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, 2022

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.)**
3000 RDU Center Drive, Suite 200 Morrisville, North Carolina	**27560**
(Address of principal executive offices)	**(Zip Code)**

(855) 949-6268
(Registrant's telephone number, including area code)

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

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

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

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

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

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

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

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

As of August 4, 2022, the registrant had 115,550,244 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, 2022
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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 NaviNet, Eviti, NaviNet Open, Eviti | Connect, OpenNMS, Quadris 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 this ("Quarterly Report"), including, without limitation, Part I, Item 2, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Part II, Item 1A, “Risk Factors,” contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases you can identify these statements by forward-looking words such as “believe,” “may,” “will,” “might,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “should,” “would,” “project,” “plan,” “outlook,” “target,” “expect,” or similar expressions, or the negative or plural of these words or expressions. These forward-looking statements include, but are not limited to, statements concerning the following:

- the structural change in the market for healthcare in the United States, including uncertainty in the healthcare regulatory framework and regulatory developments in the United States and foreign countries;
- any impact of the COVID-19 pandemic, or responses to the pandemic, on our operations or personnel, or on commercial activity or demand across our and our customers’ businesses;
- physician, payer and pharmaceutical business needs for clinical decision support, payer/provider collaboration and data analytics solutions and any perceived advantage of our solutions over those of our competitors, including the ability of our platforms to help physicians treat their patients;
- our ability to increase the commercial success and to accelerate commercial growth of our clinical decision support, payer/provider collaboration, network monitoring and management, and data analytics solutions and our other products and services;
- our plans or ability to develop, implement and commercialize a cloud/SaaS-based version of our network monitoring and management solutions;
- our ability to effectively implement, offer and manage delegated entity services to health plans in a compliant and timely manner in connection with our decision support solutions;
- our ability to effectively manage our growth, including the rate and degree of market acceptance of our solutions;
- our ability to offer new and innovative products and services, including new features and functionality for our existing products and services;
- our ability to attract new partners and customers and our ability to retain or renew contracts with partners and customers;
- our ability to estimate the size of our target market;
- our ability to maintain and enhance our reputation and brand recognition;
- our ability to maintain compliance with the continued listing standards of Nasdaq, which may result in the delisting of our common stock from the Nasdaq Global Select Market;
- 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 ability to obtain and maintain intellectual property protection for our solutions and not infringe upon the intellectual property of others;
- our financial performance expectations, including our expectations regarding our revenue, cost of revenue, gross profit or gross margin, operating expenses, including changes in research and development, sales and marketing and general and administrative expenses, and our ability to achieve and maintain future profitability; and
- our expectations regarding our ability to comply with Nasdaq continued listing standards.

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

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

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

NantHealth, Inc.
Consolidated Balance Sheets
(Dollars in thousands)

	June 30, 2022	December 31, 2021
	(Unaudited)	
Assets		
Current assets		
Cash and cash equivalents	$ 5,711	$ 29,084
Accounts receivable, net	5,049	5,810
Related party receivables, net	476	506
Prepaid expenses and other current assets	3,628	4,010
Total current assets	14,864	39,410
Property, plant, and equipment, net	12,066	12,366
Goodwill	98,333	98,333
Intangible assets, net	34,575	39,039
Related party receivable, net of current	1,041	1,012
Operating lease right-of-use assets	5,038	6,048
Other assets	971	1,620
Total assets	$ 166,888	$ 197,828
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 4,847	$ 3,204
Accrued and other current liabilities	13,312	16,358
Deferred revenue	2,518	2,440
Related party payables, net	2,914	5,161
Notes payable	—	782
Total current liabilities	23,591	27,945
Deferred revenue, net of current	1,562	2,024
Related party liabilities	42,019	38,278
Related party promissory note	112,666	112,666
Related party convertible note, net	62,301	62,268
Convertible notes, net	74,643	74,603
Deferred income taxes, net	1,568	1,775
Operating lease liabilities	5,141	6,248
Other liabilities	31,495	34,013
Total liabilities	354,986	359,820
Commitments and Contingencies (Note 11)		
Stockholders' deficit		
Common stock, $0.0001 par value per share, 750,000,000 shares authorized; 115,550,244 and 115,505,244 shares issued and outstanding at June 30, 2022 and December 31, 2021, respectively	12	12
Additional paid-in capital	893,835	891,105
Accumulated deficit	(1,081,359)	(1,052,897)
Accumulated other comprehensive loss	(586)	(212)
Total stockholders' deficit	(188,098)	(161,992)
Total liabilities and stockholders' deficit	$ 166,888	$ 197,828

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

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Revenue				
Software-as-a-service related	$ 15,861	$ 15,504	$ 31,632	$ 31,261
Maintenance	428	413	892	795
Professional services	208	173	346	200
Total software-related revenue	16,497	16,090	32,870	32,256
Other	1	—	1	3
Total net revenue	16,498	16,090	32,871	32,259
Cost of Revenue				
Software-as-a-service related	5,621	5,444	11,184	10,979
Maintenance	469	270	838	477
Professional services	9	1	9	7
Amortization of developed technologies	1,247	1,247	2,494	2,494
Total software-related cost of revenue	7,346	6,962	14,525	13,957
Other	1	47	1	93
Total cost of revenue	7,347	7,009	14,526	14,050
Gross Profit	9,151	9,081	18,345	18,209
Operating Expenses				
Selling, general and administrative	14,017	11,837	28,997	24,340
Research and development	5,861	4,849	11,576	9,862
Amortization of acquisition-related assets	986	985	1,971	1,971
Total operating expenses	20,864	17,671	42,544	36,173
Loss from operations	(11,713)	(8,590)	(24,199)	(17,964)
Interest expense, net	(3,470)	(3,803)	(6,920)	(7,371)
Other income (expense), net	2,642	(3,051)	2,648	(5,621)
Loss from continuing operations before income taxes	(12,541)	(15,444)	(28,471)	(30,956)
Provision for (benefit from) income taxes	(29)	6	(9)	(2)
Net loss from continuing operations	(12,512)	(15,450)	(28,462)	(30,954)
Income from discontinued operations, net of tax attributable to NantHealth	—	19	—	24
Net loss	(12,512)	(15,431)	(28,462)	(30,930)
Net loss attributable to noncontrolling interests	—	(128)		(219)
Net loss attributable to NantHealth	$ (12,512)	$ (15,303)	$ (28,462)	$ (30,711)
Basic and diluted net loss per share attributable to NantHealth:				
Total net loss per share - common stock	$ (0.11)	$ (0.13)	$ (0.25)	$ (0.27)
Weighted average shares outstanding				
Basic and diluted - common stock	115,550,244	114,512,542	115,535,822	112,924,619

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

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Net loss	$ (12,512)	$ (15,431)	$ (28,462)	$ (30,930)
Other comprehensive (loss) income, net of tax				
Foreign currency translation adjustments	(278)	18	(374)	46
Total other comprehensive (loss) income	(278)	18	(374)	46
Comprehensive loss	(12,790)	(15,413)	(28,836)	(30,884)
Less: Comprehensive loss attributable to noncontrolling interests	—	(128)	—	(219)
Comprehensive loss attributable to NantHealth	$ (12,790)	$ (15,285)	$ (28,836)	$ (30,665)

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

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

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total NantHealth Stockholders' Deficit	Noncontrolling Interests	Total Stockholders' Deficit
	Shares	Amount						
Balance at December 31, 2021	115,505,244	$ 12	$ 891,105	$ (1,052,897)	$ (212)	$ (161,992)	$ —	$ (161,992)
Stock-based compensation cost	—	—	1,417	—	—	1,417	—	1,417
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	45,000	—	24	—	—	24	—	24
Other comprehensive loss	—	—	—	—	(96)	$ (96)	—	$ (96)
Net loss	—	—	—	(15,950)	—	$ (15,950)	—	$ (15,950)
Balance at March 31, 2022	115,550,244	$ 12	$ 892,546	$ (1,068,847)	$ (308)	$ (176,597)	$ —	$ (176,597)
Stock-based compensation cost	—	—	1,289	—	—	1,289	—	1,289
Other comprehensive loss	—	—	—	—	(278)	(278)	—	(278)
Net loss	—	—	—	(12,512)	—	(12,512)	—	(12,512)
Balance at June 30, 2022	115,550,244	$ 12	$ 893,835	$ (1,081,359)	$ (586)	$ (188,098)	$ —	$ (188,098)

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

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

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total NantHealth Stockholders' Deficit	Noncontrolling Interests	Total Stockholders' Deficit
	Shares	Amount						
Balance at December 31, 2020	111,284,733	$ 11	$ 891,583	$(1,003,210)	$ (168)	$ (111,784)	$ 384	$ (111,400)
Modified retrospective adjustment on adoption of ASU No. 2020-06	—	—	(14,318)	8,572	—	(5,746)	—	(5,746)
Stock-based compensation cost	—	—	912	—	—	912	—	912
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	81,400	—	64	—	—	64	—	64
Other comprehensive income	—	—	—	—	28	28	—	28
Net loss	—	—	—	(15,408)	—	(15,408)	(91)	(15,499)
Balance at March 31, 2021	111,366,133	$ 11	$ 878,241	$(1,010,046)	$ (140)	$ (131,934)	$ 293	$ (131,641)
Stock-based compensation expense	—	—	887	—	—	887	—	887
Shares issued in connection with employee stock plans, net of shares withheld for employee taxes	222,553	—	61	—	—	61	—	61
Stock issued on Exchange of 2016 Notes	3,615,970	1	10,000	—	—	10,001	—	10,001
Other comprehensive income	—	—	—	—	18	18	—	18
Net loss	—	—	—	(15,303)	—	(15,303)	(128)	(15,431)
Balance at June 30, 2021	115,204,656	$ 12	$ 889,189	$(1,025,349)	$ (122)	$ (136,270)	$ 165	$ (136,105)

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

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

	Six Months Ended June 30,	
	2022	**2021**
Cash flows from operating activities:		
Net loss	$ (28,462)	$ (30,930)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	7,896	7,705
Amortization of debt discounts and deferred financing offering cost	73	510
Change in fair value of derivatives liability	—	(4)
Change in fair value of Bookings Commitment	(2,500)	4,803
Stock-based compensation	2,653	1,742
Deferred income taxes, net	(214)	(181)
Provision for bad debt expense	20	29
Impairment of ROU asset	208	—
Loss on exchange and prepayment of 2016 Notes	—	742
Changes in operating assets and liabilities:		
Accounts receivable, net	741	(1,385)
Related party receivables, net	1	6
Prepaid expenses and other current assets	226	506
Accounts payable	1,638	(2,799)
Accrued and other current liabilities	(3,069)	(2,047)
Deferred revenue	(384)	932
Related party payables, net	1,157	3,922
Change in operating lease right-of-use assets and liabilities	(228)	(204)
Other assets and liabilities	50	(32)
Net cash used in operating activities	(20,194)	(16,685)
Cash flows from investing activities:		
Purchases of property and equipment, including internal-use software	(2,861)	(2,411)
Net cash used in investing activities	(2,861)	(2,411)
Cash flows from financing activities:		
Repayments of insurance promissory note and notes payable	(782)	(227)
Proceeds from related party convertible notes	—	62,500
Proceeds from convertible notes	—	75,000
Payment of convertible notes	—	(87,500)
Proceeds from exercises of stock options	24	125
Payment of deferred financing costs, related party	—	(268)
Payment of deferred financing costs	—	(390)
Net cash (used in) provided by financing activities	(758)	49,240
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(78)	5
Net (decrease) increase in cash, cash equivalents and restricted cash	(23,891)	30,149
Cash, cash equivalents and restricted cash, beginning of period [(1)]	31,402	24,162
Cash, cash equivalents and restricted cash, end of period [(1)]	$ 7,511	$ 54,311

[(1)] Cash and cash equivalents included restricted cash of $1,800 and $2,318 at June 30, 2022 and December 31, 2021, respectively, and $2,318 and $1,375 at June 30, 2021 and December 31, 2020, respectively. At June 30, 2022, restricted cash of $1,180 is included in prepaid expenses and other current assets and $620 is included in other assets. At June 30, 2021, restricted cash of $1,180 is included in prepaid expenses and other current assets and $1,138 is included in other assets. Restricted cash is included in prepaid expenses and other current assets and other assets and consists of funds that are contractually restricted as to usage or withdrawal related to the Company's performance bond related to a contract with a customer, and 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, 2022.

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

	Six Months Ended June 30,	
	2022	**2021**
Supplemental disclosure of cash flow information:		
Interest paid	$ 3,099	$ 2,447
Non-cash transactions:		
Purchases of property and equipment, including internal-use software	18	57
Common stock issued in Exchange for 2016 Notes	—	10,000

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

Note 1. Description of Business and Basis of Presentation

Nature of Business

Nant Health, LLC was formed on July 7, 2010, as a Delaware limited liability company. On June 1, 2016, Nant Health, LLC converted into a Delaware corporation (the “LLC Conversion”) and changed its name to NantHealth, Inc. (“NantHealth”). NantHealth, together with its subsidiaries (the “Company”), is a healthcare IT company converging science and technology. The Company works to transform clinical delivery with actionable clinical intelligence at the moment of decision, enabling clinical discovery through real-time machine learning systems. The Company markets certain of its solutions as a comprehensive integrated solution that includes its clinical decision support, payer engagement solutions, data analysis and network monitoring and management. The Company also markets its clinical decision support, payer engagement solutions, data analysis and network monitoring and management 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 July 22, 2020, the Company acquired The OpenNMS Group, Inc. ("OpenNMS") pursuant to an assignment agreement with Cambridge Equities, L.P. ("Cambridge"), a related party. In August 2021, the Company purchased the remaining 9%, or 241,485 shares of outstanding OpenNMS common stock held by the remaining shareholders.

The Company is integrating OpenNMS with NantHealth’s software portfolio and service offerings, as well as expanding the Company’s capabilities in cloud, Software-as-a-Service ("SaaS"), and artificial intelligence ("AI") technologies, providing customers with services to maintain reliable network connections for critical data flows that enable patient data collaboration and decision making at the point of care. At the same time, this transaction will allow the Company to expand penetration of OpenNMS services in the healthcare industry.

As of June 30, 2022, the Company conducted the majority of its operations in the United States, Canada, and the United Kingdom.

COVID-19 Pandemic

In March 2020, the World Health Organization declared the novel coronavirus (COVID-19) a pandemic. In the same month, the President of the United States declared a State of National Emergency due to the COVID-19 pandemic. The COVID-19 pandemic has resulted in intermittent worldwide government restrictions on the movement of people, goods, and services resulting in increased volatility in and disruptions to global markets. To date, there has been no material adverse impact to the Company's business from the COVID-19 pandemic. Given the unprecedented and evolving nature of the pandemic, the future impact of these changes and potential changes on the Company and its contractors, consultants, customers, resellers and partners is unknown at this time.

However, in light of the uncertainties regarding economic, business, social, health and geopolitical conditions, the Company’s revenues, earnings, liquidity, and cash flows could be adversely affected, whether on an annual or quarterly basis. Continued impacts of the COVID-19 pandemic could materially adversely affect the Company’s current and long-term accounts receivable collectability, as its negatively impacted customers from the pandemic may request temporary relief, delay, or not make scheduled payments. In addition, the deployment of the Company’s solutions may represent a large portion of its customers' investments in software technology. Decisions to make such an investment are impacted by the economic environment in which the customers operate. Uncertain global geopolitical, economic and health conditions and the lack of visibility or the lack of financial resources may cause some customers to reduce, postpone or terminate their investments, or to reduce or not renew ongoing paid services, adversely impacting the Company’s revenues or timing of revenue. Health conditions in some geographic areas where the Company’s customers operate could impact the economic situation of those areas. These conditions, including the COVID-19 pandemic, may present risks for health and limit the ability to travel for Company employees, which could further lengthen the Company’s sales cycle and delay revenue and cash flows in the near-term.

