,428	$ 546	10.5 %	$ 914	8.0 %
Software and hardware related	789	1,024	1,675	2,028	(235)	(22.9)%	(353)	(17.4)%
Maintenance	234	129	449	290	105	81.4 %	159	54.8 %
Amortization of developed technologies	1,293	1,142	2,466	2,885	151	13.2 %	(419)	(14.5)%
Total software-related cost of revenue	8,057	7,490	16,932	16,631	567	7.6 %	301	1.8 %
Sequencing and molecular analysis	1,689	1,512	3,120	3,105	177	11.7 %	15	0.5 %
Home health care services	836	650	1,599	1,434	186	28.6 %	165	11.5 %
Total cost of revenue	$ 10,582	$ 9,652	$ 21,651	$ 21,170	$ 930	9.6 %	$ 481	2.3 %

Comparison of the three month periods ended June 30, 2018 and 2017

Total cost of revenue increased $0.9 million , or 9.6% , for the three months ended June 30, 2018 compared to the prior year period. This increase was primarily driven by an increase in depreciation expense for the capitalized internal use software for SaaS included in the cost of SaaS revenue. There were also higher costs related to increased revenue related to all other revenue categories, with the exception of Software and Hardware related, which declined as a result of lower implementation headcount related expenses in the quarter.

SaaS related cost of revenue increased $0.5 million , or 10.5%, for the three months ended June 30, 2018 , driven mainly by $1.0 million in depreciation for the capitalized internal use software at NaviNet, partially offset by a decrease of $0.5 million in amortization of implementations costs.

Software and hardware related cost of revenue decreased $0.2 million , or 22.9% , for the three months ended June 30, 2018 . This decrease was mainly due to personnel related expenses resulting from a reduction in headcount directed towards implementations in the quarter.

Sequencing and molecular analysis cost of revenue increased $0.2 million , or 11.7%, driven primarily by higher depreciation related to the capitalized internal use software. A reduction in the per test cost of revenue due to an amendment to Amendment No. 1 to the Second Amended Reseller Agreement with NantOmics was offset by higher volume compared to the prior year period.

Comparison of the six month periods ended June 30, 2018 and 2017

Cost of revenue increased $0.5 million , or 2.3% for the six months ended June 30, 2018 compared to the prior year period. This increase was primarily driven by an increase of $0.3 million in total software-related cost of revenue coupled with $0.2 million in Home Health care services.

SaaS related cost of revenue increased $0.9 million , driven primarily by an increase of $2.2 million in internal use software depreciation at NaviNet, partially offset by a decrease of $0.5 million in amortization of implementation costs and $0.8 million in cost savings related to personnel, professional services and other expenses.

Software and hardware related cost of revenue decreased $0.4 million , or 17.4% for the six months ended June 30, 2018 . This decrease was driven primarily by personnel related expenses resulting from a reduction in headcount.

Home health care services cost revenue increased by $0.2 million for the six months ended June 30, 2018 compared to the prior year period, driven by an increase in headcount.

Selling, General and Administrative

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change			
					Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Selling, general and administrative	$ 18,388	$ 19,225	$ 39,122	$ 36,660	$ (837)	(4.4)%	$ 2,462	6.7%

Comparison of the three month periods ended June 30, 2018 and 2017

Selling, general and administrative expenses decreased $ 0.8 million , or 4.4% , for the three months ended June 30, 2018 compared to the prior year period. The primary driver of this variance was a $1.0 million decrease in corporate shared services allocation from our parent company, resulting from a reduction of general overhead expenses.

Comparison of the six month periods ended June 30, 2018 and 2017

Selling, general and administrative expenses increased $2.5 million , or 6.7% , for the six months ended June 30, 2018 compared to the prior year. The major contributing factor for this increase was a $4.3 million increase in stock compensation expense against the prior year period. This increase was partially offset by a reduction of $0.7 million in personnel related expense as a result of the company's restructuring plan initiated in the latter half of 2017 coupled with an increase of $1.3 million net decrease in corporate shared services allocation from our parent company.

Research and Development

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change			
					Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Research and development	$ 5,889	$ 8,376	$ 11,040	$ 17,302	$ (2,487)	(29.7)%	$ (6,262)	(36.2)%

Comparison of the three month periods ended June 30, 2018 and 2017

Research and development expenses decreased $2.5 million , or 29.7% , for the three months ended June 30, 2018 compared to the prior year. This decrease was driven primarily by a $3.0 million reduction in personnel related expenses as a result of the company's restructuring plan initiated in the latter half of 2017, offset partially by a $0.8 million increase in stock compensation expense compared to the prior year period.

Comparison of the six month periods ended June 30, 2018 and 2017

Research and development expenses decreased $6.3 million or 36.2% for the six months ended June 30, 2018 , compared to the prior year. This decrease was driven primarily by a $5.8 million reduction in personnel related expenses as a result of the company's restructuring plan initiated in the latter half of 2017 coupled with other cost savings measures .

Interest Expense, net

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change			
					Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Interest expense, net	$ 4,262	$ 4,013	$ 8,460	$ 7,982	$ 249	6.2%	$ 478	6.0%

In December 2016, we issued an aggregate principal amount of $107 million of our 5.5% convertible senior notes due 2021 (the "Convertible Notes") in a private placement offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended and to non-U.S. persons pursuant to Regulation S under the Securities Act, of which $10 million were issued to a related party. The Convertible Notes will mature on December 15, 2021 unless earlier converted, redeemed or repurchased in accordance with the terms of the Convertible Notes. Please see the section entitled "Liquidity and Capital Resources" below and Note 11 to the accompanying Condensed Consolidated Financial Statements for further discussion of the Convertible 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 Chief Executive Officer. Through June 30, 2018 , the total advances made by NantCapital to us pursuant to the note amounted to approximately $112.7 million. We can request additional advances subject to approval from NantCapital. 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 in the year.

In May 2016, the NantCapital Note was amended and restated to provide that all outstanding principal and accrued and unpaid interest was 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 extend the maturity date of the Promissory Note to June 30, 2022 and to subordinate the Promissory Note in right of payment to the Convertible Notes.

Comparison of the three month periods ended June 30, 2018 and 2017

Interest expense, net increased by $0.2 million for the three months ended June 30, 2018 . This $0.2 million increase was primarily attributable to interest expense related to the Convertible Notes that were issued in December 2016, including coupon interest expense, amortization of debt discounts and amortization of deferred financing offering costs.

Comparison of the six month periods ended June 30, 2018 and 2017

Interest expense, net increased by $0.5 million for the six months ended June 30, 2018 . This $0.5 million increase was primarily attributable to interest expense related to the Convertible Notes that were issued in December 2016, including coupon interest expense, amortization of debt discounts and amortization of deferred financing offering costs.

Other Income (expense), net

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change			
					Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Other income (expense), net	$ (1,334)	$ 13	$ (1,154)	$ 248	$ (1,347)	(10,361.5)%	$(1,402)	(565.3)%

Comparison of the three month periods ended June 30, 2018 and 2017

Other income, net decreased by $1.3 million for the three months ended June 30, 2018 compared to the prior year period. The decrease was mainly driven by a $1.8 million impairment loss on our investment in IOBS.

Comparison of the six month periods ended June 30, 2018 and 2017

Other income, net decreased by $1.4 million for the six months ended June 30, 2018 compared to the prior year period. The decrease was mainly driven by a $1.8 million impairment loss on our investment in IOBS.

Loss from Related Party Equity Method Investment Including Impairment Loss

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change			
					Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Loss from related party equity method Investment including impairment loss	$ 2,945	$ 38,885	$ 6,206	$ 43,411	$ (35,940)	(92.4)%	$(37,205)	(85.7)%

The loss from related party equity method investment is related to our pro rata share of losses from our investment in NantOmics, plus the amortization of the basis difference in the investment, and an impairment loss, if applicable. We report our share of NantOmics' operational loss and the amortization of basis difference using a one quarter lag.

Comparison of the three month periods ended June 30, 2018 and 2017

Loss from equity method investment decreased by $35.9 million for the three months ended June 30, 2018 compared to the prior year period. This decrease was primarily due to a $36.0 million non-cash impairment charge recorded in the prior year period as well as our pro rate share of operational losses from our investment in NantOmics.

Comparison of the six month periods ended June 30, 2018 and 2017

Loss from equity method investment decreased by $37.2 million for the six months ended June 30, 2018 compared to the prior year period. This decrease was primarily due to a $36.0 million non-cash impairment charge recorded in the prior year period as well as our pro rate share of operational losses from our investment in NantOmics.

Provision for (Benefits from) Income taxes

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,		Period-To-Period Change Three Months Ended June 30,		Period-To-Period Change Six Months Ended June 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
(Benefit from) provision for income taxes	$ (601)	$ 18	$ (1,651)	$ 55	$ (619)	(3,438.9)%	$ (1,706)	(3,101.8)%

Comparison of the three month periods ended June 30, 2018 and 2017

For the three months ended June 30, 2017 , the provision for income taxes in continuing operations was $18 thousand , compared with a $0.6 million benefit from income taxes for the three months ended June 30, 2018 . The tax benefit for income taxes in continuing operations for the three months ended June 30, 2018 included an income tax provision of the consolidated group based on an estimated annual effective tax rate. For the three months ended June 30, 2018, the tax provision was mostly attributed to state income taxes not determined based on net income.