Basis of Presentation and Principles of Consolidation

The accompanying unaudited Consolidated Financial Statements include the accounts of NantHealth and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. These interim unaudited 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 operations. In accordance with the instructions to Form 10-Q and Article 10 of Regulation S-X as issued by the Securities and Exchange Commission ("SEC"), these unaudited Consolidated Financial Statements do not include all of the information and disclosures required by GAAP for complete financial statements. These unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements for the fiscal year ended December 31, 2021. The accompanying Consolidated Balance Sheet as of December 31, 2021 has been derived from the audited Consolidated Financial Statements at that date. Operating results for interim periods are not necessarily indicative of the results that may be expected for a full fiscal year.

The Company believes its existing cash and cash equivalents, and its ability to borrow on the $125,000 promissory note with Nant Capital, LLC ("Nant Capital") (see Note 16) will be sufficient to fund operations through at least 12 months following the issuance date of the financial statements. The Company continues to have its Chairman and CEO’s intent and ability to support the Company’s operations with additional funds as required. The Company may also seek to sell additional equity, through one or more follow-on public offerings or in separate financings, or sell additional debt securities, or obtain a credit facility. However, the Company may not be able to secure such financing in a timely manner or on favorable terms. The Company may also consider selling off components of its business. Without additional funds, the Company may choose to delay or reduce its operating or investment expenditures. Further, because of the risk and uncertainties associated with the launch, commercialization and marketing of the Company's existing products and services as well as products in development, the Company may need additional funds to meet its needs sooner than planned. To date, the Company's primary sources of capital have been the private placement of membership interests prior to its IPO, debt financing agreements, including promissory notes with Nant Capital and affiliates, convertible notes, the sale of its common stock, revenue generated from our products and services and proceeds from the sale of components of its business.

Note 2. Summary of Significant Accounting Policies

Use of Estimates

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

Segment Reporting

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

Upcoming Accounting Standard Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Credit Losses on Financial Instruments*, which changes how companies measure credit losses on most financial instruments measured at amortized cost, such as loans, receivables, and held-to-maturity debt securities. Rather than generally recognizing credit losses when it is probable that the loss has been incurred, the revised guidance requires companies to recognize an allowance for credit losses for the difference between the amortized cost basis of a financial instrument and the amount of amortized cost that the Company expects to collect over the instrument's contractual life. ASU No. 2016-13 is effective for fiscal periods beginning after December 15, 2022 for smaller reporting companies and must be adopted as a cumulative effect adjustment to retained earnings. Early adoption is permitted. The Company is still evaluating the effects of this ASU.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force), the American Institute of Certified Public Accountants, and the SEC did not have, nor are believed by management to have, a material impact on the Company's present or future Consolidated Financial Statements.

Note 3. Revenue Recognition

Contract Balances

The Company records deferred revenue when cash payments are received, or payment is due, in advance of its fulfillment of performance obligations. During the three months ended June 30, 2022 and 2021, there were revenues of $795 and $490 recognized, respectively, that were included in the deferred revenue balance at the beginning of the period. During the six months ended June 30, 2022 and 2021, there were revenues of $1,522 and $1,028 recognized, respectively.

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 $556 at June 30, 2022 and $810 at December 31, 2021. During the three months ended June 30, 2022 and 2021, the Company recorded amortization of $93 and $155, respectively. During the six months ended June 30, 2022 and 2021, the Company recorded amortization of $235 and $315, respectively.

Where management is not able to conclude that the costs of a contract will be recovered, costs to obtain the contract are expensed as incurred.

Performance Obligations

As of June 30, 2022, the Company has allocated a total transaction price of $3,186 to unfulfilled performance obligations that are expected to be fulfilled within 9 years. Excluded from this amount are contracts of less than one year and variable consideration that relates to the value of services provided.

Note 4. Accounts Receivable, net

Accounts receivable are included in the Consolidated Balance Sheets, net of the allowance for doubtful accounts. The allowance for doubtful accounts at June 30, 2022 and December 31, 2021 was $3 and $2, respectively.

(Dollars in thousands, except per share amounts)

Note 5. Prepaid Expenses and Other Current Assets and Accrued and Other Current Liabilities

Prepaid expenses and other current assets as of June 30, 2022 and December 31, 2021 consisted of the following:

	June 30, 2022	December 31, 2021
Prepaid expenses	$ 2,052	$ 2,256
Restricted cash	1,180	1,180
Other current assets	396	574
Prepaid expenses and other current assets	$ 3,628	$ 4,010

Accrued and other current liabilities as of June 30, 2022 and December 31, 2021 consisted of the following:

	June 30, 2022	December 31, 2021
Payroll and related costs	$ 5,602	$ 8,545
Accrued liabilities	2,264	2,640
Bookings Commitment (see Note 9)	1,679	1,661
Interest payable	703	703
Operating lease liabilities	2,002	1,912
Other accrued and other current liabilities	1,062	897
Accrued and other current liabilities	$ 13,312	$ 16,358

Note 6. Property, Plant and Equipment, net

Property, plant and equipment, net as of June 30, 2022 and December 31, 2021 consisted of the following:

	June 30, 2022	December 31, 2021
Computer equipment and software	$ 7,596	$ 9,267
Furniture and equipment	1,055	1,060
Leasehold improvements	3,778	3,821
Property, plant, and equipment, excluding internal-use software, gross	12,429	14,148
Less: Accumulated depreciation and amortization	(10,147)	(10,857)
Property, plant and equipment, excluding internal-use software, net	2,282	3,291
Internal-use software	45,942	43,314
Construction in progress - Internal-use software	1,368	1,082
Less: Accumulated depreciation and amortization, internal-use software	(37,526)	(35,321)
Internal-use software, net	9,784	9,075
Property, plant and equipment, net	$ 12,066	$ 12,366

Depreciation expense from continuing operations was $1,559 and $3,196, respectively, for the three and six months ended June 30, 2022, of which $1,078 and $2,206, respectively, related to internal-use software costs. Depreciation expense from continuing operations was $1,515 and $2,926, respectively, for the three and six months ended June 30, 2021, of which $1,022 and $2,011, respectively, related to internal-use software costs.

Amounts capitalized to internal-use software related to continuing operations for the three and six months ended June 30, 2022 were $1,713 and $2,919, respectively. Amounts capitalized to internal-use software related to continuing operations for the three and six months ended June 30, 2021 were $742 and $1,632, respectively.

(Dollars in thousands, except per share amounts)

Note 7. Intangible Assets, net

The Company's definite-lived intangible assets as of June 30, 2022 and December 31, 2021 consisted of the following:

	June 30, 2022	December 31, 2021
Customer relationships	$ 53,000	$ 53,000
Developed technologies	34,500	34,500
Trade name	3,300	3,300
Installed user base	1,400	1,400
Intangible assets, gross	92,200	92,200
Less: Accumulated amortization	(57,625)	(53,161)
Intangible assets, net	$ 34,575	$ 39,039

Amortization of definite-lived intangible assets is provided over their estimated useful lives on a straight-line basis or the pattern in which economic benefits are consumed, if reliably determinable. The Company reviews its definite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Amortization expense from continuing operations for the three months ended June 30, 2022 and 2021 was $2,233 and $2,232, respectively. Amortization expense from continuing operations for the six months ended June 30, 2022 and 2021 was $4,465 and $4,464, respectively.

The estimated future amortization expense over the next five years and thereafter for the intangible assets that exist as of June 30, 2022 is as follows:

	Amounts
Remainder of 2022	$ 4,466
2023	4,346
2024	4,283
2025	4,147
2026	3,467
Thereafter	13,866
Total future intangible amortization expense	$ 34,575

Note 8. Convertible Notes

2021 4.5% Convertible Senior Notes ("2021 Notes")

On April 13, 2021, the Company and its wholly owned subsidiary, NaviNet (the "Guarantor") entered into a note purchase agreement (the "Note Purchase Agreement") with Highbridge and certain other buyers, including Nant Capital to issue and sell $137,500 in aggregate principal amount of its 4.5% convertible senior 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 2021 Notes were issued on April 27, 2021. The total net proceeds from this offering were approximately $136,772, comprised of $62,223 from Nant Capital and $74,549 from Highbridge, after deducting Highbridge's debt issuance costs of $118 and $610 in debt issuance costs paid to third parties in connection with the 2021 Notes offering.

The Company used part of the proceeds from the 2021 Notes issuance to repurchase the remaining $31,945 of principal amount of the 2016 5.5% Convertible Senior Notes ("2016 Notes") held by Highbridge ("Repurchased Notes") and pay $644 of accrued and unpaid interest. On April 27, 2021, in connection with the issuance of the 2021 Notes, the Company provided a notice of a "Fundamental Change" (as defined in the indenture governing the Company's 2016 Notes) and an offer to repurchase all the outstanding 2016 Notes. On May 25, 2021, the Company purchased $55,555 of the outstanding 2016 Notes via a Fundamental Change repurchase and paid $1,358 of accrued and unpaid interest thereon.

On April 27, 2021, the 2021 Notes were issued to the investors under an indenture (the "2021 Indenture") dated April 27, 2021 entered into between the Company and U.S. Bank National Association (the "Trustee").

Interest rates on the 2021 Notes are fixed at 4.5% per year, payable semi-annually on October 15th and April 15th of each year, beginning on October 15, 2021. The 2021 Notes will mature on April 15, 2026, unless earlier repurchased by the Company or converted pursuant to their terms.

The deferred financing offering costs on the 2021 Notes are being amortized to interest expense over the contractual terms of the 2021 Notes, using the effective interest method at an effective interest rate of 4.61%.

The initial conversion rate of the 2021 Notes is 259.8753 shares of common stock per $1 principal amount of 2021 Notes (which is equivalent to an initial conversion price of approximately $3.85 per share). The conversion rate will be subject to adjustment upon the occurrence of certain specified events in accordance with the terms of the 2021 Indenture but will not be adjusted for accrued and unpaid interest.

Holders of the 2021 Notes may convert all or a portion of their 2021 Notes, in multiples of $1 principal amount, at any time prior to the close of business on the business day immediately preceding the maturity date. Upon conversion, the 2021 Notes will be settled in cash, shares of the Company's common stock or any combination thereof at the Company's option.

As of June 30, 2022, the remaining life of the Convertible Notes is approximately 45.5 months.

The 2021 Notes are the Company’s general unsecured obligations and are initially guaranteed on a senior unsecured basis by the Guarantor.

The Company may not redeem the 2021 Notes prior to April 20, 2024. The Company may redeem for cash all or any portion of the 2021 Notes, at its option, on or after April 20, 2024, if the last reported sale price of the common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on and including, the trading day immediately preceding the date on which the Company provides notice of redemption at a redemption price equal to 100% of the principal amount of the 2021 Notes to be redeemed, plus any accrued and unpaid special interest up to, but excluding, the redemption date. No sinking fund is provided for the 2021 Notes, which means that the Company is not required to redeem or retire the 2021 Notes periodically. If the Company exercises this option to redeem the 2021 Notes owned by Highbridge and Highbridge is unable to convert such 2021 Notes as a result of the application of the beneficial ownership limitations, at the request of Highbridge, the Company shall convert such 2021 Notes into the number of shares of the Company’s Series 1 Preferred Stock equal to the number of shares that the 2021 Notes are convertible into pursuant to the Conversion Option (as defined in the 2021 Indenture) into common stock.

Upon the occurrence of a fundamental change (as defined in the 2021 Indenture), holders may require the Company to purchase all or a portion of the 2021 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 2021 Notes to be purchased plus any accrued and unpaid interest to, but excluding, the fundamental change purchase date.

For so long as at least $25,000 principal amount of the 2021 Notes are outstanding, the 2021 Indenture restricts the Company or any of its subsidiaries from creating, assuming, or incurring any indebtedness owing to any of the Company's affiliates (other than intercompany indebtedness between the Company and its subsidiaries and other than any of the Company's 2021 Notes), or prepaying any such indebtedness, subject to certain exceptions, unless certain conditions described in the 2021 Indenture have been satisfied. Under the 2021 Indenture, the Company may incur affiliate debt if there is (i) no default or event of default at the time of such incurrence or would occur as a consequence of such incurrence; (ii) such affiliate debt is unsecured and subordinated to the 2021 Notes; and (iii) no principal of such affiliate debt is scheduled to mature earlier than the date that is 181 days after April 15, 2026, the maturity date of the 2021 Notes. See Note 11 Commitments and Contingencies for default provisions.

(Dollars in thousands, except per share amounts)

The following table summarizes how the issuance of the 2021 Notes is reflected in the Company's Consolidated Balance Sheets as of June 30, 2022 and December 31, 2021.

	Related Party	Others	Total
Balance as of June 30, 2022			
Gross proceeds	$ 62,500	$ 75,000	$ 137,500
Unamortized debt discounts and deferred financing offering costs	(199)	(357)	(556)
Net carrying amount	$ 62,301	$ 74,643	$ 136,944
Balance as of December 31, 2021			
Gross proceeds	$ 62,500	$ 75,000	$ 137,500
Unamortized debt discounts and deferred financing offering costs	(232)	(397)	(629)
Net carrying amount	$ 62,268	$ 74,603	$ 136,871

The following tables set forth the Company's interest expense recognized in the Company's Consolidated Statements of Operations:

	Three Months Ended June 30, 2022			Six Months Ended June 30, 2022		
2021 Notes	Related Party	Others	Total	Related Party	Others	Total
Accrued coupon interest expense	$ 703	$ 844	$ 1,547	$ 1,406	$ 1,688	$ 3,094
Amortization of deferred financing offering costs	17	19	36	34	39	73
Total convertible notes interest expense	$ 720	$ 863	$ 1,583	$ 1,440	$ 1,727	$ 3,167

	Three Months Ended June 30, 2021			Six Months Ended June 30, 2021		
2021 Notes	Related Party	Others	Total	Related Party	Others	Total
Accrued coupon interest expense	$ 492	$ 591	$ 1,083	$ 492	$ 591	$ 1,083
Amortization of deferred financing offering costs	11	15	26	11	15	26
2016 Notes						
Accrued coupon interest expense	$ 79	$ 657	$ 736	$ 216	$ 1,991	$ 2,207
Amortization of debt discounts	5	37	42	13	113	126
Amortization of deferred financing offering costs	3	116	119	8	350	358
Total convertible notes interest expense	$ 590	$ 1,416	$ 2,006	$ 740	$ 3,060	$ 3,800

(Dollars in thousands, except per share amounts)

Note 9. Fair Value Measurements

Liabilities measured at fair value on a recurring basis as of June 30, 2022 and December 31, 2021 consisted of the following:

	June 30, 2022			
	Total fair value	Quoted price in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Liabilities				
Bookings Commitment	$ 31,974	$ —	$ —	$ 31,974

	December 31, 2021			
	Total fair value	Quoted price in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Liabilities				
Bookings Commitment	$ 34,474	$ —	$ —	$ 34,474

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.

Level 3 Inputs

Bookings Commitment

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.

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. The Company also agreed that Allscripts shall receive at least $500 per year in payments from bookings (the "Annual Minimum Commitment"). If the total payments received by Allscripts from bookings during such period are less than the Annual Minimum Commitment, the Company shall pay to Allscripts the difference between the Annual Minimum Commitment and the total amount received by Allscripts from bookings during such period. As of both June 30, 2022 and December 31, 2021, the accrued Annual Minimum Commitment was $1,200. 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.

The Company values the Bookings Commitment, assumed upon the disposal of the provider/patient engagement solutions business, using a Monte Carlo Simulation model to calculate average payments due under the Bookings Commitment, based on management's estimate of its performance in securing bookings and resulting annual payments, discounted at the cost of debt based on a yield curve. The cost of debt used for discounting was between 14% and 15% at June 30, 2022 and 11% at December 31, 2021. The change in fair value is recorded within other income (expense), net in the Company's Consolidated Statements of Operations.

The fair value of the Bookings Commitment is dependent on management's estimate of the probability of success on individual opportunities and the cost of debt applied in discounting the liability. The higher the probability of success on each opportunity, the lower the fair value of the Bookings Commitment liability. The lower the cost of debt applied, the higher the value of the liability.

(Dollars in thousands, except per share amounts)

Management believes the assumptions used on projected financial information is reasonable, but those assumptions require judgment and are forward looking in nature. However, actual results may differ materially from those projections. The fair value of the Bookings Commitment is most sensitive to management's estimate of the discount rate applied to present value the liability. If the discount rate applied was 2% lower at June 30, 2022, the fair value of the liability would increase by $3,226.

The fair market value for level 3 securities may be highly sensitive to the use of unobservable inputs and subjective assumptions. Generally, changes in significant unobservable inputs may result in significantly lower or higher fair value measurements.

The following tables set forth a summary of changes in the fair value of Level 3 liabilities for the six months ended June 30, 2022:

	December 31, 2021	Transfers in (out)	Change in fair value recognized in earnings	June 30, 2022
Liabilities				
Bookings Commitment	34,474	—	(2,500)	31,974
	$ 34,474	$ —	$ (2,500)	$ 31,974

Fair Value of Convertible Notes held at amortized cost

As of June 30, 2022 and December 31, 2021, the fair value and carrying value of the Company's Convertible 2021 Notes were:

	Fair value	Carrying value	Face value
2021 Notes			
Balance as of June 30, 2022			
Related party	$ 43,886	$ 62,301	$ 62,500
Others	52,664	74,643	75,000
	$ 96,550	$ 136,944	$ 137,500
Balance as of December 31, 2021			
Related party	$ 51,466	$ 62,268	$ 62,500
Others	61,760	74,603	75,000
	$ 113,226	$ 136,871	$ 137,500

The fair value of the 2021 Notes was determined by using unobservable inputs that are supported by minimal non-active market activity and that are significant to determining the fair value of the debt instrument. The fair value is level 3 in the fair value hierarchy.

(Dollars in thousands, except per share amounts)

Note 10. Leases

The Company has operating leases for corporate offices, data centers, and certain equipment. The Company's leases have lease terms of 1 year to 11 years, some of which include options to extend the leases for up to 5 years, and some of which include options to terminate the leases within 1 year. Options to extend are included in the lease term where the Company is reasonably certain to exercise the options. Variable payments on the Company's leases are expensed as incurred, as they do not depend on an index or rate. The Company concluded certain leases for data centers had a term of less than 1 year at inception, as arrangements are only renewed following marketplace assessments and negotiations with vendors.

Future minimum lease payments under the Company's operating leases at June 30, 2022 were:

Maturity Analysis	**Amounts**
Remainder of 2022	$ 1,345
2023	2,679
2024	2,524
2025	671
2026	604
2027	427
Thereafter	660
Total future minimum lease payments	8,910
Less: imputed interest	(1,767)
Total	$ 7,143
As reported in the Consolidated Balance Sheet	
Accrued and other current liabilities	$ 2,002
Operating lease liabilities	5,141
	$ 7,143

In June 2022, the Company entered into a sublease for 27 percent of our Boston office space which is expected to commence in September 2022. We recorded an ROU asset impairment charge in the three months ended June 30, 2022 of $208, which was the amount by which the carrying value of the ROU asset allocated to the sublease exceeded the fair value. We estimated the fair value of the ROU asset using an income approach based on the net present value of the sublease rental income during the sublease term. The ROU asset impairment charge is included in other income (expense), net.

Note 11. 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.

Related Party Promissory Note

On January 4, 2016, the Company executed a $112,666 demand promissory note in favor of Nant Capital to fund the acquisition of NaviNet (see Note 16). On May 9, 2016 and December 15, 2016, the promissory note with Nant Capital was amended to provide that all outstanding principal and accrued interest is due and payable on June 15, 2022, and not on demand. On April 27, 2021, in connection with the issuance of the 2021 Notes, the Company entered into a Third Amended and Restated Promissory Note which amends and restates its promissory note, dated January 4, 2016, as amended on May 9, 2016, and on December 16, 2016, between the Company and Nant Capital, to, among other things, extend the maturity date of the promissory note to October 1, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes (see Note 8).

Indenture Obligations Under Convertible Notes

On April 27, 2021, the Company and the Guarantor entered into an indenture (the “2021 Indenture”) by and among NantHealth, the Guarantor and U.S. Bank National Association, as trustee (the “Trustee”), pursuant to which the Company issued the 2021 Notes. The 2021 Notes will bear interest at a rate of 4.5% per year, payable semi-annually on April 15 and October 15 of each year, beginning on October 15, 2021. The 2021 Notes will mature on April 15, 2026, unless earlier repurchased, redeemed or converted.

The following events are considered “events of default” with respect to the 2021 Notes, which may result in the acceleration of the maturity of the 2021 Notes:

(1) the Company defaults in any payment of interest on the 2021 Notes when due and payable and the default continues for a period of 30 days;

(2) the Company defaults in the payment of principal on the 2021 Notes when due and payable at the stated maturity, upon redemption, upon any required repurchase, upon declaration of acceleration or otherwise;

(3) failure by the Company to comply with its obligation to convert the 2021 Notes in accordance with the 2021 Indenture upon exercise of a holder’s conversion right and such failure continues for a period of five business days;

(4) failure by the Company to give a fundamental change notice or notice of a specified corporate transaction when due with respect to the 2021 Notes;

(5) failure by the Company to comply with its obligations under the 2021 Indenture with respect to consolidation, merger and sale of assets of the Company;

(6) failure by the Company to comply with any of its other agreements contained in the 2021 Notes or the 2021 Indenture, for a period 60 days after written notice from the Trustee or the holders of at least 25% in principal amount of the 2021 Notes then outstanding has been received;

(7) default by the Company or any of its significant subsidiaries (as defined in the 2021 Indenture) with respect to any mortgage, agreement or other instrument under which there may be outstanding, or by which there may be secured or evidenced, any indebtedness for money borrowed in excess of $17,500 (or its foreign currency equivalent) in the aggregate of the Company and/or any such subsidiary, whether such indebtedness now exists or shall hereafter be created (i) resulting in such indebtedness becoming or being declared due and payable or (ii) constituting a failure to pay the principal of any such indebtedness when due and payable at its stated maturity, upon required repurchase, upon declaration of acceleration or otherwise, and, in the case of clauses (i) and (ii), such default is not rescinded or annulled or such failure to pay or default shall not have been cured or waived, such acceleration is not rescinded or such indebtedness is not discharged, as the case may be, within 30 days after notice to the Company by the Trustee or to the Company and the Trustee by holders of at least 25% in aggregate principal amount of 2021 Notes then outstanding in accordance with the 2021 Indenture; or

(8) certain events of bankruptcy, insolvency, or reorganization of the Company or any of its significant subsidiaries (as defined in the 2021 Indenture).

If such an event of default, other than an event of default described in clause (8) above with respect to the Company, occurs and is continuing, the Trustee by notice to the Company, or the holders of at least 25% in principal amount of the outstanding 2021 Notes by notice to the Company and the Trustee, may, and the Trustee at the request of such holders shall, declare 100% of the principal of and accrued and unpaid interest, if any, on all the 2021 Notes to be due and payable. In case of certain events of bankruptcy, insolvency or reorganization involving the Company, 100% of the principal of and accrued and unpaid interest on the 2021 Notes will automatically become due and payable. Upon such a declaration of acceleration, such principal and accrued and unpaid interest on the 2021 Notes, if any, will be due and payable immediately.

Unconditional Purchase Obligations

In 2020, NantWorks entered into agreements with various vendors related to an enterprise resource planning ("ERP") implementation project on behalf of its subsidiaries, including NantHealth. NantWorks bills the Company for its portion of these expenses through the Shared Services Agreement (see Note 16). During the six months ended June 30, 2022, the Company made payments of approximately $162 for the amounts purchased related to the unconditional purchase obligations for the ERP implementation project. As of June 30, 2022, the Company has fulfilled its share of the unconditional purchase obligations for the ERP implementation project.

Regulatory Matter

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. Except as discussed below, in the opinion of management, the ultimate outcome of proceedings of which management is aware, even if adverse to the Company, would not have a material adverse effect on the Company's consolidated financial condition or results of operations. Regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources and other factors.

Securities and Derivative Litigation

In March 2017, a number of putative class action securities complaints were filed in U.S. District Court for the Central District of California, naming as defendants the Company and certain of our current or former executive officers and directors. These complaints have been consolidated with the lead case captioned Deora v. NantHealth, Inc., 2:17-cv-01825 ("Deora"). In June 2017, the lead plaintiffs filed an amended consolidated complaint, which generally alleges that defendants violated federal securities laws by making material misrepresentations in NantHealth's IPO registration statement and in subsequent public statements. In particular, the complaint refers to various third-party articles in alleging that defendants misrepresented NantHealth's business with the University of Utah, donations to the university by non-profit entities associated with the Company's founder Dr. Patrick Soon-Shiong, and orders for GPS Cancer. The lead plaintiffs seek unspecified damages and other relief on behalf of putative classes of persons who purchased or acquired NantHealth securities in the IPO or on the open market from June 1, 2016 through May 1, 2017. In March 2018, the Court largely denied Defendants' motion to dismiss the consolidated amended complaint. On July 30, 2019, the Court certified the case as a class action. On October 23, 2019, the parties notified the Court that they had reached a settlement in principle to resolve the action on a class wide basis in the amount of $16,500, which was included in accrued and other current liabilities in the Consolidated Balance Sheet at December 31, 2019. The Court granted preliminary approval of the settlement on January 31, 2020. A hearing for final approval of the settlement was scheduled for June 15, 2020, but on June 5, 2020, the Court decided to take the final approval motion on submission, and on July 17, 2020, the Court directed Plaintiff's counsel to submit evidence substantiating all costs incurred. The $16,500 settlement was paid into a settlement fund prior to the payment deadline of March 2, 2020. The majority of the settlement amount was funded by the Company's insurance carriers, and a portion was by the Company. On September 10, 2020, the Court entered an order granting final approval of the settlement, and the order and settlement are now final.

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. At a case management conference on December 3, 2019, the parties informed the court of the pending settlement of the federal class action in the Deora action. During a status conference on February 4, 2021, the Court scheduled a further status conference for April 7, 2021 and stated that if Plaintiff did not voluntarily dismiss the action, the Court would entertain a motion to dismiss in light of the finalization of the Deora settlement. Plaintiff filed an unopposed request for voluntarily dismissal on March 15, 2021. On March 22, 2021, the court issued an order granting plaintiff's request and dismissing the action with prejudice.

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 the Deora action but asserted 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, waste of corporate assets, and unjust enrichment. The Company is named solely as a nominal defendant. In July 2018, the court issued an order consolidating the Engleman and Petersen actions as In re NantHealth, Inc. Stockholder Litigation, Lead C.A. No. 2018-0302, appointing Petersen as lead plaintiff, and designating the Petersen complaint as the operative complaint. On September 20, 2018, the defendants moved to dismiss the complaint. In October 2018, in response to the motion to dismiss, Petersen filed an amended complaint. In November 2018, the defendants moved to dismiss the amended complaint, which asserts claims for breach of fiduciary duty, waste of corporate assets (which Petersen subsequently withdrew), and unjust enrichment. On January 14, 2020, the court issued an order granting in part and denying in part the defendants' motion to dismiss. The court dismissed all claims except one claim against Dr. Patrick Soon-Shiong for breach of fiduciary duty. Dr. Soon-Shiong and the Company filed answers to the amended complaint on March 30, 2020. On June 29, 2021, the Court granted the Unopposed Motion to Substitute Lead Plaintiff, following Plaintiff Petersen's sale of his NantHealth stock, and appointed Engleman as Lead Plaintiff.

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. In November 2018, a putative shareholder derivative action captioned Manuel v. Soon-Shiong was filed in the U.S. District Court for the District of Delaware. The complaints contain allegations similar to those in the Deora action but also asserted causes of action on behalf of NantHealth against various of the Company's current or former executive officers and directors for alleged breaches of fiduciary duty and unjust enrichment, as well as alleged violations of the federal securities laws based on alleged misstatements or omissions in the Company's 2017 proxy statement. The Company is named solely as a nominal defendant. On January 15, 2019, the Shen and Manuel actions were consolidated in a case captioned In re NantHealth, Inc. Derivative Litigation. The parties agreed to stay the consolidated case pending a decision on defendants' motion to dismiss in the derivative action in the Delaware Court of Chancery. The stay was lifted after the Delaware Court of Chancery's January 14, 2020 decision granting in part and denying in part the motion to dismiss. On October 5, 2020, an amended consolidated complaint was filed which brings claims only against Dr. Soon-Shiong for alleged violations of the federal securities laws and breach of fiduciary duty based on alleged misstatement or omissions in the Company's 2017 and 2018 proxy statements and other public filings. On December 4, 2020, defendant moved to dismiss the amended complaint. On February 2, 2021, plaintiffs filed an answering brief in opposition to defendant's motion to dismiss. On March 18, 2021, defendant filed a reply brief in further support of his motion to dismiss the amended complaint. On May 12, 2021, the District Court granted defendant's motion to dismiss the amended complaint in full with prejudice.

Note 12. Income Taxes

The benefit for income taxes for the three and six months ended June 30, 2022 from continuing operations was a benefit of $29 and a benefit of $9, respectively. The provision for (benefit from) income taxes for the three and six months ended June 30, 2021 from continuing operations was a provision of $6 and a benefit of $2, respectively. The provision for (benefit from) income taxes for the three and six months ended June 30, 2022 and 2021 from continuing operations included an income tax provision for (benefit from) the consolidated group based on an estimated annual effective tax rate.

The effective tax rates for the three and six months ended June 30, 2022 from continuing operations were a benefit of 0.20% and a benefit of 0.02%, respectively. The effective tax rates for the three and six months ended June 30, 2021 from continuing operations were a provision of 0.04% and a benefit of 0.01%, respectively. The effective tax rates for the three and six months ended June 30, 2022 and 2021 differed from the U.S. federal statutory rates of 21% primarily as a result of a valuation allowance on the Company's deferred tax assets.

The Company has evaluated all available evidence 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. Due to uncertainties surrounding the realization of the deferred tax assets, the Company maintains a valuation allowance on substantially all deferred tax assets in excess of deferred tax liabilities. 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 has recently completed an IRS audit for the tax year 2016 with no adjustments. 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, 2016 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.

Note 13. Stockholders’ Equity

Amended Certificate of Incorporation

In accordance with the Company’s amended and restated certificate of incorporation, which was filed immediately following the closing of its IPO, the Company is authorized to issue 750,000,000 shares of common stock, with a par value of $0.0001 per share, and 20,000,000 shares of undesignated preferred stock, with a par value of $0.0001 per share. Holders of the Company’s common stock are entitled to one vote for each share held on all matters submitted to a vote of its stockholders. Holders of the Company’s common stock have no cumulative voting rights. Further, as of June 30, 2022 and December 31, 2021, 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, 2022, and December 31, 2021, there were no outstanding shares of preferred stock.

On April 13, 2021, the Company exchanged with Cambridge and Highbridge, $10,000 principal of the 2016 Notes ($5,000 with each party), for 1,689,189 and 1,926,781 common shares, respectively.

On November 12, 2021, the Company entered into a certain Open Market Sale Agreement (the “Sale Agreement”) with Jefferies LLC (“Jefferies”) relating to shares of our common stock, $0.0001 par value per share, offered pursuant to an effective shelf registration statement on Form S-3 that was declared effective on May 6, 2021. In accordance with the terms of the Sale Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to $30,000 from time to time through Jefferies acting as our agent.