The effective tax rates for the three months ended June 30, 2018 and 2017 in continuing operations were a benefit of 2.68% and a provision of 0.03% , respectively. The effective tax rate for the three months ended June 30, 2018 in continuing operations differed from the U.S. federal statutory rate of 21% primarily as a result of a reduction to the deferred tax liability related to an indefinite lived intangible, nondeductible expenses, state income taxes, foreign income taxes, and the impact of valuation allowance on deferred tax assets.

Comparison of the six month periods ended June 30, 2018 and 2017

For the six months ended June 30, 2017 the provision for income taxes in continuing operations was $55 thousand compared with a $1.7 million benefit from income taxes for the six months ended June 30, 2018 . The tax benefit for income taxes in continuing operations for the six months ended June 30, 2018 included an income tax provision of the consolidated group based on an estimated annual effective tax rate. For the six months ended June 30, 2017, the tax provision was mostly attributed to state income taxes not determined based on net income and foreign income taxes.

The effective tax rates for the six months ended June 30, 2018 and 2017 in continuing operations were a benefit of 3.63% and a provision of 0.06% , respectively. The effective tax rate for the three months ended June 30, 2018 in continuing operations differed from the U.S. federal statutory rate of 21% primarily as a result of a reduction to the deferred tax liability related to an indefinite lived intangible, nondeductible expenses, state income taxes, foreign income taxes, and the impact of valuation allowance on deferred tax assets.

Loss from Discontinued Operations, Net of Income Taxes

(Dollars in thousands)	Three Months Ended June 30, 2018		Six Months Ended June 30, 2018		Period-To-Period Change Three Months Ended June 30, 2018		Period-To-Period Change Six Months Ended June 30, 2018	
	2018	2017	2018	2017	2018	2017	2018	2017
	Amount	Amount	Amount	Amount	Amount	Percentage	Amount	Percentage
Loss from discontinued operations, net of tax	$ (1,591)	$ (12,368)	$ (1,785)	(25,357)	$ 10,777	(87.1)%	$ 23,572	(93.0)%

Comparison of the three month periods ended June 30, 2018 and 2017

For the three months ended June 30, 2018 , the loss from discontinued operations, net of tax decreased by $10.8 million , compared to the prior year period. The majority of this decline can be attributed to the decreased activity related to the AllScripts transaction that occurred in 2017. The majority of the expense for the three months ended June 30, 2018 was due to an additional accrual for fulfilling certain customer service obligations of the disposed business post-closing.

Comparison of the six month periods ended June 30, 2018 and 2017

For the six months ended June 30, 2018 the loss from discontinued operations, net of tax decreased by $23.6 million compared to the prior year period. The majority of this decline can be attributed to the decreased activity related to the AllScripts transaction that occurred in 2017. The majority of the expense for the six months ended June 30, 2018 was due to an additional accrual for fulfilling certain customer service obligations of the disposed business post-closing.

Liquidity and Capital Resources

Sources of Liquidity

As of June 30, 2018 , we had cash and cash equivalents and marketable securities of $29.4 million , compared to $61.7 million as of December 31, 2017 , of which $0.2 million and $0.2 million , respectively, related to foreign subsidiaries. We believe that our existing cash, cash equivalents and our ability to borrow from affiliated entities, will be sufficient to fund our operations through at least the next 12 months. If these sources are insufficient to satisfy our liquidity requirements, we may 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. 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 were private placement of membership interests prior to the IPO, debt financing agreements, including the NantCapital Note and Convertible Notes, and our IPO.

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, as amended (the “Securities Act”) and to non-U.S. persons pursuant to Regulation S under 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 overallotment 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 thousand 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 thousand principal amount of the Convertible Notes for such trading day was less than 98% of the product of the last reported sales price of the Company’s 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 thousand 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 issued the NantCapital Note to NantCapital, a personal investment vehicle for Dr. Patrick Soon-Shiong, our Chairman and CEO. As of June 30, 2018 , 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 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 million. Advances can be requested of up to $10 million per calendar quarter until March 31, 2019 and following that, up to $20 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 the profit measure, as defined in the agreement, may not negatively deviate from board approved financial plans by more than 25%.

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 periods indicated:

(Dollars in thousands)	**Six Months Ended June 30,**	
	2018	**2017**
Cash provided by (used in):		
Operating activities	$ (23,580)	$ (54,738)
Investing activities	(5,259)	(10,316)
Financing activities	(1,996)	(2,711)
Effect of exchange rate changes on cash and cash equivalents	(280)	81
Net decrease in cash and cash equivalents	$ (31,115)	$ (67,684)

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, respectively, 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 as we grow our administrative infrastructure, and the continuing market acceptance of our solution.

In addition, our net loss in the six months ended June 30, 2018 has been significantly greater than our use of cash for operating activities due to the inclusion of substantial non-cash charges.

Cash used in operating activities of $23.6 million in the six months ended June 30, 2018 was a result of our continued significant investments in research and development, sales and marketing, and increased expenses incurred as a public company, including costs associated with public company reporting and corporate governance requirements. In the six months ended June 30, 2018 , $24.2 million , or 53.1% , of our net loss of $45.6 million consisted of non-cash items, including $10.9 million of depreciation and amortization and a $6.2 million net loss on related party equity investment.

Changes in working capital reduced cash $2.2 million in the six months ended June 30, 2018 . The decrease in cash was primarily attributable to a $7.0 million outflow due to a decrease in accrued and other current liabilities, offset by a $ $3.8 million million inflow from increased related party payables, as well as $2.7 million of inflows from an increase in related party payables.

Cash used in operating activities of $54.7 million in the six months ended June 30, 2017 was a result of our continued significant investments in research and development, sales and marketing, increased expenses incurred as we became a public company, including costs associated with public company reporting and corporate governance requirements, and other expenses incurred to grow our business. In the six months ended June 30, 2017, $63.3 million, or 57% of our net loss of $111.2 million consisted of non-cash items, including $0.9 million in stock-based compensation, $16.4 million of depreciation and amortization, a $43.4 million net loss on related party equity investment including $36.0 million impairment charge, $0.4 million deferred income taxes, net expense, a $0.2 million provision for accounts receivable bad debts, and $2.1 million amortization of debt discounts and deferred financing offering costs, partially offset by a $0.2 million decrease in fair value of derivatives liability.

Cash used in operating activities in the six months ended June 30, 2017 included a $4.0 million reduction in accounts payable, a $6.2 million reduction in accrued and other current liabilities, a reduction of $3.6 million in deferred revenue, an increase of $1.5 million in deferred implementation costs, and an increase in prepaid expenses and other current assets of $0.2 million. This was partially offset by a $2.2 million reduction in accounts receivable, net, attributable to the receipt of payments from our clients and an increase of $6.3 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 $5.3 million of cash in investing activities in the six months ended June 30, 2018 primarily comprised of $ 5.3 million of investment in internally developed software, purchase of leasehold improvements and purchase of equipment.

We used $10.3 million of cash in investing activities in the six months ended June 30, 2017 to purchase equipment and investment in our capitalized internal use software.

Financing Activities

Cash used in financing activities in the six months ended June 30, 2018 and 2017 of $2.0 million and $2.7 million , respectively, was due to payment to tax authorities on the employees' behalf to satisfy withholding requirements on income earned from vested shares of the phantom unit plan.

Contractual Obligations, Commitments and Contingencies

Other than entering into certain real estate operating leases, there have been no material changes during the six months ended June 30, 2018 to our contractual obligations disclosed in our “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our Annual Report on Form 10-K for the year ended December 31, 2017 . See Note 13 to the accompanying Condensed Consolidated Financial Statements for discussion of our lease arrangements.

New Accounting Pronouncements

See Note 2 to the accompanying Condensed 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 18 of the accompanying Condensed 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 Financial Condition and Results of Operations is based on our Condensed 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. Except for the accounting policy below, we believe the critical accounting policies and estimates discussed in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of our Annual Report on 10-K that was filed with the SEC on March 16, 2018, reflect our more significant judgments and estimates used in the preparation of the Condensed Consolidated Financial Statements. There have been no significant changes to our critical accounting policies and estimates as disclosed in our 10-K, except for the adoption of ASC 606 as discussed below.

Transition to FASB ASC 606

On January 1, 2018, we adopted ASC 606, *Revenue from Contracts with Customers* , using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented in accordance with ASC 606, while prior period amounts continue to be reported in accordance with our historic accounting under ASC 605.

Revenue Recognition for the Company's revenue accounting beginning January 1, 2018 under ASC 606

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect 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. Our revenue is generated from the following sources:

- **Software-as-a-service related ("SaaS")** - SaaS revenue is generated from customers' 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 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, we recognize all fees, including any up front initial system implementation services 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 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. See the section below " *Contracts with Software, Hardware, and Implementation Services"* for details of our judgments and recognition of revenue relating to this category.

- **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 client on a when-and-if-available basis. Revenue is recognized over the contract term.

- **Sequencing and molecular analysis** - Sequencing and molecular analysis revenue is generated by providing customers with reports of the results of performing sequencing and analysis of whole genome DNA, RNA and/or proteomic testing under our reseller agreement with NantOmics, LLC ("NantOmics"), and through our subsidiary, NantHealth Labs, Inc. ("NantHealth Labs", previously named Liquid Genomics, Inc.) (see Note 18 of the financial statements). Revenue is recognized at a point in time, when reports of results are transferred to the customer or when cash is received as described below, or ratably over time for the period of stand-ready obligation to provide blood-based tumor profiling services.

Our sequencing and molecular analysis revenue is primarily generated from payments received from commercial third-party payers, hospitals and other provider networks and patients. We report revenue from arrangements with these customers on a gross basis in accordance with ASC 606. When reports are transferred to the customer but we 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.

- **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.

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

Contracts with Multiple Promises for Goods and Services

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

In certain contracts, we recognize our proprietary software, hardware, PCS, results of sequencing and molecular analysis, 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 our experience selling similar goods and services, as well as costs and margins achieved. In some cases, to estimate the SSP, we first estimate the selling price of each performance obligation for which an SSP is observable and then estimate the SSP of the remaining performance obligation as the residual contractual amount.

Contracts with Software, Hardware, and Implementation Services

We have some contracts where we provides implementation services involving significant integration of our 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. Revenue for the single performance obligation is recognized over time based on actual, or estimated, direct implementation labor hours, as a measure of progress.

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

As a result, in these contracts, we will commence recognizing revenue when we conclude that we can reasonably measure our 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 our ability to reasonably estimate direct labor hours to satisfy our performance obligations will have been resolved, and we will be able to reasonably measure the remaining progress toward complete satisfaction of our remaining professional services obligations. In such cases, we will commence 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 our performance obligation over the remaining performance period using the same measure of progress. A provision for the entire loss, from such a contract, will be 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 actual, or estimated, direct implementation labor hours as a measure of progress.

We delineate 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. We have both reseller arrangements with gross revenue presentation due to our 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. We assess 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.

Revenue Recognition for the Company's revenue accounting before January 1, 2018 under ASC 605 and ASC 985

Revenue was recognized when persuasive evidence of an arrangement existed, services or products had been provided to the client, fees were fixed or determinable, and collectibility was reasonably assured. While most of our arrangements include short-term payment terms, we on occasion provide payment terms to clients in excess of one year from the date of contract signing. We did not recognize revenue for arrangements that contained these extended payment terms until such payments became due. Certain of our customer arrangements allow for termination for convenience with advanced notice. Such termination rights do not allow for refunds other than prepaid PCS or other services. These provisions did not affect the recognition of revenue. We also have certain arrangements which allow for termination and refunds of fees in the event that software acceptance by the customer has not occurred. In these instances, we would defer all revenue until software acceptance has occurred.

The sequencing and molecular analysis revenue is primarily generated from payments received from commercial third-party payers, hospitals and other provider networks and patients. We reported revenue from arrangements with these customers on a gross basis in accordance with ASC 605-45, *Principal Agent Considerations* . We recognized revenue from these arrangements when all revenue recognition criteria had been met or on a cash basis when we could not conclude that the fees were fixed or determinable and collectibility was reasonably assured. We used judgment in our assessment of whether the fees were fixed or determinable and whether collectibility was reasonably assured in determining when to recognize revenue in the future as we continue to gain payment experience with our customers. Accordingly, we expected to recognize revenue on a cash basis when we could not conclude that the fees from a particular customer were fixed or determinable and collectibility was reasonably assured until we had a sufficient history to reliably estimate payment patterns from such customer.

We engaged in various multiple-element arrangements, which may generate revenue across any of the sources noted above. For multiple-element software arrangements that involved the sale of our proprietary software, PCS, and other software-related services, VSOE of fair value was required to allocate and recognize revenue for each element. VSOE of fair value was determined based on the price charged in which each deliverable was sold separately. We established VSOE for PCS on certain of our software solutions using the Stated Renewal Method. In this instance, we had determined that our stated renewals were substantive and appropriate for use in the Stated Renewal Method. We had not yet established VSOE of fair value for any element other than PCS for our arrangements. In situations where VSOE of fair value exists for PCS but not a delivered element (typically the software license and services elements), the residual method was used to allocate revenue to the undelivered element equal to its VSOE value with the remainder allocated to the delivered elements. In situations in which VSOE of fair value did not exist for all of the undelivered software-related elements, revenue was deferred until only one undelivered element remained (typically the PCS element) and then recognized following the pattern of delivery of the final undelivered element. Our multiple element arrangements typically provide for renewal of PCS terms upon expiration of the original term. The amounts of these PCS renewals were recognized as revenue ratably over the specified PCS renewal period.

For non-software arrangements that include multiple elements, primarily consisting of our SaaS agreements, revenue recognition involved the identification of separate units of accounting after consideration of combining and/or segmenting contracts and allocation of the arrangement consideration to the units of accounting on the basis of their relative selling price. The selling price used for each deliverable was based on VSOE of fair value, if available, third party evidence, or TPE, of fair value if VSOE was not available, or our best estimate of selling price if neither VSOE nor TPE was available. In determining the units of accounting for these arrangements, we evaluated whether each deliverable has standalone value as defined in the Financial Accounting Standards Board's guidance. Our SaaS arrangements were treated as a single unit of accounting as the professional services did not have standalone value. As a result, we recognized initial system implementation and deployment fees ratably over a period of time from when the system implementation or deployment services were completed and accepted by the customer over the longer of the life of the agreement or the estimated customer life. SaaS revenue consisted of revenue earned from clients (typically on a monthly basis) for use of our subscription or license-based solutions and services. We recognized revenue from such contracts ratably over the contract period.

If an arrangement to deliver software required significant production, modification or customization of the licensed software, we accounted for the arrangement as a construction-type contract. At that time, we recognized revenue for these arrangements using the completed-contract method as we did not have sufficient information to reliably estimate the percentage of completion for these projects. We considered these arrangements to be substantially complete upon the clients' acceptance of the software and related professional services and consistently applied this policy to all contract accounting arrangements.

Transaction processing fees were recognized on a monthly basis based on the number of transactions processed and the fee per transaction.

Revenue derived from reseller arrangements was recognized when the resellers, in turn, sold the software solution to their clients and installation of the software solution had occurred, provided all other revenue recognition criteria were met. This is commonly referred to as the sell-through method and we deferred recognition until there was a sell-through by the reseller to an actual end user clients and acceptance by the end user had occurred.

Stock-Based Compensation

We account 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.

We account for stock based compensation arrangements issued to non-employees using the fair value approach prescribed by ASC 505-50, *Equity-Based Payments to Non-Employees* . The value of non-employee stock-based compensation is 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 non-employee provides the services.

Stock-based compensation expense for both employee and non-employee 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 we apply the treasury stock method, in calculating diluted earnings per share, excess tax benefits, if applicable, are excluded and deficiencies from the calculation of assumed proceeds 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. We have elected to account for forfeitures when they occur. Cash paid by us when directly withholding shares for tax withholding purposes is classified as a financing activity in the Statement of Cash Flows.

Profits Interest Plan

On December 3, 2013, we adopted the Profits Interests Plan and reserved an aggregate of 63.8 million Series C units for issuance to our associates, consultants and contractors in consideration for bona fide services provided.

The Series C units were considered profits interests of us and did not entitle their holders (the "Series C members") to receive distributions if we were liquidated immediately after the grant. Instead, the Series C members were entitled to receive an allocation of a portion of our profits and losses arising after the date of the grant and, subject to vesting conditions, distributions made of a portion of our profits 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 our Board of Directors.

Series C members were not entitled to receive any distributions until our aggregate distributions 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.

Prior to the LLC Conversion on June 1, 2016, we had 3.5 million Series C units outstanding. Upon the LLC Conversion on June 1, 2016, we 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 interest are subject to forfeiture until becoming fully vested in accordance with the terms of the original Series C unit grant agreements.

Stock-based compensation expense for the Series C units/restricted stock issued to the non-employees is calculated based on the fair value of the aware on each balance sheet date and the attribution of that cost is being recognized ratably over the vesting period.

Phantom Unit Plan

On March 31, 2015, we approved the Phantom Unit Plan. The maximum number of phantom units that may be issued under the Phantom Unit Plan is equal to 11.6 million minus the number of issued and outstanding Series C units. As of June 30, 2018 , we had 0.7 million 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 us for any reason. Our IPO satisfied the liquidity event condition, and the phantom units now entitle their holders to cash or non-cash payments in an amount equal to the number of vested units held by that participant multiplied by the fair market value of our common stock, as determined by our board of directors.

We intend to settle all vested phantom unit payments held by United States-based participants in shares of our common stock and classified these awards as equity awards in our Condensed Consolidated Balance Sheet. 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 our Condensed Consolidated Balance Sheets as of June 30, 2018 and December 31, 2017 . In order to satisfy payroll withholding tax obligations triggered by the issuance of shares of common stock to holders of vested phantom units, we issue 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. During the six months ended June 30, 2018 , we issued 0.3 million shares of common stock, after withholding 0.2 million shares to satisfy tax withholding obligations. We made a cash payment of $0.5 million to cover employee withholding taxes and employer payroll taxes upon the settlement of these vested phantom units. We also paid $0.1 million to cash-settle 16 thousand vested phantom units held by participants of the Phantom Unit Plan based outside of the United States.