(Dollars in thousands, except per share amounts)

Note 14. Stock-Based Compensation

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Stock options:				
Cost of revenue	8	42	68	84
Selling, general and administrative	1,135	570	2,275	1,268
Research and development	80	105	221	203
Total stock options stock-based compensation expense	1,223	717	2,564	1,555
Restricted stock units:				
Selling, general and administrative	27	25	54	74
Total restricted stock units stock-based compensation expense	27	25	54	74
Related party share based payments:				
Selling, general and administrative	12	67	24	67
Research and development	1	46	11	46
Total related party stock-based compensation expense	13	113	35	113
Total stock-based compensation expense	1,263	855	2,653	1,742
Amount capitalized to internal-use software	26	32	53	57
Total stock-based compensation cost	$ 1,289	$ 887	$ 2,706	$ 1,799

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. In May 2020, the Company’s stockholders approved an amendment to the 2016 Plan, to reserve a further 12,000,000 shares of common stock for issuance pursuant to the 2016 Plan. In June 2022, the Company's stockholders approved an amendment to the 2016 Plan, to reserve a further 3,000,000 shares of common stock for issuance pursuant to the 2016 Plan. Following the approval of the amendments, a total of 27,800,000 shares of common stock were reserved for issuance pursuant to the 2016 Plan.

(Dollars in thousands, except per share amounts)

Stock Options

The following table summarizes the activity related to stock options during the three and six months ended June 30, 2022:

	Number of Shares	Weighted-Average Exercise Price
Stock options outstanding - December 31, 2021	14,475,636	$ 2.06
Exercised	(45,000)	$ 0.55
Forfeited	(118,750)	$ 3.60
Stock options outstanding - March 31, 2022	14,311,886	$ 2.05
Granted	300,000	$ 0.58
Forfeited	(247,500)	$ 2.43
Stock options outstanding - June 30, 2022	14,364,386	$ 2.01
Stock options exercisable - June 30, 2022	4,720,636	$ 1.46

As of June 30, 2022, the Company had $9,844 of unrecognized stock-based compensation expense related to stock options. This cost is expected to be recognized over a weighted-average period of 1.7 years.

The Company settles all exercised stock options by issuing shares of the Company's common stock without netting down the portion related to payroll withholding tax obligations.

Restricted Stock Units

The following table summarizes the activity related to the unvested restricted stock units during the three and six months ended June 30, 2022:

	Number of Units	Weighted-Average Grant Date Fair Value
Unvested restricted stock units outstanding - December 31, 2021	119,705	$ 1.81
Vested	(59,852)	$ 1.81
Unvested restricted stock units outstanding - March 31, 2022	59,853	$ 1.81
Unvested restricted stock units outstanding - June 30, 2022	59,853	$ 1.81
Vested and exercisable - June 30, 2022	59,852	$ 1.81
Vested and unvested restricted stock units outstanding - June 30, 2022	119,705	$ 1.81

As of June 30, 2022, the Company had $75 of unrecognized stock-based compensation expense related to restricted stock units. This cost is expected to be recognized over a weighted-average period of 0.7 years.

During the six months ended June 30, 2022, the Company issued 0 shares of common stock to participants of the 2016 Plan based in the United States.

(Dollars in thousands, except per share amounts)

Note 15. 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 attributable to NantHealth for the three and six months ended June 30, 2022 and 2021:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
	Common Stock	Common Stock	Common Stock	Common Stock
Net loss per share numerator:				
Net loss from continuing operations	$ (12,512)	$ (15,450)	$ (28,462)	$ (30,954)
Net loss attributable to noncontrolling interests	—	(128)		(219)
Net loss from continuing operations attributable to NantHealth	(12,512)	(15,322)	(28,462)	(30,735)
Income from discontinued operations attributable to NantHealth	—	19	—	24
Net loss attributable to NantHealth for basic and diluted net loss per share	$ (12,512)	$ (15,303)	$ (28,462)	$ (30,711)
Weighted-average shares for basic and diluted net loss per share	115,550,244	114,512,542	115,535,822	112,924,619
Basic and diluted net loss per share attributable to NantHealth:				
Total net loss per share - common stock	$ (0.11)	$ (0.13)	$ (0.25)	$ (0.27)

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:

	June 30,	
	2022	2021
Unvested and vested and unissued restricted stock units	119,705	119,705
Unexercised stock options	14,364,386	9,448,724
Convertible notes	35,732,853	36,515,562

Note 16. 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, 2022, the Company incurred $387 and $152, respectively, from selling, general and administrative expenses for services provided to the Company by NantWorks and affiliates, net of services provided to NantWorks and affiliates by the Company. During the three and six months ended June 30, 2021, the Company incurred $201 and $307, respectively, from selling, general and administrative expenses for services provided to the Company by NantWorks and affiliates, net of services provided to NantWorks and affiliates by the Company.

Nant Capital Note Purchase Agreement

On April 13, 2021, the Company entered into a Note Purchase Agreement with Nant Capital to issue and sell $62,500 in aggregate principal amount of its 2021 Notes (see Note 8). The accrued and unpaid interest on the 2021 Notes held by Nant Capital was $586 and $586 at June 30, 2022 and December 31, 2021, respectively, and was included as part of current related party payables, net in the Consolidated Balance Sheets.

Related Party Receivables and Payables

As of June 30, 2022 and December 31, 2021, the Company had related party receivables of $1,517 and $1,518, respectively, primarily consisting of a receivable from Ziosoft KK of $1,144 in both periods, which was related to the sale of Qi Imaging. As of June 30, 2022 and December 31, 2021, the Company had related party payables and related party liabilities of $44,933 and $43,439, respectively, which primarily relate to interest payable on the $112,666 promissory note in favor of Nant Capital and amounts owed to NantWorks pursuant to the Shared Services Agreement. 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’ molecular analysis 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 Amended 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 noncancellable 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 was also required to pay annual minimum fees to from 2021 through 2029. These annual minimum fees are no longer applicable with the execution of Amendment No. 3 to the Second Amended Reseller Agreement.

On December 18, 2017, the Company and NantOmics executed Amendment No. 1 to the Second Amended Reseller Agreement. The Second Amended Reseller Agreement was amended to allow fee adjustments with respect to services completed by NantOmics between the amendment effective date of October 1, 2017 to June 30, 2018.

On April 23, 2019, the Company and NantOmics executed Amendment No. 2 to the Second Amended Reseller Agreement. The Second Amended Reseller Agreement was amended to set a fixed fee with respect to services completed by NantOmics between the amendment effective date and the end of the Initial Term, December 31, 2020.

On December 31, 2020, the Company and NantOmics executed Amendment No. 3 to the Second Amended Reseller Agreement to automatically renew at the end of December 2020 for a non-exclusive renewal term and to waive the annual minimum fee for the 2020 calendar year and calendar years 2021 through 2023.

As of June 30, 2022 and December 31, 2021, the Company had no outstanding related party payables under the Second Amended Reseller Agreement. During the three and six months ended June 30, 2022 and June 30, 2021, no direct costs were recorded as cost of revenue related to the Second Amended Reseller Agreement.

Related Party Promissory Notes

In January 2016, we executed a demand promissory note with Nant Capital (the "Nant Capital Note"), a personal investment vehicle for Dr. Soon-Shiong, our Chairman and CEO. As of June 30, 2022, the total advances made by Nant Capital to us pursuant to the note was approximately $112,666. On May 9, 2016, the Nant Capital 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 2016 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 Nant Capital, to, among other things, extend the maturity date of the Nant Capital Note to June 15, 2022 and to subordinate the Nant Capital Note in right of payment to the 2016 Notes. The Nant Capital 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. When a repayment is made, Nant Capital 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 Nant Capital. On April 27, 2021, in connection with the issuance of the 2021 Notes, we entered into a Third Amended and Restated Promissory Note which amends and restates its promissory note, dated January 4, 2016, as amended on May 9, 2016, and on December 16, 2016, between the Company and Nant Capital, to, among other things, extend the maturity date of the promissory note to October 1, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes. As of June 30, 2022 and December 31, 2021, the total principal and interest outstanding on the promissory note amounted to $154,685 and $150,944, respectively. The accrued and unpaid interest on the promissory note as of June 30, 2022 and December 31, 2021 was $42,019 and $38,278, respectively, included as part of noncurrent related party liabilities in the Consolidated Balance Sheets.

On March 3, 2017, NantHealth Labs (formerly Liquid Genomics, Inc.), executed a promissory note with NantWorks. The principal amount of the advance made by NantWorks totaled $250 as of June 30, 2022 and December 31, 2021. On June 30, 2017, the promissory note was amended and restated to provide that all outstanding principal and accrued and unpaid interest is due on demand. The note bears interest at a per annum rate of 5.0%, compounded annually. As of June 30, 2022 and December 31, 2021, the total interest outstanding on this note amounted to $74 and $66, respectively, and is included in related party payables, net.

On August 8, 2018, the Company executed a promissory note in favor of Nant Capital, with a maturity date of June 15, 2022. On December 31, 2020, the Company and Nant Capital executed an agreement to amend and restate the original promissory note allowing us to request advances up to a maximum commitment of $125,000 that bears interest at a per annum rate of 5.50%, extended the maturity date to December 31, 2023, and created an option for the securitization of the debt under the promissory note upon full repayment of the 2016 Notes. Interest payments on outstanding amounts are due on December 15th of each calendar year. The promissory note includes customary negative covenants. On April 27, 2021, in connection with the issuance of the 2021 Notes, the Company and Nant Capital entered into a Second Amended and Restated Promissory Note which amends and restates its promissory note, dated August 8, 2018, as amended on December 31, 2020, between the Company and Nant Capital, to, among other things, extend the maturity date of the promissory note to December 31, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes. As of June 30, 2022, no advances had been made under the promissory note. As of June 30, 2022, the Company was in compliance with the covenants.

Related Party Share-based Payments

On December 21, 2020, ImmunityBio, Inc. (formerly known as NantKwest, Inc.) ("ImmunityBio"), NantCell, and Nectarine Merger Sub, Inc., a wholly owned subsidiary of ImmunityBio, entered into an Agreement and Plan of Merger, which was completed on March 9, 2021 (the "Merger"). The newly merged entity is majority owned by entities controlled by Dr. Soon-Shiong, Chairman and Chief Executive Officer of the Company. On March 4, 2021, prior to the Merger, NantCell awarded restricted stock units to its employees, including certain NantHealth employees working on behalf of ImmunityBio, which vest over defined service periods, subject to completion of a liquidity event. At the effective time of the Merger on March 9, 2021, the performance condition was met and each share of common stock of NantCell that was issued and outstanding immediately prior to the Merger was automatically converted into the right to receive as consideration newly issued common shares of ImmunityBio. The Company accounts for these awards as compensation cost at its estimated fair value over the vesting period with a corresponding credit to equity to reflect a capital contribution from, or on behalf of, the common controlling entity, to the extent that those services provided by its employees associated with these awards benefit NantHealth. The fair value is dependent on management's estimate of the benefit to NantHealth. The higher the estimate of benefit to the Company, the higher the fair value of compensation cost. The compensation cost attributed to NantHealth associated with these awards was $13 and $35 for the three and six months ended June 30, 2022, respectively.

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 "Consolidated Financial Statements" and notes thereto included elsewhere in this Quarterly Report on Form 10-Q ("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

NantHealth, Inc. ("we" or "us") provides enterprise solutions that help businesses transform complex data into actionable insights. By offering efficient ways to move, interpret, and visualize complex and highly sensitive information, we help our customers in healthcare, life sciences, logistics, telecommunications, and other industries, to automate, understand, and act on data while keeping it secure and scalable.

Our product portfolio comprises the latest technology in payer/provider collaboration platforms for real-time coverage decision support (NaviNet and Eviti), and data solutions that include multi-data analysis, reporting and professional services offerings (Quadris). In addition, OpenNMS, a subsidiary of ours, helps businesses monitor and manage network health and performance. Altogether, we generally derive revenue from SaaS subscription fees, support services, professional services, and revenue sharing through collaborations with complementary businesses.

We market certain of our solutions as a comprehensive integrated solution that includes our clinical decision support, payer engagement solutions, data analysis and network monitoring and management. We also market our clinical decision support, payer engagement solutions, data analysis and network monitoring and management on a stand-alone basis. To accelerate our commercial growth and enhance our competitive advantage, we intend to continue to:

- introduce new marketing, education and engagement efforts and foster relationships across the health care community to drive adoption of our products and services;
- strengthen our commercial organization to increase our NantHealth solutions customer base and to broaden usage of our solutions by existing customers;
- develop new features and functionality for NantHealth solutions to address the needs of current and future healthcare provider and payer, self-insured employer and biopharmaceutical company customers, as well as logistics, telecommunications and other customers through OpenNMS; and
- publish scientific and medical advances.

The acquisition of OpenNMS, an enterprise-grade open-source network management company, expands and diversifies our software portfolio and service offerings, adding AI technologies, and enhancing cloud and SaaS capabilities. We believe OpenNMS will provide our customers with a new set of services to maintain reliable network connections for critical data flows that enable patient data collaboration and decision making at the point of care.

Since our inception, we have devoted substantially all our resources to the development and commercialization of NantHealth solutions. 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, 2022, our accumulated deficit was approximately $1.1 billion. We expect to continue to incur operating losses over the near term as we 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 customers through maintaining and expanding sales, marketing and solution development activities, (iv) expand our relationships with existing customers through delivery of add-on and complementary solutions and services and (v) continue our commitment of service in support of our customer satisfaction programs.

Purchase of Convertible Notes

On April 13, 2021, we and our wholly owned subsidiary, NaviNet (the "Guarantor") entered into a note purchase agreement (the "Note Purchase Agreement") with Highbridge Capital Management, LLC and one of its affiliates ("Highbridge") and Nant Capital, LLC ("Nant Capital"), an entity affiliated with Dr. Patrick Soon-Shiong, our Executive Chairman, to issue and sell $137.5 million in aggregate principal amount of our 4.5% convertible senior notes due 2026 (the "2021 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 Note Purchase Agreement includes customary representations, warranties and covenants by us. Under the terms of the Note Purchase Agreement, we have agreed to indemnify the buyers against certain liabilities. The 2021 Notes were issued on April 27, 2021. The 2021 Notes will mature on April 15, 2026, unless earlier repurchased, redeemed or converted.

On April 27, 2021, in connection with the issuance of the 2021 Notes, we entered into a Third Amended and Restated Promissory Note which amends and restates our promissory note, dated January 4, 2016, as amended on May 9, 2016, and on December 15, 2016, between us and Nant Capital, to, among other things, extend the maturity date of the promissory note to October 1, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes.

On April 27, 2021, in connection with the issuance of the 2021 Notes, we entered into a Second Amended and Restated Promissory Note which amends and restates our promissory note, dated August 8, 2018, as amended on December 31, 2020, between us and Nant Capital, to, among other things, extend the maturity date of the promissory note to December 31, 2026 and to subordinate the Second Promissory Note in right of payment to the 2021 Notes.

COVID-19 Pandemic

In March 2020, the World Health Organization declared the novel coronavirus (COVID-19) a pandemic. In the same month, the President of the United States declared a State of National Emergency due to the COVID-19 outbreak. The COVID-19 pandemic has resulted in intermittent worldwide government restrictions on the movement of people, goods, and services resulting in increased volatility in and disruptions to global markets. To date, there has been no material adverse impact to our business from the COVID-19 pandemic. Given the unprecedented and evolving nature of the pandemic, the future impact of these changes and potential changes on us and our contractors, consultants, customers, resellers and partners is unknown at this time.

However, in light of the uncertainties regarding economic, business, social, health and geopolitical conditions, our revenues, earnings, liquidity, and cash flows could be adversely affected, whether on an annual or quarterly basis. Continued impacts of the COVID-19 pandemic could materially adversely affect our current and long-term accounts receivable, as our negatively impacted customers from the pandemic may request temporary relief, delay, or not make scheduled payments. In addition, the deployment of our solutions may represent a large portion of our customers' investments in software technology. Decisions to make such an investment are impacted by the economic environment in which the customers operate. Uncertain global geopolitical, economic and health conditions and the lack of visibility or the lack of financial resources may cause some customers to reduce, postpone or terminate their investments, or to reduce or not renew ongoing paid services, adversely impacting our revenues or timing of revenue. Health conditions in some geographic areas where our customers operate could impact the economic situation of those areas. These conditions, including the COVID-19 pandemic, may present risks for health and limit the ability to travel for our employees, which could further lengthen our sales cycle and delay revenue and cash flows in the near-term.