Change in fair value of derivative liability

We have classified the interest make-whole provision of our convertible notes due 2021 issued in December 2016 as a derivative liability that is recorded at fair value. This derivative liability is subject to re-measurement at each balance sheet date and we recognize any change in fair value in our Condensed Consolidated Statements of Operations and Comprehensive Loss as a change in fair value of the derivative liability. The change in the fair value of this derivative liability of $2 thousand for the six months ended June 30, 2018 is due primarily to the change in the value of our common stock from December 31, 2017 to June 30, 2018 .

Income taxes

We apply an estimated annual effective tax rate ("AETR") approach for calculating a tax provision for interim periods. Significant management judgment is required in determining our provision for income taxes, our 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 to us by our tax advisers, our legal advisers and similar tax cases. If at a later time our assessment of the probability of these tax contingencies changes, our accrual for such tax uncertainties may increase or decrease.

Utilization of Net Operating Loss Carryforwards

As of December 31, 2017 , we had federal and state tax NOL carryforwards of approximately $353.5 million and $271.9 million, respectively, available to offset taxable income in tax year 2018 and thereafter. The federal NOLs will start to expire in year 2021.

Under Sections 382 and 383 of the Code, if a corporation undergoes an "ownership change" (generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period), the corporation's ability to use its pre-change net operating loss carry forwards and other pre-change tax attributes to offset its post-change income may be limited. We believe that we have recently undergone one or more ownership changes. The above NOL amounts do not include the NOLs expected to expire before they can be utilized under Section 382.

The occurrence of such ownership changes could limit our ability to utilize our NOLs and possibly other tax attributes. Limitations imposed on our ability to use NOLs and other tax attributes to offset future taxable income could cause us to pay U.S. federal income taxes earlier than we otherwise would if such limitations were not in effect. Any further ownership change also could cause such NOLs and other tax attributes to expire unused, thereby reducing or eliminating the benefit of such NOLs and other tax attributes to us and adversely affecting our future cash flows.

In addition, we may determine that varying state laws with respect to NOL utilization may result in lower limits, or an inability to utilize NOLs in some states altogether, which could result in us incurring additional state income taxes. In the event that state law results in lower limits, or an inability to utilize loss carryforwards, or we become subject to federal alternative minimum tax, this could adversely affect our future cash flows.

Business Combinations

We account for business combinations 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. We routinely monitor 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 our condensed consolidated financial statements as of the acquisition date.

Software Developed for Internal Use

We account 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 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 Condensed Consolidated Balance Sheets. We expense costs incurred in the preliminary project and post implementation stages of software development and capitalize 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.

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, we 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, we 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, we 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.

If an optional qualitative goodwill impairment assessment is not performed, we are required to determine the fair value of each reporting unit. If a reporting unit’s fair value is lower than its carrying value, we must determine the amount of implied goodwill that would be established if the reporting unit was hypothetically acquired on the impairment test date. If the carrying amount of a reporting unit’s goodwill exceeds the amount of implied goodwill, we would record an impairment loss equal to the excess.

The determination of fair value of a reporting unit is based on a combination of a market approach that considers benchmark company market multiples and an income approach that uses discounted cash flows for each reporting unit utilizing Level 3 inputs. Under the income approach, we determine the fair value based on the present value of the most recent income projections for each reporting unit and calculates a terminal value utilizing a terminal growth rate. The significant assumptions under this approach include, among others: income projections, which are dependent on sales to new and existing clients, new solution introductions, client behavior, competitor pricing, operating expenses, the discount rate and the terminal growth rate. The cash flows used to determine fair value are dependent on a number of significant management assumptions based on historical experience, expectations of future performance, and the expected economic environment. Estimates are subject to change given the inherent uncertainty in predicting future results. Additionally, the discount rate and the terminal growth rate are based on judgment of the rates that would be utilized by a hypothetical market participant.

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. We estimate the useful lives of the intangible assets and ratably amortize the value over the estimated useful lives of those assets. If the estimates of the useful lives change, we will amortize 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.

Investment in Related Party

Investment in and advances to a related party in which we have a substantial ownership interest of approximately 20% to 50% , or for which we exercise 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, we recognize gains and losses that arise from the issuance of stock by a related party that results in changes in the proportionate share of the dollar amount of the related party’s equity.

The investment in related party is assessed for possible impairment when events indicate that the fair value of the investment may be below the 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, we consider such factors as the duration and extent of the decline, the investee’s financial performance, and our ability and intention to retain the 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 the investment is not changed for subsequent recoveries in fair value.

In the case of our related party investee, NantOmics, a privately held limited liability company, the fair value of our equity method investment is estimated 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 (“EBITDA”). The related cash flow forecasts are discounted using an estimated weighted average cost of capital (“WACC”) at the date of valuation.

We base our assumptions on projected financial information that we believe is 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 EBIDTA margins and the WACC. For example, if NantOmics’ revenues were subsequently materially lower than expected, if significant adverse changes were to occur in its operating environment, if a significant increase in the discount rate were to be needed, and/or if changes in other assumptions were to happen, our estimate of the fair value of our equity investment in NantOmics could change materially.

Qualitative matters that may impact our estimates of the fair value of our 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 our GPS Test and resultant impact on amounts owed by us 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.

At June 30, 2017 and at December 31, 2016, as a result of our analysis of the estimated fair value of our investment, we recorded an other than temporary impairment on our equity method investment in NantOmics of $36.0 million and $29.8 million, respectively. We based our assumptions on projected financial information that we believe is reasonable; however, actual results may differ materially from those projections. It is reasonably possible that the estimate of the impairment will change in the near term if future NantOmics revenues are materially lower than expected; if future EBITDA margins are materially lower than expected; and/or, if we were to determine that the WACC used in a future discounted cash flow model would need to be significantly increased. These three estimates represent the most significant drivers of the estimated fair value of the discounted cash flow model. To demonstrate, as of June 30, 2017, while holding all other estimates in our estimated discounted cash flow model constant, a 100 basis point decline in our discrete and terminal period revenue growth rate and EBITDA margins, and a 100 basis point increase in the WACC used in the model would have resulted in respective increases in the other than temporary impairment of $18.0 million , $7.0 million , and $20.0 million , respectively, on our equity method investment in NantOmics.

Differences between the 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 our analysis of the various factors giving rise to the difference. When appropriate, our 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, as well as our equity share of other than temporary impairments identified.

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 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

As of June 30, 2018 , we had $29.4 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. We do not enter into investments for trading or speculative purposes. We believe that our exposure to interest rate risk is not significant and a 100 basis point movement in market interest rates would not have a significant impact on the total value of our portfolio.

As of June 30, 2018 , our issued Convertible Notes had an aggregate principal amount of $107.0 million and our NantCapital Note had an aggregate principal amount of $112.7 million . Since the notes bear interest at fixed rates, we believe we have no financial statement risk or interest rate risk associated with changes in interest rates with respect to such notes.

Credit Risk

Our cash equivalents and our portfolio of marketable securities 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 United Kingdom, Europe, the Middle East and Southeast Asia. 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 June 30, 2018 would not have been material. However, fluctuations in currency exchange rates could harm our business in the future.

Item 4. Controls and Procedures

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 such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of the quarter covered by this report, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting that occurred during the quarter ended June 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on 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.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

We are from time to time subject to claims and litigation that arise in the ordinary course of our 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 Condensed 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. 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 our 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. A trial date has been set for August 2019. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

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 agreed to a stay of the case pending resolution of the motion to dismiss in in the federal Deora case. 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. On July 30, 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. The Company believes that the claims lack merit and intends to vigorously defend the litigation.

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 offers 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.

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 it was electing to terminate the Sublease Agreement.

In its Verified Complaint, 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. The parties are currently engaged in discovery, including non-party discovery. 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 is currently scheduled for August 22, 2018.

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

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 Quarterly Report on Form 10-Q, including our financial statements and the related notes thereto and Item 2, “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 recent acquisition of NantHealth Labs Inc, ("NantHealth Labs", formerly Liquid Genomics), we have expanded into the liquid biopsy analysis market. Integration across our systems infrastructure, products, services, 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.

Additionally, we have not yet completed the integration of our new liquid biopsy business, technologies and service offering into our operations. While we believe that this acquisition will complement our existing business, we may not be able to integrate this new business, technologies and services offerings into our operations effectively or at all. Additionally, we may be unable to extract the synergies or benefits that we currently expect from these business, technologies and service offerings.

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 payor 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 have expanded into the liquid biopsy analysis market, through Liquid GPS. We intend to leverage our current sales and marketing efforts to drive provider acceptance and adoption of Liquid GPS. This 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 $175.2 million, $184.1 million during the years ended December 31, 2017 and 2016, respectively, and $23.4 million and $45.6 million for the three and six months ended June 30, 2018 . As of June 30, 2018 , we had an accumulated deficit of $737.5 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 Liquid GPS. 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 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 the net proceeds from our Convertible Notes offering, together with 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, Liquid GPS 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 sequencing and molecular analysis solutions, including GPS Cancer and Liquid GPS;
- our success in making our sequencing and 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; 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 additional 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.

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.

The Company has 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 California, naming as defendants the Company and certain of our executive officers and directors. Certain plaintiffs also named as defendants are investment banks who were underwriters in our initial public offering. The complaints generally allege that defendants made material misstatements and omissions in violation of the federal securities laws. The outcomes of litigation are difficult to predict. Plaintiffs may seek recovery of a substantial amount. The monetary and other impact of this action may remain unknown for substantial periods of time. The cost to defend, settle or otherwise resolve this matter may be significant and divert management's attention from the operations of the Company. We cannot assure you that we will prevail in this lawsuit. 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

We may not be able to generate sufficient revenue from our sequencing and molecular analysis solutions, including GPS Cancer, our relationships with sequencing and molecular analysis customers, or from our expansion into the liquid tumor profiling market, 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, payors 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 4.0% , 2.3% and 0.6% of our total net revenue for the six months ended June 30, 2018 , and the years ended December 31, 2017 and 2016, 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 into our sequencing and 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 GPS depends on many factors beyond our control, including 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 Liquid GPS into these markets.

We are currently not profitable. Even if we succeed in increasing adoption of our sequencing and molecular analysis solutions 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 Liquid GPS, 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 and Liquid GPS) 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, and our liquid tumor profiling tests;
- 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 (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 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 and RNA 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 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 sequencing to compete with GPS Cancer.

With the acquisition of NantHealth Labs, we expanded our product offerings to include liquid tumor profiling services and our principal competitors include Guardant Health, Inc., Foundation Medicine, Inc., Genomic Health, Inc. and Biocept, Inc.

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.

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 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 Food and Drug Administration, or 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 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 or GPS, 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 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.

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 models. 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 a number of factors, including the cost, performance and perceived value associated with such operating system and software applications particularly in light of the aforementioned 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 a number of 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 a large number of different legal systems. The subject's informed consent obtained in any particular 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, at this time, 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, in particular, have used all or a significant portion of their revenues to comply with federal mandates to adopt electronic medical records in order 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 into 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, 2017, we derived 10.6% 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 10.2% of our revenue through a customer relationship with a major health plan from our acquisition of NaviNet. During the three months ended June 30, 2018 , we derived 13.5% of our revenue through this reseller and another 11.2% and 10.7% 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. For example, we recently expanded into the liquid tumor profiling market through our acquisition of NantHealth Labs. 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.

As a result 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 the substantial majority of our customer base, may request or require specific features or functions unique to their particular 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 Qualcomm Technologies, Inc. (formerly Capsule Tech, Inc.), Cerner Corporation, Bernoulli Enterprise, Inc., General Electric Company and Medical Information Technology, Inc.; 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 complex hardware and software 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 connected care solutions, hardware and software

We rely on third-party manufacturers to manufacture our connected care devices, such as HBox, GlowPack and GlowCap. Any failure by a third-party manufacturer to produce supplies for us may delay or impair our ability to provide our connected care devices, which are an integral part of our learning ecosystem.

We rely upon third parties for the manufacture of our connected care devices and intend to continue to do so in the future. We currently do not have any material agreements with third-party manufacturers for our connected care devices. As demand for our products increase, we may seek to enter into long-term third-party manufacturing agreements. If our third-party manufacturers are unable to deliver sufficient quantities of products on a timely basis or we encounter difficulties in our relationships with these manufacturers, the manufacture and sale of our products may be disrupted, and our business, operating results and reputation could be adversely affected. If we are unable to arrange for third-party manufacturing sources, or unable to do so on commercially reasonable terms, we may not be able to deliver our products to clients in a timely manner, or at all.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party to comply with applicable regulatory laws, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control and the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or damaging to us. In addition, the FDA and other regulatory authorities require that certain of our connected care devices be manufactured in compliance with Quality System Regulations, or QSR, and similar standards in foreign markets where we sell our products. Any failure by our third-party manufacturers to comply with QSR or failure to scale up manufacturing processes as needed, including any failure to deliver sufficient quantities of products in a timely manner, could have a material adverse effect on our business, financial condition, operating results and cash flows. In addition, such failure could be the basis for action by the FDA to withdraw approvals for product candidates previously granted to us and for other regulatory action.

Our solutions, including our connectivity care hardware and software 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 hardware and software solutions, including our connected care hardware and software, 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, including our connectivity connected care hardware and software 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 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 connected care devices, including our connectivity suite hardware and software results in personal injury or death. Substantial product liability litigation currently exists within the medical device industry. Some of our connected care devices 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 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. 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 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;
- we or any collaborative partner will not be required to submit an application for premarket approval, rather than a 510(k) premarket notification submission as described below; or
- other significant difficulties and costs related to obtaining FDA clearance or approval will not be encountered.

The FDA may impose strict labeling or other 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 and 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.

Ongoing compliance with applicable regulatory requirements will be strictly enforced in the United States through periodic inspections by state and federal agencies, including the FDA, and in international jurisdictions by comparable regulatory authorities. 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, 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; 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 June 30, 2017 and at December 31, 2016, the Company determined that other than temporary impairments of $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 the fair value of NantOmics was primarily caused by a change in the risk profile of our financial projections for NantOmics resulting from the delay in our GPS revenue growth. 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 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 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 sequencing and reductions in the costs of providing whole genome sequencing as technologies mature, will combine to drive the price of whole genome 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 18 of the accompanying notes to the Consolidated and 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 and Liquid GPS, 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. 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 a number of 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 June 30, 2018 , the total value of our goodwill and intangible assets, net of accumulated amortization was $185.2 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 and Liquid GPS do 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 Quarterly Report on Form 10-Q, 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. For example, two of our former employees filed a complaint against us alleging they were terminated in violation of Florida’s Whistleblower Act, which was settled. 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.

In addition, our home healthcare services business, which includes a skilled nursing facility, employs healthcare providers in the home care setting. Healthcare providers in the home care setting increasingly are the subject of litigation, and we cannot assure you that we would not also be the subject of such litigation based on our offerings. In addition, the marketing, sale and use of our offering could lead to the filing of product liability claims were someone to allege that one or more of our offerings identified inaccurate or incomplete information regarding the genomic alterations of the tumor or malignancy analyzed, reported inaccurate or incomplete information concerning the available therapies for a certain type of cancer, or otherwise failed to perform as designed. We may also be subject to liability for errors in, a misunderstanding of, or inappropriate reliance upon, the information we provide in the ordinary course of our business activities. A product liability claim could result in substantial damages and be costly and time-consuming for us to defend.

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.

We have been experiencing a period of growth. 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 a number of other inherent risks, and our future results could be adversely affected by a number of 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; 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. Negotiations began in March 2017 to determine the future terms of the UK's relationship with the EU, including the terms of trade between the UK and the EU and the rest of the world. Article 50 of the Treaty of the European Union, or Article 50, allows a member state to decide to withdraw from the European Union in accordance with its own constitutional requirements. On February 1, 2017, the UK Parliament voted in favor of allowing the UK to start the process of leaving the European Union and authorized the filing an Article 50 notice to that end, which was delivered to the European Union in March 2017. Delivery of the Article 50 notice commenced a two-year period for the United Kingdom to exit from the European Union, although this period can be extended with the unanimous agreement of the European Council. Without any such extension (and assuming that the terms of withdrawal have not already been agreed), the United Kingdom's membership in the European Union would end automatically on the expiration of that two-year period. The effects of Brexit will depend on agreements the UK makes to retain access to EU markets either during a transitional period or more permanently. 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. 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. Depending on the terms reached regarding Brexit, it is possible that there may be adverse practical and/or operational implications on our business. A significant amount of the regulatory regime that applies to us in the UK is derived from EU directives and regulations. For so long as the UK remains a member of the EU, those sources of legislation will (unless otherwise repealed or amended) remain in effect. However, 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, a liquid tumor profiling company. As part of these and other acquisitions, we acquired patents and other intellectual property. As of August 9, 2018 , our patent portfolio consists of the following matters relating to our proprietary technology and inventions: (i) four issued U.S. patents, of which three are U.S. utility patents and one is a U.S. design patent; (ii) 13 pending U.S. patent applications; (iii) no issued patents outside the United States; and (iv) two patent applications pending in jurisdictions outside the United States.

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 corporate name or the name of 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.

If we 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 among healthcare providers, we may be subject to civil and criminal penalties 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 at less than its 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 forbid 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.

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 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 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 currently exercises its enforcement discretion for LDTs by not enforcing its regulations, 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. Moreover, the FDA could disagree with our current assessment that NantOmics’ sequencing services is a LDT, and could require us or NantOmics to seek clearance or approval for such sequencing services 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 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.