Nasdaq Delisting

On February 18, 2022, we received a notice (the "Notice") from The Nasdaq Stock Market LLC ("Nasdaq") informing us that for the last 30 consecutive business days, the bid price of our common stock had closed below $1.00 per share, which is the minimum required closing bid price for continued listing on Nasdaq pursuant to Listing Rule 5450(a)(1) (the "Bid Price Requirement"). The Notice has no immediate effect on our Nasdaq listing or trading of our common stock. We have 180 calendar days, or until August 17, 2022, to regain compliance. To regain compliance, the closing bid price of our common stock must be at least $1.00 per share for a minimum of ten consecutive business days. If we do not regain compliance by August 17, 2022 (the "Compliance Date"), we may be eligible for additional time to regain compliance or if we are otherwise not eligible, we may request a hearing before a Hearings Panel.

If we do not regain compliance with the Bid Price Requirement by the Compliance Date, we may be eligible for an additional 180 calendar day compliance period. To qualify, we would be required to transfer to The Nasdaq Capital Market and meet the continued listing requirement for the market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, with the exception of the Bid Price Requirement, and we would need to provide written notice to Nasdaq of our intention to cure the deficiency during the additional compliance period. We intend to apply to transfer our securities to Nasdaq Capital Market and request a second 180-day period to regain compliance with the Bid Price Requirement.

2017 Asset Purchase Agreement with Allscripts

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

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

Concurrent with the closing and as contemplated by the APA, we and Allscripts modified the amended and restated mutual license and reseller agreement dated June 26, 2015, which was further amended on December 30, 2017, such that, among other things, we committed to deliver a minimum of $95.0 million of total bookings over a ten-year period (“Bookings Commitment”) from referral transactions and sales of certain Allscripts products under this agreement (see Note 9 of the Consolidated Financial Statements). We also agreed that Allscripts shall receive at least $0.5 million per year in payments from bookings (the “Annual Minimum Commitment”). If the total payments received by Allscripts from bookings during such period are less than the Annual Minimum Commitment, we shall pay to Allscripts the difference between the Annual Minimum Commitment and the total amount received by Allscripts from bookings during such period. In the event of a Bookings Commitment shortfall at the end of the ten-year period, we may be obligated to pay 70% of the shortfall, subject to certain credits. We will earn 30% commission from Allscripts on each software referral transaction that results in a booking with Allscripts. We account for the Bookings Commitment at its estimated fair value over the life of the agreement. The total estimated liability was $33.2 million and $35.7 million as of June 30, 2022 and December 31, 2021, respectively.

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) stock-based compensation expense, (2) change in fair value of derivatives liability, (3) change in fair value of the Bookings Commitment, (4) noncash interest expense related to convertible notes, (5) intangible amortization, (6) ROU asset impairment and (7) the impacts of certain income tax benefits and provisions from noncash activity.

The following table reconciles Net loss from continuing operations attributable to NantHealth to Net loss from continuing operations attributable to NantHealth - Non-GAAP for the three and six months ended June 30, 2022 and 2021 (Unaudited):

(Dollars in thousands, except per share amounts)	**Three Months Ended June 30,**		**Six Months Ended June 30,**	
	2022	**2021**	**2022**	**2021**
Net loss from continuing operations attributable to NantHealth	$ (12,512)	$ (15,322)	$ (28,462)	$ (30,735)
Adjustments to GAAP net loss from continuing operations attributable to NantHealth:				
Loss on Exchange and Prepayment of 2016 Notes	—	742	—	742
Stock-based compensation expense from continuing operations	1,263	851	2,653	1,734
Change in fair value of derivatives liability	—	—	—	(4)
Change in fair value of Bookings Commitment	(2,594)	2,340	(2,500)	4,803
Impairment of ROU asset	208	—	208	—
Noncash interest expense related to convertible notes	36	187	73	510
Intangible amortization from continuing operations	2,233	2,212	4,465	4,425
Tax benefit resulting from certain noncash tax items	(4)	(45)	(44)	(88)
Total adjustments to GAAP net loss from continuing operations attributable to NantHealth	1,142	6,287	4,855	12,122
Net loss from continuing operations attributable to NantHealth - Non-GAAP	$ (11,370)	$ (9,035)	$ (23,607)	$ (18,613)
Weighted average basis common shares outstanding	115,550,244	114,512,542	115,535,822	112,924,619
Net loss per common share from continuing operations attributable to NantHealth - Non-GAAP	**$ (0.10)**	**$ (0.08)**	**$ (0.20)**	**$ (0.16)**

The following table reconciles Net loss per common share from continuing operations attributable to NantHealth to Net loss per common share from continuing operations attributable to NantHealth - Non-GAAP for the three and six months ended June 30, 2022 and 2021 (Unaudited):

(Dollars in thousands, except per share amounts)	**Three Months Ended June 30,**		**Six Months Ended June 30,**	
	2022	**2021**	**2022**	**2021**
Net loss per common share from continuing operations attributable to NantHealth	$ (0.11)	$ (0.13)	$ (0.25)	$ (0.27)
Adjustments to GAAP net loss per common share from continuing operations attributable to NantHealth:				
Loss on Exchange and Prepayment of 2016 Notes	—	0.01	—	0.01
Stock-based compensation expense from continuing operations	0.01	0.01	0.02	0.02
Change in fair value of derivatives liability	—	—	—	—
Change in fair value of Bookings Commitment	(0.02)	0.01	(0.01)	0.04
Impairment of ROU asset	—	—	—	—
Noncash interest expense related to convertible notes	—	—	—	—
Intangible amortization from continuing operations	0.02	0.02	0.04	0.04
Tax benefit resulting from certain noncash tax items	—	—	—	—
Total adjustments to GAAP net loss per common share from continuing operations attributable to NantHealth	0.01	0.05	0.05	0.11
Net loss per common share from continuing operations attributable to NantHealth - Non-GAAP	**$ (0.10)**	**$ (0.08)**	**$ (0.20)**	**$ (0.16)**

Components of Our Results of Operations

Revenue

We generate our revenue from the sale of SaaS, maintenance, and services. Our systems infrastructure and platforms support the delivery and implementation of value-based care models across the healthcare continuum, and the maintenance of reliable network connections. We generate revenue from the following sources:

Software-as-a-service related - SaaS related revenue is generated from our 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 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.

Maintenance - Maintenance revenue includes technical support or maintenance on OpenNMS software during the contract term. Our networking monitoring solutions typically consist of a term-based subscription to the OpenNMS software license and maintenance, which entitle customers to unspecified software updates and upgrades on a when-and-if-available basis. Revenue is recognized over the maintenance or support term.

Professional services - Professional services revenue is generated from consulting services to help customers install, integrate and optimize OpenNMS, sponsored development, and training to assist customers deploy and use OpenNMS solutions. Sponsored development relates to professional services to build customer specific functionality, features, and enhancements into the OpenNMS open source platform. Typically, revenue is recognized over time using direct labor hours as a measure of progress.

Cost of Revenue

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

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

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

Professional services - Professional services cost of revenue include personnel-related costs and other direct costs associated with consulting, sponsored development, and training provided to our customers.

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, amortization of acquisition-related assets, and impairment of intangible assets, including internal-use software.

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. This includes amortization of deferred commission costs. It also includes trade show and event costs, sponsorship costs, point of purchase display expenses and related amortization as well as legal costs, facility costs, consulting and professional fees, insurance and other corporate and administrative costs.

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

Research and development

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

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

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

Amortization of acquisition related assets

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

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.

Other Income (Expense), Net

Other income (expense), net consists primarily of foreign currency gains (losses), changes in the fair value of the Bookings Commitment and other non-recurring items.

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 current and accumulated net operating losses ("NOLs").

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

Net Loss Attributable to Noncontrolling Interests

Net loss attributable to noncontrolling interests consists of losses related to minority ownership of components of our business.

Results of Operations

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

(Dollars in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Revenue				
Software-as-a-service related	$ 15,861	$ 15,504	$ 31,632	$ 31,261
Maintenance	428	413	892	795
Professional services	208	173	346	200
Total software-related revenue	16,497	16,090	32,870	32,256
Other	1	—	1	3
Total net revenue	16,498	16,090	32,871	32,259
Cost of Revenue				
Software-as-a-service related	5,621	5,444	11,184	10,979
Maintenance	469	270	838	477
Professional services	9	1	9	7
Amortization of developed technologies	1,247	1,247	2,494	2,494
Total software-related cost of revenue	7,346	6,962	14,525	13,957
Other	1	47	1	93
Total cost of revenue	7,347	7,009	14,526	14,050
Gross Profit	9,151	9,081	18,345	18,209
Operating Expenses				
Selling, general and administrative	14,017	11,837	28,997	24,340
Research and development	5,861	4,849	11,576	9,862
Amortization of acquisition-related assets	986	985	1,971	1,971
Total operating expenses	20,864	17,671	42,544	36,173
Loss from operations	(11,713)	(8,590)	(24,199)	(17,964)
Interest expense, net	(3,470)	(3,803)	(6,920)	(7,371)
Other income (expense), net	2,642	(3,051)	2,648	(5,621)
Loss from continuing operations before income taxes	(12,541)	(15,444)	(28,471)	(30,956)
Provision for (benefit from) income taxes	(29)	6	(9)	(2)
Net loss from continuing operations	(12,512)	(15,450)	(28,462)	(30,954)
Income from discontinued operations, net of tax attributable to NantHealth	—	19	—	24
Net loss	(12,512)	(15,431)	(28,462)	(30,930)
Net loss attributable to noncontrolling interests	—	(128)		(219)
Net loss attributable to NantHealth	$ (12,512)	$ (15,303)	$ (28,462)	$ (30,711)

The following table sets forth our 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,	
	2022	2021	2022	2021
Revenue				
Software-as-a-service related	96.1 %	96.4 %	96.2 %	96.9 %
Maintenance	2.6 %	2.6 %	2.7 %	2.5 %
Professional services	1.3 %	1.0 %	1.0 %	0.6 %
Total software-related revenue	100.0 %	100.0 %	100.0 %	100.0 %
Other	— %	— %	— %	— %
Total net revenue	100.0 %	100.0 %	100.0 %	100.0 %
Cost of Revenue				
Software-as-a-service related	34.1 %	33.8 %	34.0 %	34.0 %
Maintenance	2.8 %	1.7 %	2.5 %	1.5 %
Professional services	— %	— %	0.1 %	0.1 %
Amortization of developed technologies	7.6 %	7.8 %	7.6 %	7.7 %
Total software-related cost of revenue	44.5 %	43.3 %	44.2 %	43.3 %
Other	— %	0.3 %	— %	0.3 %
Total cost of revenue	44.5 %	43.6 %	44.2 %	43.6 %
Gross Profit	55.5 %	56.4 %	55.8 %	56.4 %
Operating Expenses				
Selling, general and administrative	85.0 %	73.6 %	88.2 %	75.5 %
Research and development	35.5 %	30.1 %	35.2 %	30.6 %
Amortization of acquisition-related assets	6.0 %	6.1 %	6.0 %	6.0 %
Total operating expenses	126.5 %	109.8 %	129.4 %	112.1 %
Loss from operations	(71.0)%	(53.4)%	(73.6)%	(55.7)%
Interest expense, net	(21.0)%	(23.6)%	(21.1)%	(22.8)%
Other income (expense), net	16.0 %	(19.0)%	8.1 %	(17.5)%
Loss from continuing operations before income taxes	(76.0)%	(96.0)%	(86.6)%	(96.0)%
Provision for (benefit from) income taxes	(0.2)%	— %	— %	— %
Net loss from continuing operations	(75.8)%	(96.0)%	(86.6)%	(96.0)%
Income from discontinued operations, net of tax attributable to NantHealth	— %	0.1 %	— %	0.1 %
Net loss	(75.8)%	(95.9)%	(86.6)%	(95.9)%
Net loss attributable to noncontrolling interests	— %	(0.8)%	— %	(0.7)%
Net loss attributable to NantHealth	(75.8)%	(95.1)%	(86.6)%	(95.2)%

Comparison of the Three and Six Months Ended June 30, 2022 and 2021 (Unaudited)

Revenue

(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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Software-as-a-service related	$ 15,861	$ 15,504	$ 31,632	$ 31,261	$ 357	2.3 %	$ 371	1.2 %
Maintenance	428	413	892	795	15	3.6 %	97	12.2 %
Professional services	208	173	346	200	35	20.2 %	146	73.0 %
Total software-related revenue	16,497	16,090	32,870	32,256	407	2.5 %	614	1.9 %
Other	1	—	1	3	1	— %	(2)	(66.7)%
Total net revenue	$ 16,498	$ 16,090	$ 32,871	$ 32,259	$ 408	2.5 %	$ 612	1.9 %

Comparison of the three month periods ended June 30, 2022 and 2021

Total revenue increased $0.4 million, or 2.5%, for the three months ended June 30, 2022, compared to the prior year period, due to increased SaaS revenue of $0.4 million, related to increased revenue from Eviti services of $1.6 million and increased revenue from the recognition of OpenNMS sponsored development revenue of $0.1 million.

SaaS revenue growth was largely curtailed by decreased NaviNet SaaS revenue of $1.3 million.

Comparison of the six month periods ended June 30, 2022 and 2021

Total revenue increased $0.6 million, or 1.9%, for the six months ended June 30, 2022, compared to the prior year period, primarily due to an increase in SaaS revenue of $0.4 million.

The $0.1 million increase in maintenance revenue and $0.1 million increase in professional services revenue were attributable to growth in the OpenNMS business in the first quarter of 2022, compared to the prior year period.

We believe that significant opportunities exist for expanded cross-selling across our products and across our existing customer base, including Eviti, NaviNet, and OpenNMS customer bases.

Cost of Revenue

(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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Software-as-a-service related	$ 5,621	$ 5,444	$ 11,184	$ 10,979	$ 177	3.3 %	$ 205	1.9 %
Maintenance	469	270	838	477	$ 199	73.7 %	361	75.7 %
Professional services	9	1	9	7	8	800.0 %	2	28.6 %
Amortization of developed technologies	1,247	1,247	2,494	2,494	—	— %	—	— %
Total software-related cost of revenue	7,346	6,962	14,525	13,957	384	5.5 %	568	4.1 %
Other	1	47	1	93	(46)	(97.9)%	(92)	—
Total cost of revenue	$ 7,347	$ 7,009	$ 14,526	$ 14,050	$ 338	4.8 %	$ 476	3.4 %

Comparison of the three month periods ended June 30, 2022 and 2021

Total cost of revenue increased $0.3 million, or 4.8%, for the three months ended June 30, 2022, compared to the prior year period. The increase was primarily related to higher maintenance costs attributable to the growth in the OpenNMS business and higher SaaS related costs due to an increase in headcount.

Comparison of the six month periods ended June 30, 2022 and 2021

Total cost of revenue increased $0.5 million, or 3.4%, for the six months ended June 30, 2022, compared to the prior year period, primarily due to higher costs attributable to the growth in the OpenNMS business and 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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Selling, general and administrative	$ 14,017	$ 11,837	$ 28,997	$ 24,340	$ 2,180	18.4 %	$ 4,657	19.1 %

Comparison of the three month periods ended June 30, 2022 and 2021

Selling, general and administrative expenses increased $2.2 million, or 18.4% for the three months ended June 30, 2022, compared to the prior year period. The increase was driven by $0.7 million in higher consulting and professional costs attributable to the migration of our information technology infrastructure to the cloud, our enterprise resource planning implementation project, compliance expenses and legal fees. In addition, higher personnel costs totaling $1.0 million were attributable to growth in the OpenNMS business and an increase in entity-wide stock-based compensation.

Comparison of the six month periods ended June 30, 2022 and 2021

Selling, general and administrative expenses increased $4.7 million, or 19.1% for the six months ended June 30, 2022, compared to the prior year period. The increase was driven by $2.1 million in higher consulting and professional costs attributable to our enterprise resource planning implementation project, compliance expenses and legal fees. In addition, higher personnel costs totaling $2.0 million were attributable to growth in the OpenNMS business and an increase in entity-wide stock-based compensation.