Healthcare policy changes, including recently enacted 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 may apply to GPS Cancer and some or all of our products which are in development. The excise tax was been temporarily suspended for calendar years 2016 and 2017. On January 22, 2018, the United States Congress extended the suspension for an additional two years. Accordingly, the medical device excise tax does not apply to the sale of taxable medical devices by the manufacturer, producer or importer of the device during the period beginning on January 1, 2016 and ending on December 31, 2019, but will be reinstated in 2020 without additional Congressional action.
- 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. The House of Representatives recently voted to pass the American Health Care Act (the AHCA). As proposed, the AHCA would repeal many provisions of the Affordable Care Act. The Senate is currently expected to consider an alternative version of the AHCA and it is expected that Congress will continue to consider this or similar legislation to repeal and replace some or all elements of the Affordable Care Act. 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 those changes on us and potential effect on biosimilar manufacturing industry as a whole is 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 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 August 7, 2018 , our Chairman and Chief Executive Officer, Dr. Patrick Soon-Shiong, and entities affiliated with him, collectively beneficially own approximately 64.1% 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 84% of the outstanding equity and approximately 99% of the outstanding voting equity as of June 30, 2018 . 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 64.1% of the voting power of our common stock as of August 7, 2018 .

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.

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 in note 11 of our unaudited condensed 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, 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 significant deficiencies will 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, or that we propose to take, 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.

No material weaknesses in internal control over financial reporting were identified in connection with our 2016 or 2017 audits. However, 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, or the Tax Act, was enacted on December 22, 2017 and significantly reforms the U.S. Internal Revenue Code of 1986, as amended, or the Code. The Tax Act lowers U.S. federal corporate income tax rates, changes the utilization of future net operating loss carryforwards, allows for the expensing of certain capital expenditures, and puts 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 will be 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 Internal Revenue Code of 1986, as amended, or 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 carryforwards (“NOLs”) or other tax attributes, to offset future taxable income or reduce taxes. We believe that we have recently undergone one or more ownership changes and accordingly, our ability to use our NOLs may be limited.

Additionally, the Tax Act, which was enacted on December 22, 2017, significantly reforms the Code, including changes to the rules governing net operating loss carryforwards. For net operating loss carryforwards arising in tax years beginning after December 31, 2017, the Tax Act limits a taxpayer’s ability to utilize such carryforwards to 80% of taxable income. In addition, net operating loss carryforwards arising in tax years ending after December 31, 2017 can be carried forward indefinitely, but carryback is generally prohibited. Net operating loss 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 net operating losses may significantly impact our ability to use net operating loss 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 the reduced disclosure requirements applicable to emerging growth 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. 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 64.1% of the voting power of our common stock, as of August 7, 2018), 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 2. Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

None.

Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

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 million. Advances can be requested of up to $10 million per calendar quarter until March 31, 2019 and following that, up to $20 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 the profit measure, as defined in the agreement, may not negatively deviate from board approved financial plans by more than 25%.

Item 6. Exhibits

The exhibits listed in the accompanying index to exhibits are filed as part of, or incorporated by reference into, this Quarterly Report on Form 10-Q.

		Incorporated by Reference			
Number	Exhibit Title	Form	Exhibit	Filing Date	Filed Herewith
10.1	Promissory note dated August 8, 2018, by the Company to the benefit of Nant Capital, LLC.				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

* As contemplated by SEC Release No. 33-8212, these exhibits are furnished with this Quarterly Report on Form 10-Q 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.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned thereunto duly authorized.

NantHealth, Inc.

(Registrant)

Date: August 9, 2018

By:	/s/ Patrick Soon-Shiong
Name:	Patrick Soon-Shiong
Its:	Chairman, Chief Executive Officer and Director
	(Principal Executive Officer)

By:	/s/ Paul Holt
Name:	Paul Holt
Its	Chief Financial Officer
	(Principal Financial and Accounting Officer)

PROMISSORY NOTE

Up to $100,000,000 August 8, 2018
Culver City, California

For value received, NantHealth, Inc., with offices at 9920 Jefferson Boulevard, Culver City, California 90232 (the " Company "), hereby unconditionally promises to pay to the order of Nant Capital, LLC, with offices at 9922 Jefferson Boulevard, Culver City, California 90232 (" Holder "), or to the order of Holder's registered assigns, the principal amount of One Hundred Millions Dollars ($100,000,000) or, if less, the aggregate unpaid amount of all advances (each, an " Advance " and, collectively, the " Advances ") made by Holder and disbursed to the Company pursuant to this Promissory Note (this " Note "), in each case, together with all accrued interest thereon, in immediately available funds, at the times and in the manner set forth herein.

1. Loan Disbursement Mechanics .

(a) Commitment . Subject to the terms and conditions of this Note, Holder agrees to make one or more Advances to the Company from time to time prior to December 31, 2020 in a maximum aggregate amount not to exceed One Hundred Million Dollars ($100,000,000) (the " Commitment "). Prior to the Maturity Date, principal amount prepaid by the Company may be reborrowed in accordance with the provisions of this Note.

(b) Mechanics of Advances . Subject to the terms and conditions of this Note, upon the request of the Company from time to time after the date hereof, Holder shall make Advances to the Company. Each request for an Advance shall be made upon the written request of the Company to Holder given at least ten (10) business days prior to the date of the requested Advance (each a " Borrowing Notice "). Each Borrowing Notice from the Company shall (i) specify the amount of the requested Advance, (ii) specify the date of the disbursement of the Advance (" Borrowing Date "), (iii) reasonably describe the use of the proceeds for such Advance, and (iv) be accompanied by an officer's certificate certifying that (x) no Event of Default has occurred or is continuing under this Note, (y) there are no events or circumstances of any kind that could reasonably be expected to have material adverse effect on the business, assets (including intangible assets), liabilities, financial condition, property, prospects or results of operations of the Company (" Material Adverse Effect "), and (z) the Company is in compliance with and has complied with all of the covenants contained herein. So long as the Company has complied with the terms and conditions hereof, the Holder shall, no later than the end of business day on the applicable Borrowing Date, transfer to the Company an amount equal to the requested Advance set forth in the applicable Borrowing Notice, in immediately available funds.

(c) Conditions to Each Advance . Notwithstanding anything herein to the contrary, (i) Holder shall only make Advances in integral multiples of $1,000,000; (ii) Holder shall not be required to make Advances from and after December 31, 2020; (iii) Holder shall not be required to make Advances in excess of $10,000,000 in any calendar quarter ending on or before March 31, 2019; (iv) Holder shall not be required to make Advances in excess of $20,000,000 in any calendar quarter beginning April 1, 2019 and ending on or before December 31, 2020; (v) Holder shall not be required to make Advances more frequently than once every thirty (30) days during the term of this Note; (vi) the aggregate outstanding amount of all Advances shall not exceed the Commitment; and (vii) no Advances may be made after the occurrence or during the continuance of an Event of Default hereunder.

(d) Schedule of Advances and Payments . The principal amount of each Advance made by Holder to the Company hereunder, the date on which each such Advance is made, the amount of any prepayment or partial prepayment of any such Advance, and the outstanding principal amount of each such Advance, shall be specified in Schedule A attached hereto. The Company hereby authorizes Holder to record, endorse and update Schedule A hereto from time to time to reflect updated information relating to the Advances made by Holder to the Company hereunder and any prepayments or partial prepayments of the outstanding principal amounts of any such Advances. The information reflected in any such updated version of Schedule A delivered by Holder to the Company shall, in the absence of manifest error, constitute *prima facie* evidence of the accuracy of the information recorded, provided , however , that the failure of Holder to update the information specified in Schedule A in connection with the making by Holder to the Company of any Advance or the payment or partial prepayment by the Company of any such Advance shall not affect the obligations of the Company hereunder to repay the principal amount of any such Advance (and any interest unpaid having accrued thereon) in accordance with the terms of this Note.

2. Interest; Payment .

(a) Interest . The outstanding principal amount of each Advance made by Holder to the Company pursuant to this Note shall bear interest from and including the date such Advance is made to but excluding the date such Advance is paid in full at a per annum rate equal to nine and three-quarters percent (9.75%), 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.

(b) Payment. The Company shall pay Holder all accrued and unpaid interest on the outstanding principal amount of each Advance on June 15 and December 15 of each calendar year (each, an " Interest Payment Date ") until the Maturity Date.

(c) Application of Payment. All payments on this Note shall, except if an uncured Event of Default has occurred, in which event the payments shall be applied as determined by Holder in its sole discretion, be applied at any time and from time to time and in the following order: (i) the payment of accrued but unpaid interest hereon, and (ii) the payment of all or any portion of the principal balance then outstanding hereunder, in either the direct or inverse order of maturity.

(d) Default Interest. All amounts of principal of and, to the extent permitted by law, interest due and payable with respect to any Advance not paid when due, whether upon demand of Holder or upon the acceleration thereof pursuant to Section 4 hereof, shall bear interest (" Default Interest ") from the date due until the date paid in full at an overdue rate per annum equal to eleven and three-quarters percent (11.75%). Such Default Interest shall be payable on demand and such increased rate of interest shall continue until such delinquent amount(s), with interest thereon at such increased rate, shall have been paid in full. Acceptance of any delinquent payments by Holder shall not waive or affect any prior demand or default.

3. Maturity Date. The unpaid principal of each Advance, and any accrued and unpaid interest thereon, shall be due and payable on June 15, 2022 (the " Maturity Date "). Subject to the restrictions set forth in the Indenture dated on or about December 21, 2016, between the Company and U.S. Bank National Association (the " Indenture "), the Company may prepay the outstanding amount of any Advance (together with accrued and unpaid interest thereon) at any time, either in whole or in part, without premium or penalty and without the prior consent of Holder.

4. Events of Default. The entire aggregate principal amount of the Advances made by Holder pursuant to this Note, together with all accrued and unpaid interest thereon, is subject to prepayment in whole or in part upon any of the following events (each an " Event of Default "):

(a) any indebtedness under this Note is not paid when and as the same shall become due and payable, whether at maturity, by acceleration, or otherwise;

(b) default shall occur in the observance or performance of any covenant, obligation or agreement of the Company under this Note and such default shall continue uncured for a period of ten (10) business days after receiving written notice of such default;

(c) any final judgment or judgments for the payment of money aggregating in excess of $20,000,000 shall be rendered against the Company , to the extent such judgments are not covered under applicable insurance policies held by Company and which judgments are not, within thirty (30) days after the entry thereof, bonded, discharged or stayed pending appeal, or are not discharged within thirty (30) days after the expiration of such stay;

(d) an Event of Default as defined in and under the Indenture;

(e) the Company shall (i) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of itself or any part of its property, (ii) become subject to the appointment of a receiver, trustee, custodian or liquidator for itself or any part of its property, (iii) make an assignment for the benefit of creditors, (iv) fail generally or admit in writing to its inability to pay its debts as they become due, (v) institute any proceedings under the United States Bankruptcy Code or any other federal or state bankruptcy, reorganization, receivership, insolvency or other similar law affecting the rights of creditors generally, or file a petition or answer seeking reorganization or an arrangement with creditors to take advantage of any insolvency law, or file an answer admitting the material allegations of a bankruptcy, reorganization or insolvency petition filed against it, or (vi) become subject to any involuntary proceedings under the United States Bankruptcy Code or any other federal or state bankruptcy, reorganization, receivership, insolvency or other similar law affecting the rights of creditors generally, which proceedings are not, within 30 days after the entry thereof, bonded, discharged or stayed pending appeal, or are not discharged within 30 days after the expiration of such stay, or have an order for relief entered against it in any proceeding under the United States Bankruptcy Code; or

(f) the Company shall (i) liquidate, wind up or dissolve (or suffer any liquidation, wind-up or dissolution) or (ii) suspend its operations other than in the ordinary course of business.

If any Event of Default shall occur for any reason, whether voluntary or involuntary, and be continuing, Holder may, upon notice or demand, declare the outstanding indebtedness under this Note to be due and payable, whereupon the outstanding indebtedness under this Note shall be and become immediately due and payable, and the Company shall immediately pay to Holder all such indebtedness. Upon the occurrence of an actual or deemed entry of an order for relief with respect to the Company under the United States Bankruptcy Code, then all indebtedness under this Note shall automatically be due immediately without notice of any kind. The Company agrees to pay Holder all out-of-pocket costs and expenses incurred by Holder in any effort to collect indebtedness under this Note, including attorneys' fees. Holder shall also have any other rights that Holder may have been afforded under any contract or agreement at any time and any other rights which Holder may have pursuant to applicable law. Holder may exercise any and all of its remedies under this Note contemporaneously or separately from the exercise of any other remedies hereunder or under applicable law. For the avoidance of doubt, and notwithstanding anything herein to the contrary, any payment obligation of the Company pursuant to this Section 4 is subject to Section 5.

5. Subordination .

(a) Agreement of Subordination . The Company and Holder each covenant and agree that this Note shall be issued subject to the provisions of this Section 5; and each holder of this Note, whether upon original issue or upon transfer, assignment or exchange thereof, accepts and agrees to be bound by such provisions. The payment of the principal of, premium, if any, and interest on this Note shall, to the extent and in the manner hereinafter set forth, be subordinated and subject in right of payment to the prior payment in full of all Senior Debt (as defined below), whether outstanding at the date of this Note or thereafter incurred. For purposes of this Note, " Senior Debt " shall mean the principal of, premium, if any, interest (including all interest accruing subsequent to the commencement of any bankruptcy or similar proceeding, whether or not a claim for post-petition interest is allowable as a claim in any such proceeding), and all fees, costs, expenses and other amounts accrued or due on or in connection with the Company's Convertible Senior Notes due 2021 issued pursuant to the Indenture, whether outstanding on the date of this Note or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by the Company (including all deferrals, renewals, extensions or refundings of, or amendments, modifications or supplements to, the foregoing).

(b) Payment to Holders .

(i) No payment shall be made with respect to the principal of, or premium, if any, or interest on this Note if a default in the payment of principal, premium, if any, interest or other obligations due on any Senior Debt occurs and is continuing (or, in the case of Senior Debt for which there is a period of grace, in the event of such a default that continues beyond the period of grace, if any, specified in the instrument evidencing such Senior Debt) (including a default set forth in Sections 6.01(a) and 6.01(b) of the indenture pursuant to which the Senior Debt was issued) (a " Payment Default "), unless and until such default shall have been cured or waived or shall have ceased to exist or the obligations in respect of the Senior Debt are paid in full in cash or other payment satisfactory to the holders of Senior Debt.

(ii) The Company may and shall resume payments on and distributions in respect of this Note upon the earlier of the date upon which the Payment Default is cured or waived or ceases to exist, or unless this Section 5 otherwise prohibits the payment or distribution at such time.

(iii) Upon any payment or distribution of assets of the Company of any kind or character, whether in cash, property or securities, to creditors upon any dissolution or winding-up or liquidation or reorganization of the Company, whether voluntary or involuntary or in bankruptcy, insolvency, reorganization, liquidation, receivership or other proceedings, or upon an assignment for the benefit of creditors or any marshalling of the assets and liabilities of the Company, or otherwise, all amounts due or to become due upon all Senior Debt shall first be paid in full in cash or other payment satisfactory to the holders of such Senior Debt, or payment thereof in accordance with its terms provided for in cash or other payment satisfactory to the holders of such Senior Debt, before any payment is made on account of the principal of, interest or premium, if any, on the Note; and upon any such dissolution, winding-up, liquidation, reorganization, assignment for the benefit of creditors or marshalling of assets and liabilities of the Company or bankruptcy, insolvency, receivership or other proceeding, any payment by the Company, or distribution of assets of the Company of any kind or character, whether in cash, property or securities, to which Holder would be entitled, except for the provision of this Section 5, shall (except as aforesaid) be paid by the Company or by any receiver, trustee in bankruptcy, liquidating trustee, agent or other person making such payment or distribution, or by Holder if received by them or it, directly to the holders of Senior Debt (pro rata to such holders on the basis of the respective amounts of Senior Debt held by such holders, or as otherwise required by law or a court order), or to the trustee or trustees under the indenture pursuant to which the Senior Debt was issued, as their respective interests may appear, to the extent necessary to pay all Senior Debt in full, in cash or other payment satisfactory to the holders of such Senior Debt, after giving effect to any concurrent payment or distribution to or for the holders of Senior Debt, before any payment or distribution or provision therefor is made to Holder.

(iv) For purposes of this Section 5, the words, "cash, property or securities" shall not be deemed to include shares of stock of the Company as reorganized or readjusted, or securities of the Company or any other corporation provided for by a plan of reorganization or readjustment, the payment of which is subordinated at least to the extent provided in this Section 5 with respect to this Note to the payment of all Senior Debt which may at the time be outstanding; provided that (i) the Senior Debt is assumed by the new corporation, if any, resulting from any reorganization or readjustment, and (ii) the rights of the holders of Senior Debt are not, without the consent of such holders, altered by such reorganization or readjustment. The consolidation of the Company with, or the merger of the Company into, another corporation or the liquidation or dissolution of the Company following the conveyance or transfer of its property as an entirety, or substantially as an entirety, to another corporation shall not be deemed a dissolution, winding-up, liquidation or reorganization for the purposes of this Section 5(b) unless such consolidation, merger, conveyance or transfer, shall constitute an Event of Default in Section 4.

(v) In the event of the acceleration of this Note because of an Event of Default, no payment or distribution shall be made to Holder in respect of the principal of, interest or premium, if any, on this Note until all Senior Debt has been paid in full in cash or other payment satisfactory to the holders of Senior Debt or such acceleration is rescinded by Holder.

(vi) In the event that, notwithstanding the foregoing provisions, any payment or distribution of assets of the Company of any kind or character, whether in cash, property or securities (including, without limitation, by way of setoff or otherwise), prohibited by the foregoing, shall be received by Holder (or any agent, trustee or other representative thereof) before all Senior Debt is paid in full in cash or other payment satisfactory to the holders of such Senior Debt, or provision is made for such payment thereof in accordance with its terms in cash or other payment satisfactory to the holders of such Senior Debt, such payment or distribution shall be held in trust for the benefit of and shall be paid over or delivered to the holders of Senior Debt, or to the trustee or trustees under any indenture pursuant to which any instruments evidencing any Senior Debt may have been issued, as their respective interests may appear, as calculated by the Company, for application to the payment of all Senior Debt remaining unpaid to the extent necessary to pay all Senior Debt in full in cash or other payment satisfactory to the holders of such Senior Debt, after giving effect to any concurrent payment or distribution to or for the holders of such Senior Debt.

(c) Subrogation of this Note .