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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Research and development	$ 5,861	$ 4,849	$ 11,576	$ 9,862	$ 1,012	20.9 %	$ 1,714	17.4 %

Comparison of the three month periods ended June 30, 2022 and 2021

Research and development expenses increased $1.0 million, or 20.9%, for the three months ended June 30, 2022, compared to the prior year period. The increase was primarily driven by $1.1 million in higher costs attributable to cloud migration services and enterprise application services for our engineering applications.

Comparison of the six month periods ended June 30, 2022 and 2021

Research and development expenses increased $1.7 million, or 20.9%, for the six months ended June 30, 2022, compared to the prior year period. The increase was primarily driven by $1.1 million in higher costs attributable to cloud migration services and enterprise application services for our engineering applications and a $0.5 million increase in professional services and consulting costs.

Amortization of Acquisition-related Assets

(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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Amortization of acquisition-related assets	$ 986	$ 985	$ 1,971	$ 1,971	$ 1	0.1 %	$ —	— %

Comparison of the three month periods ended June 30, 2022 and 2021

Amortization of acquisition-related assets was flat at $1.0 million for the three months ended June 30, 2022 compared to $1.0 million for the three months ended June 30, 2021.

Comparison of the six month periods ended June 30, 2022 and 2021

Amortization of acquisition-related assets was flat at $2.0 million for the six months ended June 30, 2022 compared to $2.0 million for the six months ended June 30, 2021.

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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Interest expense, net	$ 3,470	$ 3,803	$ 6,920	$ 7,371	$ (333)	(8.8)%	$ (451)	(6.1)%

Comparison of the three month periods ended June 30, 2022 and 2021

Interest expense, net decreased by $0.3 million, or 8.8%, for the three months ended June 30, 2022, compared to the prior year period. This decrease was driven by $0.4 million in less noncash interest expense attributable to the lower debt issuance costs on the 2021 Notes issued in April 2021 as compared to the 5.5% senior convertible notes that matured in December 2021 (the "2016 Notes"). This decrease was partially offset by $0.1 million in additional interest on the Nant Capital Note in the three months ended June 30, 2022, compared to the prior year period.

Comparison of the six month periods ended June 30, 2022 and 2021

Interest expense, net decreased by $0.5 million, or (6.1)%, for the six months ended June 30, 2022, compared to the prior year period. This decrease was driven by $0.6 million in less noncash interest expense attributable to the lower debt issuance costs on the 2021 Notes issued in April 2021 as compared to the 5.5% senior convertible notes that matured in December 2021 (the "2016 Notes"). This decrease was partially offset by $0.2 million in additional interest on the Nant Capital Note in the six months ended June 30, 2022, compared to the prior year period.

See the section entitled "Liquidity and Capital Resources" below and refer to Note 8 and Note 16 to the accompanying Consolidated Financial Statements for further discussion of our convertible notes and the note with Nant Capital.

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,	
	2022	2021	2022	2021	Amount	Percent	Amount	Percent
Other income (expense), net	$ 2,642	$ (3,051)	$ 2,648	$ (5,621)	$ 5,693	(186.6)%	$ 8,269	(147.1)%

Comparison of the three month periods ended June 30, 2022 and 2021

The decrease of $5.7 million Other income (expense), net for the three months ended June 30, 2022 compared to the prior year period was driven by the change in the fair value of the Bookings Commitment. The change in the fair value of the Bookings Commitment is a result of macroeconomic factors. The change in fair value for the three months ended June 30, 2022 was a gain of $2.9 million, compared to a loss of $3.1 million for the three months ended June 30, 2021.

Comparison of the six month periods ended June 30, 2022 and 2021

The decrease of $8.3 million Other income (expense), net for the six months ended June 30, 2022, compared to the prior year period was driven by the change in the fair value of the Bookings Commitment. The change in the fair value of the Bookings Commitment is a result of macroeconomic factors. The change in the fair value for the six months ended June 30, 2022 was a gain of $2.9 million, compared to a loss of $5.6 million for the six months ended June 30, 2021.

Liquidity and Capital Resources

Sources of Liquidity

As of June 30, 2022, we had cash and cash equivalents of $5.7 million, compared to $29.1 million as of December 31, 2021, of which $0.3 million and $0.8 million, respectively, related to foreign subsidiaries.

We believe our existing cash and cash equivalents, and our ability to borrow on the $125.0 million promissory note (the "Promissory Note") with Nant Capital, LLC ("Nant Capital") (see Note 16), will be sufficient to fund operations through at least 12 months following the issuance date of the financial statements. We continue to have our Chairman and CEO's intent and ability to support our operations with additional funds as required. We may also seek to sell additional equity, through one or more follow-on public offerings or in separate financings, or sell additional debt securities, or obtain a credit facility. However, we may not be able to secure such financing in a timely manner or on favorable terms. We may also consider selling off components of our business. Without additional funds, we may choose to delay or reduce our operating or investment expenditures. Further, because of the risk and uncertainties associated with the commercialization of our existing products as well as products in development, we may need additional funds to meet our needs sooner than planned. To date, our primary sources of capital have been the private placement of membership interests prior to our IPO, debt financing agreements, including promissory notes with Nant Capital and affiliates, convertible notes, the sale of our common stock, revenue generated from our products and services, and proceeds from the sale of components of our business.

Convertible Notes

On April 13, 2021, we and our wholly owned subsidiary, NaviNet entered into a Note Purchase Agreement with Highbridge and Nant Capital pursuant to which we issued $137.5 million in aggregate principal amount of our 2021 Notes in a private placement. The 2021 Notes were issued on April 27, 2021. The total net proceeds from this offering were approximately $136.8 million, after deducting Highbridge's debt issuance costs of $0.1 million and $0.6 million in debt issuance costs paid to third parties in connection with the offering of the 2021 Notes. The 2021 Notes will mature on April 15, 2026, unless earlier repurchased, redeemed or converted.

On April 27, 2021, concurrent with the 2021 Notes issuance, we used the proceeds to prepay the remaining $31.9 million of principal amount of the 2016 Notes held by Highbridge and $0.6 million of accrued interest on such 2016 Notes. On April 27, 2021, in connection with the issuance of the 2021 Notes, we provided a notice of a fundamental change (as defined in the indenture governing the 2016 Notes) and an offer to repurchase all our outstanding 2016 Notes. On May 25, 2021, we purchased $55.6 million of the outstanding 2016 Notes, including accrued and unpaid interest thereon. On December 15, 2021, the maturity date of the 2016 notes, we paid the remaining $9.5 million of the outstanding principal balance on the 2016 Notes, including accrued and unpaid interest thereon.

Open Market Sale Agreement

On November 12, 2021, we entered into an Open Market Sale Agreement (the "Sale Agreement") with Jefferies LLC (the "Sales Agent") under which we may offer and sell up to $30.0 million of shares of our common stock, par value $0.0001 per share (the "Shares"), from time to time through the Sales Agent. The sales and issuances of the Shares under the Sale Agreement will be made pursuant to our effective shelf registration statement on Form S-3 (the "Registration Statement") that was declared effective on May 6, 2021.

The Sales Agent is not required to sell any specific amount of securities, but will act as our sales agent using commercially reasonable efforts to sell the Shares from time to time, consistent with their normal trading and sales practices, applicable state and federal laws, rules and regulations and the rules of The Nasdaq Stock Market LLC, based upon instructions from us (including any price, time or size limits or other customary parameters or conditions we may impose). We have agreed to pay the Sales Agent a commission of 3.0% of the aggregate gross proceeds from each sale of the Shares pursuant to the Sale Agreement and to provide the Sales Agent with customary indemnification and contribution rights, including for liabilities under the Securities Act of 1933, as amended.

Nant Capital Notes

In January 2016, we executed a demand promissory note with Nant Capital (the "Nant Capital Note"), a personal investment vehicle for Dr. Soon-Shiong. As of June 30, 2022, the total advances made by Nant Capital to us pursuant to the note was approximately $112.7 million. The Nant Capital 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. When a repayment is made, Nant Capital 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 Nant Capital. On April 27, 2021, in connection with the issuance of the 2021 Notes, we entered into a Third Amended and Restated Promissory Note which amends and restates its promissory note, dated January 4, 2016, as amended on May 9, 2016, and on December 16, 2016, between us and Nant Capital, to, among other things, extend the maturity date of the promissory note to October 1, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes.

On August 8, 2018, we executed a promissory note in favor of Nant Capital, with a maturity date of June 15, 2022. On December 31, 2020, we executed an agreement with Nant Capital to amend and restate the original promissory note, allowing us to request advances up a maximum commitment of $125.0 million that bears interest at a per annum rate of 5.5%, extended the maturity date to December 31, 2023, and created an option for the securitization of the debt under the promissory note upon full repayment of the 2016 Notes. Interest payments on outstanding amounts are due on December 15th of each calendar year. On April 27, 2021, in connection with the issuance of the 2021 Notes, we and Nant Capital entered into a Second Amended and Restated Promissory Note which amends and restates its promissory note, dated August 8, 2018, as amended on December 31, 2020, between us and Nant Capital, to, among other things, extend the maturity date of the promissory note to December 31, 2026 and to subordinate the promissory note in right of payment to the 2021 Notes. As of June 30, 2022, we were in compliance with the covenants.

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

Capital Expenditures

There have been no material changes during the six months ended June 30, 2022 to our capital expenditure 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, 2021. Our principal material cash requirements consist of obligations under our outstanding debt obligations related to the 2021 Notes, Nant Capital Note, Bookings Commitment, and noncancellable leases for our office space. Refer to Note 8, Note 9, Note 10, and Note 16 to the accompanying Consolidated Financial Statements.

Cash Flows

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

(Dollars in thousands)	**Six Months Ended June 30,**	
	2022	**2021**
Cash (used in) provided by:		
Operating activities	$ (20,194)	$ (16,685)
Investing activities	(2,861)	(2,411)
Financing activities	(758)	49,240
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(78)	5
Net decrease in cash, cash equivalents and restricted cash	$ (23,891)	$ 30,149

To date, our operations have been primarily financed through the proceeds from related party promissory notes, the issuance of convertible notes, the sale of components of our business, revenue generated from the sales of our products and services, 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 overallotment option to purchase additional shares of common stock. 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 a related party and others for aggregate net proceeds of $102.7 million, $9.9 million from Cambridge, and $92.8 million from others, after deducting underwriting discounts and commissions and offering costs of $4.3 million. In February 2020, we received $47.3 million in proceeds from the sale of our Connected Care Business. In April 2021, we issued convertible notes to a related party and others for aggregate net proceeds of $136.8 million, $62.2 million from Nant Capital, and $74.6 million from Highbridge, after deducting offering costs of $0.7 million.

Operating Activities

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

In addition, our net loss in the six months ended June 30, 2022 has been greater than our use of cash for operating activities due to the inclusion of noncash charges.

Cash used in operating activities of $20.2 million during the six months ended June 30, 2022 was a result of our continued investments in enhancements to current products, research and development, sales and marketing, and expenses incurred as a public company, including costs associated with public company reporting and corporate governance requirements. During the six months ended June 30, 2022, our net loss of $28.5 million included noncash items largely due to $7.9 million of depreciation and amortization, and $2.7 million of stock-based compensation, partially offset by a $2.5 million decrease in the fair value of the Bookings Commitment liability.

Changes in working capital increased cash $0.1 million during the six months ended June 30, 2022. The increase was primarily attributable to a $1.6 million increase in accounts payable, a $1.2 million increase in related party payables, a $0.7 million decrease in accounts receivable and a $0.2 million decrease in prepaid expenses and other current assets, largely offset by a $3.1 million decrease in accrued and other current liabilities.

Cash used in operating activities of $16.7 million during the six months ended June 30, 2021 was a result of our continued investments in enhancements to current products, research and development, sales and marketing, and expenses incurred as a public company, including costs associated with public company reporting and corporate governance requirements. During the six months ended June 30, 2021, our net loss of $30.9 million included noncash items largely due to $7.7 million of depreciation and amortization, a $4.8 million increase in the fair value of the Bookings Commitment liability, $1.7 million recognized as stock based compensation, and a $0.7 million loss on Exchange and Prepayments of the 2016 Notes.

Changes in working capital decreased cash $1.1 million during the six months ended June 30, 2021. The decrease in cash was primarily attributable to a $2.8 million decrease in accounts payable, a $2.0 million decrease in accrued and other current liabilities and a $1.4 million increase in accounts receivable, largely offset by a $3.9 million increase in related party payables.

Investing Activities

For the six months ended June 30, 2022, net cash used in investing activities was comprised of $2.9 million for the purchase of property and equipment, including internal-use software.

For the six months ended June 30, 2021, net cash used in investing activities was comprised of $2.4 million for the purchase of property and equipment, including internal-use software.

Financing Activities

Cash used in financing activities during the six months ended June 30, 2022 of $0.8 million was due to repayments of an insurance promissory note, partially offset by proceeds from exercises of stock options.

Cash provided by financing activities during the six months ended June 30, 2021 was $49.2 million, primarily related to the issuance of the 2021 Notes of $137.5 million, offset by prepayments on the 2016 Notes of $87.5 million (see Note 8 to the accompanying Consolidated Financial Statements).

New Accounting Pronouncements

See Note 2 to the accompanying Consolidated Financial Statements for a discussion of new accounting standards.

Related Party Transactions

See Note 16 to the accompanying Consolidated Financial Statements for a discussion of related party transactions.

Critical Accounting Policies and Significant Judgments and Estimates

This Management's Discussion and Analysis of our Results of Operations and Liquidity and Capital Resources is based on our Consolidated Financial Statements, which we have prepared in accordance with U.S. GAAP. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of our financial statements, as well as the reported revenues and expenses during the reported periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe the critical accounting policies and estimates discussed in Note 2 to the Consolidated Financial Statements of our Annual Report on 10-K that was filed with the SEC on February 26, 2021, reflect our more significant judgments and estimates used in the preparation of the Consolidated Financial Statements. Refer to Note 2 to the accompanying Consolidated Financial Statements for a discussion of any significant changes to our critical accounting policies and estimates as disclosed in our 10-K.

Smaller Reporting Company Status

Currently, we qualify as a smaller reporting company. As a smaller reporting company, we are eligible and have taken advantage of certain exemptions from various reporting requirements that are not available to public reporting companies that do not qualify for this classification, including, but not limited to:

- An opportunity for reduced disclosure obligations regarding executive compensation in our periodic and annual reports, including without limitation exemption from the requirement to provide a compensation discussion and analysis describing compensation practices and procedures,
- An opportunity for reduced financial statement disclosure in registration statements and in annual reports on Form 10-K, which only requires two years of audited financial statements rather than the three years of audited financial statements that are required for other public companies,
- An opportunity for reduced audit and other compliance expenses as we are not subject to the requirement to obtain an auditor's report on internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act of 2002, and
- An opportunity to utilize the non-accelerated filer time-line requirements beginning with our annual report for the year ending December 31, 2021 and quarterly filings thereafter.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

As of June 30, 2022, we had $5.7 million in cash and cash equivalents which were held for working capital purposes. Our cash and cash equivalents are comprised primarily of mutual funds listed on active exchanges, U.S. treasury securities, money market funds, and cash held in FDIC - insured institutions. Our investments are made for capital preservation purposes. We do not enter into investments for trading or speculative purposes. Primarily all of our investments are denominated in U.S. dollars. If overall interest rates had decreased by 10% during the periods presented, our interest income would not have been materially affected.

Credit Risk

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

Foreign Currency Risk

We maintain offices and bank accounts in the United Kingdom and Canada. 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, 2022 would not have been material. However, fluctuations in currency exchange rates could harm our business in the future.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, 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 identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended June 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations in the Effectiveness of Controls

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

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. Except as discussed in Note 11, in the opinion of management, the ultimate outcome of proceedings of which management is aware, even if adverse to us, would not have a material adverse effect on our consolidated financial condition or results of operations. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors. See Note 11 to the accompanying Consolidated Financial Statements for a discussion of our legal proceedings.