(i) Subject to the payment in full of all Senior Debt, the rights of Holder shall be subrogated to the extent of the payments or distributions made to the holders of such Senior Debt pursuant to the provisions of this Section 5 (equally and ratably with the holders of all indebtedness of the Company which by its express terms is subordinated to other indebtedness of the Company to substantially the same extent as this Note is subordinated and is entitled to like rights of subrogation) to the rights of the holders of Senior Debt to receive payments or distributions of cash, property or securities of the Company applicable to the Senior Debt until the principal and premium, if any, on this Note shall be paid in full; and, for the purposes of such subrogation, no payments or distributions to the holders of Senior Debt of any cash, property or securities to which Holder would be entitled except for the provisions of this Section 5, and no payment over pursuant to the provisions of this Section 5, to or for the benefit of the holders of Senior Debt by Holder, shall, as between the Company, its creditors other than holders of Senior Debt, and Holder, be deemed to be a payment by the Company to or on account of the Senior Debt; and no payments or distributions of cash, property or securities to or for the benefit of Holder pursuant to the subrogation provisions of this Section 5, which would otherwise have been paid to the holders of Senior Debt shall be deemed to be a payment by the Company to or for the account of this Note. It is understood that the provisions of this Section 5 are and are intended solely for the purposes of defining the relative rights of Holder, on the one hand, and the holders of Senior Debt, on the other hand.

(ii) Nothing contained in this Section 5 or elsewhere in this Note is intended to or shall impair, as among the Company, its creditors other than the holders of Senior Debt, and Holder, the obligation of the Company, which is absolute and unconditional, to pay to Holder the principal of (and premium, if any) and interest on this Note as and when the same shall become due and payable in accordance with its terms, or is intended to or shall affect the relative rights of Holder and creditors of the Company other than the holders of Senior Debt, nor shall anything herein or therein prevent Holder from exercising all remedies otherwise permitted by applicable law upon default under this Note, subject to the rights, if any, under this Section 5 of the holders of Senior Debt in respect of cash, property or securities of the Company received upon the exercise of any such remedy.

(iii) Upon any payment or distribution of assets of the Company referred to in this Section 5, Holder shall be entitled to rely upon any order or decree made by any court of competent jurisdiction in which such bankruptcy, dissolution, winding-up, liquidation or reorganization proceedings are pending, or a certificate of the receiver, trustee in bankruptcy, liquidating trustee, agent or other person making such payment or distribution, delivered to Holder, for the purpose of ascertaining the persons entitled to participate in such distribution, the holders of Senior Debt and other indebtedness of the Company, the amount thereof or payable thereon and all other facts pertinent thereto or to this Section 5.

(d) Until the repayment in full of all Senior Debt, neither the Maturity Date nor this Section 5 may be amended in a manner adverse to the holders of Senior Debt without the consent of the Company, Holder and the trustee of the Senior Debt (with the consent of holders of a majority in aggregate principal amount of such outstanding Senior Debt).

6. Covenants. Until all amounts outstanding on this Note have been paid in full:

(a) Maintenance of Existence. The Company shall (i) preserve, renew and maintain in full force and effect its corporate or organizational existence and (ii) take all reasonable action to maintain all rights, privileges and franchises necessary or desirable in the normal conduct of its business, except, in each case, where the failure to do so would not reasonably be expected to have a Material Adverse Effect.

(b) Compliance. The Company shall comply with (i) all of the terms and provisions of its organizational documents; (ii) its obligations under its material contracts and agreements; and (iii) all laws applicable to it and its business, in each case, except where the failure to do so would not reasonably be expected to have a Material Adverse Effect.

(c) Payment Obligations. The Company shall pay, discharge or otherwise satisfy at or before maturity or before they become delinquent, as the case may be, all its material obligations of whatever nature, except where the amount or validity thereof is currently being contested in good faith by appropriate proceedings, and reserves in conformity with U.S. generally accepted accounting principles (GAAP) with respect thereto have been provided on its books.

(d) Notice of Events of Default. The Company shall, as soon as possible and in any event within two (2) business days after it becomes aware that an Event of Default has occurred, notify the Holder in writing of the nature and extent of such Event of Default and the action, if any, it has taken or proposes to take with respect to such Event of Default.

(e) Fundamental Change. The Company shall not, without Holder's prior written consent, (i) merge into or with or consolidate with any other person, corporation, partnership, trust, limited liability company, association or other entity (" Person "), (ii) sell, lease or otherwise dispose of (whether in one transaction or in a series of transactions) all or substantially all of the assets of the Company to any other Person, or (iii) amend modify or waive its organizational documents in any manner materially adverse to the interest of the Holder.

(f) Indebtedness. Except indebtedness incurred under this Note or the Senior Debt, the Company shall not create, issue, incur, assume, become liable in respect of or suffer to exist any indebtedness for borrowed money in excess of $5,000,000 without the prior written consent of Holder.

(g) Performance to Plan - Adjusted EBITDA. Measured no later than 45 days after the last day of each calendar quarter (or 75 days in the case of the last calendar quarter of each fiscal year), the Company's operating earnings before interest, taxes, depreciation, amortization, stock compensation, securities litigation expenses, non-budgeted acquisition related revenue and expenses, and other miscellaneous items subject to the Holder's reasonable consent (" Adjusted EBITDA ") for each calendar quarter shall not negatively deviate by more than 25% from its projected Adjusted EBITDA for each such period as set forth in the Company's Financial Plan (as defined below). For purposes of this Note, " Financial Plan " shall mean the annual budget of the Company, presented on a quarterly basis, which is approved by the Company's Board of Directors (the " Board "). If no Financial Plan is approved by the Company's Board for a particular fiscal year, then the prior year's Financial Plan shall be used for purposes of this Section 6(g).

7. Miscellaneous.

(a) Notice. Any notice, request or other communication required or permitted hereunder shall be in writing and shall be deemed to have been duly given if personally delivered or mailed by registered or certified mail, postage prepaid, or by recognized overnight courier or personal delivery at the respective addresses of the parties as set forth herein or on the register maintained by the Company. Any party hereto may by notice so given change its address for future notice hereunder. Notice shall conclusively be deemed to have been given where received.

(b) No Waiver. No failure or delay by Holder to exercise any right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege preclude any other right, power or privilege.

(c) Severability. If one or more provisions of this Note are held to be unenforceable under applicable law, such provision shall be excluded from this Note and the balance of the Note shall be interpreted as if such provision were so excluded and shall be enforceable in accordance with its terms.

(d) Entire Agreement. This Note expresses the entire understanding of the parties with respect to the transactions contemplated hereby.

(e) Default Rates; Usury. In the event any interest is paid on this Note which is deemed to be in excess of the then legal maximum rate, then that portion of the interest payment representing an amount in excess of the then legal maximum rate shall be deemed a payment of principal and applied against the principal of this Note.

(f) Waiver by the Company . The Company hereby expressly waives presentment, protest, notice of protest, notice of default, notice of dishonor and all other demands and notices relating to his Note of any kind or nature whatsoever.

(g) Governing Law . **THIS NOTE AND ALL ACTIONS ARISING OUT OF OR IN CONNECTION WITH THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA, WITHOUT APPLICATION OF CONFLICTS OF LAW PRINCIPLES** .

(Remainder of page intentionally left blank)

IN WITNESS WHEREOF, the Company has caused this Promissory Note to be issued as of the date first written above.

NANTHEALTH, INC.

By: /s/ Paul Holt
Name: Paul Holt
Title: Chief Financial Officer

Agreed and Accepted
NANT CAPITAL, LLC

By: /s/ Charles Kim
Name: Charles Kim
Title: evp

SCHEDULE A

TO PROMISSORY NOTE

ADVANCES

Date of Advance	Original Principal Amount of Advance	Amount and Date(s) of Prepayments of Advance	Outstanding Principal Balance of Advance
	$		$
TOTAL	**$**		**$**

Exhibit 31.1

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 Quarterly Report on Form 10-Q 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:	August 9, 2018	By:	/s/ Patrick Soon-Shiong
			Dr. Patrick Soon-Shiong
			Chairman, Chief Executive Officer and Director
			(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Paul Holt, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q 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:	August 9, 2018	By:	/s/ Paul Holt
			Paul Holt
			Chief Financial Officer
			(Principal Financial and Accounting Officer)

Exhibit 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

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 Quarterly Report on Form 10-Q of NantHealth, Inc for the quarter ended June 30, 2018 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: August 9, 2018	By: /s/ Patrick Soon-Shiong
	Dr. Patrick Soon-Shiong
	Chairman, Chief Executive Officer and Director
	(Principal Executive Officer)

This certification accompanies the Quarterly Report on Form 10-Q 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-Q), irrespective of any general incorporation language contained in such filing.

Exhibit 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

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, Paul Holt, hereby certify that, to my knowledge:

(i) the Company's Quarterly Report on Form 10-Q of NantHealth, Inc. for the quarter ended June 30, 2018 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: August 9, 2018

By: /s/ Paul Holt
Paul Holt
Chief Financial Officer
(Principal Financial and Accounting Officer)

This certification accompanies the Quarterly Report on Form 10-Q 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-Q), irrespective of any general incorporation language contained in such filing.