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

Risk Factor Summary

Risks related to our business approach

- We are an early, commercial-stage company attempting to integrate complex platforms and systems to address a wide range of healthcare issues, and we may not be successful in doing so.
- The success of NantHealth solutions is dependent upon the robustness of the information we and others input into our platforms and systems 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.
- We may be unable to appropriately allocate our financial and human resources across our broad array of product and service offerings.

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 have a history of significant losses, which we expect to continue, and we may never achieve or sustain profitability in the future.
- We may need to raise additional capital to fund our existing operations, develop our solutions, commercialize new products and expand our 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.
- The data and information that we provide to our customers, and their constituents, could be inaccurate or incomplete, which could harm both patients and our business, financial condition and results of operations.
- Our use of open source technology could impose limitations on our ability to commercialize our offerings.

Risks related to our OpenNMS open source business

- Our OpenNMS business incorporates third-party open source software, which could negatively affect our ability to sell our OpenNMS solutions and subject us to possible litigation.
- Because of the characteristics of open source software, there may be fewer technology barriers to entry in the open source market by new competitors and it may be relatively easy for new and existing competitors with greater resources than we have to compete with our OpenNMS business.

Risks related to our relationships with other companies

- 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 customers 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.

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.
- Business disruptions, including from weakened and volatile global economic and market conditions, natural disasters and the COVID-19 pandemic, among other things, could seriously harm our future revenue and financial condition and increase our costs and expenses.
- If we fail to develop widespread brand awareness, our business may suffer.
- Our marketing efforts depend significantly on our ability to receive positive references from our existing customers.
- 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.

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.
- 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.
- 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.

Risks related to government regulation

- The healthcare industry is highly regulated, and thus, we are subject to several laws, regulations and industry initiatives, non-compliance with certain of which could materially adversely affect our operations or otherwise adversely affect our business, results of operations and financial condition.
- 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.
- If we, including our employees, suppliers, distributors, independent contractors, and agents acting on our behalf, fail to comply with federal and state healthcare laws and regulations, including those governing submissions of false or fraudulent claims to government healthcare programs and financial relationships with healthcare providers, we may be subject to significant civil and criminal penalties and/or loss of eligibility to participate in government healthcare programs.

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.
- 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.

Risks related to our common stock

- Dr. Soon-Shiong, our Chairman and Chief Executive Officer and our principal stockholder, 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.
- Dr. Soon-Shiong has significant interests in other companies which may conflict with our interests.
- 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.
- Our common stock may be delisted from The Nasdaq Global Select Market if we cannot regain compliance with Nasdaq's continued listing requirements.

Risks related to our business approach

We are an early, commercial-stage company attempting to integrate complex platforms and systems 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 move, interpret, and visualize complex and highly sensitive information, combine diagnostic inputs with phenotypic and cost data, analyze datasets and clinical research, securely deliver data to providers in a clinical setting to aid selection of the appropriate treatments, and demonstrate improved patient outcomes and costs. Integration across our systems infrastructure and platforms may take longer than we expect or may never occur at all.

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

Based on 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 customers and to expand our offerings to existing customers.

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

NantHealth solutions become more valuable as more accurate and clinically relevant information is integrated into them, and our ultimate outputs and recommendations to a patient, provider or payer are therefore highly dependent on the information that is input into our platforms and systems. 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 data. Further, to have access to certain other data points, we rely in part on third parties to supply or in some instances to generate more data to be integrated into NantHealth solutions. These third parties may never develop data interfaces or 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 sufficient 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 July 2020, we acquired The OpenNMS Group, Inc. ("OpenNMS"), expanding our collective offerings to include networking monitoring solutions. These and other resource allocation decisions may cause us to fail to capitalize on attractive products or services or market opportunities. Our spending on current and future research and development programs and future products or services may not yield commercially viable products or services or may fail to optimize the anticipated network effects of NantHealth solutions. If our management team is unable to appropriately prioritize the allocation of our resources among our broad range of products and services in an efficient manner, our business may be adversely affected.

Risks related to our financial condition and capital requirements

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

We were organized as a limited liability company in Delaware and began operations in 2010. In June 2016, we converted to a Delaware corporation. Additionally, our business has operated as part of the larger NantWorks, LLC ("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 five years, including certain assets of NaviNet, NantHealth Labs, and most recently OpenNMS. In addition, in August 2017, we sold our provider/patient engagement solutions business to Allscripts and in February 2020, we sold assets relating to our connected care business to Masimo. 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 $58.5 million and $56.4 million during the years ended December 31, 2021 and 2020, respectively, and $28.5 million for the six months ended June 30, 2022. As of June 30, 2022, we had an accumulated deficit of $1.1 billion. 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 customer base and develop our product and service offerings, including (i) expansion of the features and capabilities of our NaviNet and Eviti product lines and (ii) expanding the OpenNMS solutions through the creation of cloud solutions and the addition of hardware devices for edge monitoring. 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.

In addition, inflationary pressure, including as a result of supply shortages, may adversely impact our financial results and our operating costs may increase. We may not fully offset these cost increases by raising prices for our products and services, which could result in downward pressure on our margins. Further, our customers may choose to reduce their business with us if we increase our pricing.

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

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

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

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

- increase our sales and marketing efforts to drive market adoption of NantHealth solutions;
- address competitive developments;
- fund development and marketing efforts of any future platforms and solutions;
- expand adoption of Eviti platform solutions into critical illnesses outside of oncology;
- acquire, license or invest in complementary 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 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 customers;
- 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 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.

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 our solutions and systems are able to provide operational intelligence, particularly designed to collect and index machine data. Our systems infrastructure and software solutions are designed to address interoperability challenges across the healthcare continuum. They integrate big data with real time resources and, for some functions and features apply machine learning algorithms to inform and optimize treatment decisions. In order to grow our business, we intend to expand the functionality of our offerings to increase acceptance and use by the broader market. In particular, our Eviti and NaviNet systems infrastructure and software solutions are targeted at those in the healthcare continuum that are transitioning from fee-for-service to a value-based reimbursement model. While we believe this to be the current trend in healthcare, this trend may not continue in the future. Our systems infrastructure and software solutions are 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 customer adoption and renewal rates, customer 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 customers may already be party to existing agreements for competing offerings that may have lengthy terms or onerous termination provisions, and they may have already made substantial investments into those platforms which would result in high switching costs. Any expansion in our market depends on several factors, including the cost, performance and perceived value associated with our solutions, particularly considering the shifting market dynamics. The rate of adoption of our systems infrastructure and software solutions, may slow or decline in the future, which would harm our business and operating results. In addition, while many large 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 caused by a lack of customer acceptance, technological challenges, lack of accessible machine data, competing technologies or 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 customers, 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, we provide up-to-date information regarding research in the diseases that our solutions support (e.g. cancer and autoimmune disease). along with a list of potential treatments and relevant clinical trials seeking enrollment. Most of this data comes from health plans, our customers, 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 this data is 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 the source code of our proprietary solutions 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 customers, 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 offerings. 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 customers 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 such data, or if judicial interpretations are issued restricting the 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 customers 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 some 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 customers and expand our offerings to new customers.

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

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

A portion of our revenue in each quarter is derived from agreements entered with our customers 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 customers 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 customers, and the loss of such customers could adversely affect our business.

During the year ended December 31, 2021, we derived 22.8% of our revenue through a single channel partner for our decision support platform, who contracts with various health plans and other healthcare entities to manage the utilization of specialty health services for their covered members, and another 12.9% of our revenue through a customer of our NaviNet solution. During the six months ended June 30, 2022, we derived 27.8% of our revenue through this channel partner and another 13.5% of our revenues through one of NaviNet's major customers. On June 30, 2022, we received a notice of termination from such single channel partner, which such termination will be effective June 30, 2023. We cannot guarantee that we will be able to find new sources of revenue to offset the termination by this channel partner or that the above mentioned NaviNet customer or any of our other customers or partners will continue to contract for our services or acquire new services. We are currently in discussions with the channel partner regarding a new commercial agreement but if we are unable to establish a new agreement with the channel partner regarding such new commercial arrangement or our major NaviNet customer does not renew its agreement with us, our revenue could be greatly reduced, which would materially and adversely affect our business. Customer churn is a natural part of our business and, while there is no guarantee that we will be able to offset the loss of this customer in the short term, we continue to develop new product enhancements and offerings to help drive customer acquisition and expansion opportunities to replace this lost revenue in the long term.

If our existing customers do not continue to 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 customers. As a result, achieving high customer satisfaction to keep existing customers 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;
- a customer's desire and ability to develop their own internal solution;
- 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 SaaS infrastructure and services;
- changes in healthcare laws, regulations or trends; and
- the business environment of our customers, in particular, headcount reductions by our customers.

For our SaaS solutions, we typically enter into master services agreements with our customers. These agreements generally have stated terms of three to five years. Our customers have no obligation to renew their subscriptions for our offering after the term expires. In addition, our customers may negotiate terms less advantageous to us upon renewal, which may reduce our revenue from these customers. Factors that are not within our control may contribute to a reduction in our contract revenue. For instance, our customers 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 customers 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 customers 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. For example, we received a notice of termination from our largest single channel partner, which such termination will be effective on June 23, 2023. If we fail to renew this agreement or renew this agreement upon less favorable terms or at lower fee levels or fail to grow our customer base to offset the loss of this channel partner, it may cause our revenue to decline in the future or our future revenue may be constrained.

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

In addition to past investments made in NantHealth solutions, and component systems infrastructure and platforms, we have invested, and will continue to invest, significant resources in research and development and in acquisitions to enhance our existing offerings and introduce new high-quality applications and services. If existing customers are not willing to make additional payments for such new applications or services, or if new customers 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 customers. Our operating results would also suffer if our innovations and acquisitions are not responsive to the needs of our customers, are not appropriately timed with market opportunity or are not effectively brought to market.

Security breaches and incidents, 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 customers, 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 customers, 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 and other third parties that maintain or otherwise process such information for us, may be vulnerable to attacks by hackers or viruses or breached or otherwise subject to security incidents due to employee error, malfeasance or other events. Any such breach or incident could result in a disruption or interruption to, or compromise, our networks and systems or those of our third-party service providers or partners, and the information stored or otherwise processed there could be publicly disclosed, accessed, rendered unavailable, used, modified, disclosed or otherwise processed without authorization, lost or stolen. Any such event, or the perception that any such event has occurred, could result in legal claims or proceedings (including regulatory investigations and enforcement actions), liability under laws that protect the privacy of personal information, such as the Health Insurance Portability and Accountability Act ("HIPAA") and regulatory penalties. Although we have implemented security measures and a formal, dedicated enterprise security program in an effort 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 to, or unavailability, loss or dissemination of data, or unauthorized access to, interruptions or other disruptions to systems, whether maintained by us or by third parties performing services for us, could also disrupt our operations, including our ability to conduct our analyses, 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.

Additionally, ransomware attacks, including these from organized criminal threat actors, nation-states and nation-state supported actors, are becoming increasingly prevalent and severe and can lead to significant interruptions, delays, or outages in our operations, disruptions in our services, loss or unavailability of data, loss of income, significant extra expense to restore data or systems, reputational loss and the diversion of funds. Furthermore, there may be heightened risk of potential attacks by state actors or others since the escalation of the situation in Ukraine. To alleviate the financial, operational and reputational impact of a ransomware attack, it may be preferable to make extortion payments, but we may be unwilling or unable to do so (including, for example, if applicable laws or regulations prohibit such payments).

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, and such contractual violations or any other contractual violations relating to a security breach or incident, could lead to claims, damages, legal proceedings, and contractual damages, other liability or terminations.

In addition, the interpretation and application of consumer, healthcare privacy, data protection and cybersecurity 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 claims, proceedings, damages, and liabilities, including government-imposed fines, and orders requiring that we change our practices, which could adversely affect our business. In addition, these laws and regulations vary between states, countries and other jurisdictions, and may vary based on whether services or operations are performed in the jurisdiction. Complying with these various laws and regulations 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 customers, 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 and other telecommunications services by third parties, including bandwidth and telecommunications equipment providers. This includes maintenance of a reliable network connection with the necessary speed, data capacity and security for providing reliable Internet access and services. We exercise limited control over these third-party providers. As a result, our information systems require an ongoing commitment of significant resources to maintain and enhance existing systems and develop new systems in order to keep pace with continuing changes in IT, emerging cybersecurity risks and threats, evolving industry and regulatory standards and changing preferences of our customers.

Our services are designed to operate without perceptible interruption in accordance with our service level commitments. We have, however, experienced limited interruptions in these services in the past, and 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 customers or fail to realize the network effects of our system and our business may be impaired. We do not currently maintain redundant systems or facilities for some of these services. Our operations and facilities are vulnerable to interruption and/or damage from a number of sources, many of which are beyond our control, including, without limitation: power loss and telecommunications failures; fire, flood, hurricane, tornado and other natural disasters; software and hardware errors, failures or crashes; and cyber and ransomware attacks, computer viruses, hacking, break-ins, sabotage, intentional acts of vandalism and other similar disruptive problems. The occurrence of any of these events could result in interruptions, delays or cessations in service to users of our services, which could impair or prohibit our ability to provide our services, reduce the attractiveness of our services to our customers and could have a material adverse impact on our business, results of operations or financial condition. If user access to our services is interrupted because of problems in our operations, we could be in breach of our agreements with customers and/or exposed to significant claims, particularly if the access interruption is associated with problems in the timely delivery of medical care. 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 result in substantial cost to remedy such unavailability and negatively impact our relationship with our customers and our business. 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.

In addition, many of our third-party vendors, including data center providers, do not have an obligation to renew their agreements with us on commercially reasonable terms, or at all. If we are unable to renew our agreements with these providers on commercially reasonable terms, if our agreements with our providers are prematurely terminated, due to such providers insolvency, catastrophic damage to such provider’s data centers or otherwise, or if in the future we add additional third-party vendors, including data center providers, we may experience costs or downtime in connection with the transfer to, or the addition of, new providers. If these third-party vendors were to increase the cost of their services, we may have to increase the price of our existing and future offerings, and our business may be harmed.

Any disruption in the network access or co-location, hosting or cloud 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.

We also rely on a number of vendors, such as cloud service providers, to provide us with a variety of solutions and services, including cloud-based data hosting, telecommunications and data processing services necessary for our services and processing functions and software developers for the development and maintenance of certain software products we use to provide our solutions. We exercise limited control over 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 customers 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. If vendors do not fulfill their contractual obligations, have system failures or choose to discontinue their products or services, our business and operations could be disrupted, our brand and reputation could be harmed, and our financial condition or results of operations could be adversely affected.

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 customers and harm our financial results.

Because of the complexity of the issues facing healthcare providers and payers and the inherent complexity of our solutions to such issues, our customers depend on our support organization to resolve any technical issues relating to our offerings. In addition, our sales process is highly dependent on the quality of our offerings, our business reputation and on strong recommendations from our existing customers. 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 offerings to existing and prospective customers, 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 customers 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 customers have a variety of different data formats, enterprise applications and infrastructures, and NantHealth solutions and component systems infrastructure and platforms, must support our customers' data formats and integrate with complex enterprise applications and infrastructures. 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 customers' implementation schedules. As a result, if our customers 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 offerings for our customers 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 offerings, or not to use our offerings 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 customers, who currently comprise most of our customer base, may request or require specific features or functions unique to their business processes, which increase our upfront investment in sales and deployment efforts and the revenue resulting from the customers 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 offerings will be more limited and our business could suffer.

In addition, supporting large customers 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 customers in a timely fashion or further develop and enhance our offerings, or if a customer 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 customer's dissatisfaction with our offerings could damage our ability to expand the number of applications and services purchased by that customer. Furthermore, if a customer or its constituents do not opt into or need certain aspects of our offerings, there may not be enough demand for that aspect of our offering to warrant future purchases by that customer, or the customer may seek to terminate their relationship with us. These customers may not renew their agreements, seek to terminate their relationship with us or renew on less favorable terms. Moreover, negative publicity related to our customer relationships, regardless of its accuracy, may further damage our business by affecting our ability to compete for new business with current and prospective customers. 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 customers.

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., Experian Information Solutions, Inc. (including its Experian Health/Passport division), Zipari, Inc. (formerly Healthx), Cohere Health and Health-Trio, LLC;
- Payer-provider specialty care cost management vendors, including The Advisory Board Company healthcare business (acquired by Optum), Evolent Health, eviCore Healthcare, HealthCatalyst, Inc., International Business Machines Corporation, or IBM, Inovalon Holdings, Inc., NCH Management Systems, Inc. (dba New Century Health), Oncology Analytics, Inc. (dba OncoHealth) and Truven Health Analytics (acquired by IBM);
- Network monitoring vendors, including Zabbix, LLC, LogicMonitor, Inc., SolarWinds Worldwide, LLC, SevOne, Splunk and Datadog, Inc.

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 customers' and prospective customers' 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. 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 customer 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 and solutions may experience design or manufacturing defects from time to time that can result in decreased sales, decreased operating margins and reduced network effects to NantHealth solutions and component systems infrastructure and platforms which could materially and adversely affect our reputation and business.

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

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

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

Risks related to our OpenNMS open source business

Our OpenNMS business incorporates third-party open source software, which could negatively affect our ability to sell our OpenNMS solutions and subject us to possible litigation.

Our OpenNMS platform includes third-party open source software and we intend to continue to incorporate third-party open source software in our OpenNMS platform in the future. There is a risk that the use of third-party open source software in our OpenNMS platform could impose conditions or restrictions on our ability to monetize our software. Although we monitor the incorporation of open source software into our OpenNMS platform to avoid such restrictions, we cannot be certain that we have not incorporated open source software in our OpenNMS platform in a manner that is inconsistent with our licensing model. Certain open source projects also include other open source software and there is a risk that those dependent open source libraries may be subject to inconsistent licensing terms. This could create further uncertainties as to the governing terms for the open source software we incorporate.

In addition, the terms of certain open source licenses to which we are subject have not been interpreted by U.S. or foreign courts and there is a risk that open source software licenses could be construed in a manner that imposes unanticipated restrictions or conditions on our use of such software. Additionally, we may, from time to time, face claims from third parties claiming ownership of, or demanding release of, the software or derivative works that we developed using such open source software, which could include proprietary portions of our source code, or otherwise seeking to enforce the terms of the open source licenses. These claims could result in litigation and could require us to make those proprietary portions of our source code freely available, purchase a costly license or cease offering the implicated software or services unless and until we can re-engineer them to avoid infringement. This re-engineering process could require significant additional research and development resources and we may not be able to complete it successfully.

In addition to risks related to license requirements, use of third-party open source software can lead to greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties. In addition, licensors of open source software included in our offerings may, from time to time, modify the terms of their license agreements in such a manner that those license terms may become incompatible with our licensing model and thus could, among other consequences, prevent us from incorporating the software subject to the modified license. Any of these risks could be difficult to eliminate or manage and if not addressed, could have a negative effect on our business, results of operations and financial condition.

Because of the characteristics of open source software, there may be fewer technology barriers to entry in the open source market by new competitors and it may be relatively easy for new and existing competitors with greater resources than we have to compete with our OpenNMS business.

One of the characteristics of open source software is that the governing license terms generally allow liberal modifications of the code and distribution thereof to a wide group of companies and/or individuals. As a result, others could easily develop new software products or services based upon those open source programs that compete with existing open source software that we support and incorporate into our OpenNMS platform. Such competition with use of the open source projects that we utilize can materialize without the same degree of overhead and lead time required by us, particularly if the customers do not value the differentiation of our proprietary components. It is possible for new and existing competitors, including those with greater resources than ours, to develop their own open source software or hybrid proprietary and open source software offerings, potentially reducing the demand for, and putting price pressure on, our OpenNMS services. In addition, some competitors make open source software available for free download or use or may position competing open source software as a loss leader. We cannot guarantee that we will be able to compete successfully against current and future competitors or that competitive pressure and/or the availability of open source software will not result in price reductions, reduced revenue and gross margins and loss of market share, any one of which could seriously harm our OpenNMS business.

We do not control and may be unable to predict the future course of open source technology development, including the ongoing development of open source components used in our OpenNMS platform, which could reduce the market appeal of our OpenNMS platform and damage our reputation.

We do not control many aspects of the development of the open source technology in our OpenNMS platform. Different groups of open source software programmers collaborate with one another to develop the software projects in our OpenNMS platform. Given the disparate inputs from various developers, we cannot control entirely how an open source project develops and matures. Also, different open source projects may overlap or compete with the ones that we incorporate into our OpenNMS platform. The technology developed by one group for one project may become more widely used than that developed by others. If we acquire or adopt a new technology and incorporate it into our OpenNMS platform but a competing technology becomes more widely used or accepted, the market appeal of our OpenNMS services may be reduced and that could harm our reputation, diminish our brand and result in decreased revenue.

If open source software programmers, many of whom we do not employ, or our own internal programmers do not continue to develop and enhance open source technologies, we may be unable to develop new technologies, adequately enhance our existing technologies or meet customer requirements for innovation, quality and price.

We rely to a significant degree on a number of open source software programmers, or committers and contributors, to develop and enhance components of our OpenNMS platform. Additionally, members of the corresponding open source project management committees, are primarily responsible for the oversight and evolution of the codebases of important components of the open source data management ecosystem. If the open source data management committers and contributors fail to adequately further develop and enhance open source technologies, or if the committees fail to oversee and guide the evolution of open source data management technologies in the manner that we believe is appropriate to maximize the market potential of our solutions, then we would have to rely on other parties, or we would need to expend additional resources, to develop and enhance our OpenNMS platform. We also must devote adequate resources to our own internal programmers to support their continued development and enhancement of open source technologies, and if we do not do so, we may have to turn to third parties or experience delays in developing or enhancing open source technologies. We cannot predict whether further developments and enhancements to these technologies would be available from reliable alternative sources. In either event, our development expenses could be increased and our technology release and upgrade schedules could be delayed. Delays in developing, completing or delivering new or enhanced components to our platform could cause our offerings to be less competitive, impair customer acceptance of our solutions and result in delayed or reduced revenue for our solutions.

Our use of open source software could subject us to possible litigation or could prevent us from offering products that include open source software or require us to obtain licenses on unfavorable terms.

A portion of the technologies we use incorporate “open source” software, and we may incorporate open source software in the future. Open source licenses may subject us to certain unfavorable conditions, including requirements that we offer our products that incorporate the open source software for no cost, that we make publicly available the source code for any modifications or derivative works we create based upon, incorporating or using the open source software, or that we license such modifications or derivative works under the terms of the particular open source license. We may license to others some of our software through open source projects which require us to make the source code publicly available, and therefore can affect our ability to protect our intellectual property rights with respect to that software. If an author or other third party that distributes open source software that we use or license were to allege that we had not complied with the conditions of the applicable license, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from offering our products that contained the open source software, required to release proprietary source code, required to obtain licenses from third parties or otherwise required to comply with the unfavorable conditions unless and until we can re-engineer the product so that it complies with the open source license or does not incorporate the open source software. Any of the foregoing could disrupt our ability to offer our products and harm our business, revenue and financial results.

The acquisition of OpenNMS may not be successful and could disrupt our business and harm our financial condition.

On July 22, 2020, we acquired OpenNMS. We may not be able to successfully integrate the personnel, operations, businesses, products or technologies of the OpenNMS investment. Integration may be particularly challenging as we have limited experience in the business of network management software and services. We may find that we do not have adequate operations or expertise to manage the new business. The integration of OpenNMS may also divert management's time and resources from our core business, which could impair our relationships with our current employees, customers and strategic partners and disrupt our operations. Our OpenNMS platform also may not perform to our expectations for various reasons, including the loss of key personnel and/or customers. If we fail to integrate our OpenNMS business or realize the expected benefits, we may lose the return on this acquisition or incur additional transaction costs and our business and financial condition may be harmed as a result.

Risks related to our relationships with other companies

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 customers 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. In addition, we may not be able to secure enough hardware components at reasonable prices or of acceptable quality in a timely manner in the quantities or configurations needed. For example, in response to a surge in COVID-19 infections in the first half of 2022, the Chinese government imposed lockdowns in certain parts of the country, which has had, and may continue to have, a negative impact on manufacturing and/or supply chains. If as a result of global economic or political instability, such as the ongoing escalation of the situation in Ukraine, other disease outbreaks, or supply issues, we, our third-party vendors or our contractors could experience shortages, business disruptions or delays for materials sourced or manufactured in the affected countries, their ability to supply hardware components may be affected. If any of these events occur, our business and operating results could be harmed. Accordingly, if any of the foregoing occurs, our ability to commercialize our services, revenue and gross margins could suffer until lockdowns from COVID-19 infections are reduced and supply issues or business disruptions are resolved.

Any loss of the right to use any of this hardware or software could result in delays in providing NantHealth solutions (including Eviti and NaviNet apps) 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 customers 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. Soon-Shiong, our Chairman, Chief Executive Officer and our principal stockholder. Although we expect Dr. Soon-Shiong will continue to devote on average at least 20 hours per week to our company, he will continue to primarily focus on ImmunityBio, Inc., or ImmunityBio, a publicly-traded, clinical-stage immunotherapy company, of which he is Executive Chairman and Global Chief Scientific and Medical Officer. Dr. 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. Soon-Shiong founded in 2011. We do not believe Dr. 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. Soon-Shiong and we may enter into additional relationships in the future. If Dr. 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. Soon-Shiong are particularly acute given his ownership percentage and role in our company. If we were to lose Dr. 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. Soon-Shiong.

We also face significant competition for employees from other healthcare-related companies and software businesses, 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. This competition has become exacerbated by the increase in employee resignations in 2021 reported by employers nationwide and continued high rates of employee turnover continuing into 2022. 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. We may face challenges in retaining and recruiting such individuals due to sustained declines in our stock price that could reduce the retention value of equity awards. Although we may 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.

Risks related to our business generally

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

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

For example, in January 2016, we acquired NaviNet to bolster our payer platform and, in February 2018, we acquired NantHealth Labs to expand into the liquid tumor profiling market and sold a commercial liquid biopsy test product (marketed as Liquid GPS). In July 2020, we acquired OpenNMS to expand our software and SaaS service offerings for both the healthcare sector and other industries. In the second quarter of 2019, we ceased commercial sales of the Liquid GPS product. Realizing the benefits of these acquisitions and any future acquisition depend, in part, upon the successful integration into our existing operations, and we may not be able to integrate the acquired personnel, operations and technologies successfully, or effectively manage the combined business following the acquisition. We also may not realize the anticipated benefits from any acquired business due to several factors, including:

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

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. As of June 30, 2022, the total value of our goodwill and intangible assets, net of accumulated amortization was $132.9 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, OpenNMS, 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, OpenNMS, or any other businesses or technologies we may acquire in the future. The failure to successfully integrate these businesses could have a material adverse effect on our business, financial condition, or results of operations.

Business disruptions, including from weakened and volatile global economic and market conditions, natural disasters and the COVID-19 pandemic, among other things, could seriously harm our future revenue and financial condition and increase our costs and expenses.

Events such as recessions, inflation, disruptions and uncertainty in global financial markets and other adverse global developments, including those related to the Russia-Ukraine war, have caused, and could, in the future, cause economic and market slowdown or downturn. The resulting impacts of such slowdown or downturn may lead to reduced consumer and commercial spending, consumption and demand, increased costs of business operations, rising prices of goods and services and decreased corporate profitability. As such, this could negatively impact the businesses and customers that we work with and have a materially adverse effect on our own business, financial condition, overall performance and results and ability to forecast our operations and make decisions about future investments and endeavors.

Moreover, our operations, and those of our contractors, consultants, customers, resellers or partners, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics or pandemics, acts of terrorism, acts of war and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. For example, we have corporate offices in Los Angeles County, 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 customers' access is interrupted because of problems in the operation of our facilities, we could be exposed to significant claims by customers or their patients, particularly if the access interruption is associated with problems in the timely delivery of funds due to customers 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.

Also, in March 2020, the World Health Organization declared the novel coronavirus (COVID-19) a pandemic. In the same month, the President of the United States declared a State of National Emergency due to the COVID-19 outbreak, and the world has been and continues to be impacted by COVID-19 and its variants. As a result, many jurisdictions, particularly in North America (including the United States), Europe and Asia, including the U.S. states in which we operate, such as California, have adopted or are considering laws, rules, regulations or decrees intended to address the COVID-19 outbreak, including implementing travel restrictions, closing non-essential businesses and/or restricting daily activities. In addition, many communities have limited, and are considering to further limit, social mobility and gathering. To date, there has been no material adverse impact to our business from the COVID-19 pandemic. Given the unprecedented and evolving nature of the pandemic, the future impact of these changes and potential changes on us and our contractors, consultants, customers, resellers and partners is unknown at this time. Moreover, the extent of the impact of the COVID-19 pandemic on our business and operating results is uncertain and difficult to predict and will depend on factors outside of our control including the timing or effectiveness of the vaccine roll-out globally, the timing of easing of preventative or mitigation measures or mandates, the impact of any variants that emerge, or any impact of a global vaccine roll-out on the global economy. For example, the demand for our solutions among certain of our provider or payer customers could be impacted in the future, either through reduced transaction volume for solutions by which we derive revenue on a per transaction basis or through the delayed closing or signing of new or add-on contracts with customers that are dealing with impacts from the COVID-19 pandemic.

The COVID-19 pandemic has negatively impacted the global economy to date and is likely to cause further global economic disruption. While the duration and severity of the economic impacts of COVID-19 are unknown, it is possible that such economic impacts may be prolonged and have continued effects even after the widespread administration of vaccines. However, in light of the uncertainties regarding economic, business, social, health and geopolitical conditions, our revenues, earnings, liquidity, and cash flows could be adversely affected, whether on an annual or quarterly basis. Continued impacts of the COVID-19 pandemic could materially adversely affect our current and long-term account receivable collectability, as our negatively impacted customers from the COVID-19 pandemic may request temporary relief, delay, or not make scheduled payments. In addition, the deployment of our solutions may represent a large portion of our customers' investments in software technology. Decisions to make such an investment are impacted by the economic environment in which the customers operate. Uncertain global geopolitical, economic and health conditions and the lack of visibility or the lack of financial resources may cause some customers to reduce, postpone or terminate their investments, or to reduce or not renew ongoing paid services, adversely impacting our revenues or timing of revenue. Health conditions in some geographic areas where our customers operate could impact the economic situation of those areas. These conditions, including the COVID-19 pandemic, may present risks for health and limit the ability to travel for our employees, which could further lengthen our sales cycle and delay revenue and cash flows in the near-term. Moreover, the potential for future infections among our employees and/or consultants is possible even after the widespread administration of vaccines and such future infections (depending on the severity, variant type, scope and location) could impact our ability to continue operations in the ordinary course.

As of the date of this Quarterly Report on Form 10-Q, we serve our customers 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 may 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 customers to terminate one or more of our offerings and may adversely affect our renewal rates and our ability to attract new customers. Our business may also be harmed if our customers and potential customers believe one or more of our offerings are unreliable.

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.

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 network monitoring 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.

We have recently been involved in pending securities litigation, which were costly to us and harmful to our reputation, and we can not assure you that we will not be involved in additional legal proceedings in the future with similar, or worse, results.

We have been named as a defendant in lawsuits arising out of our initial public offering and later public statements. In March 2017, a number of putative class action securities complaints were filed in the U.S. District Court for the Central District of California, naming as defendants the Company and certain of our executive officers and directors. Certain plaintiffs also named, as defendants, investment banks who were underwriters in our initial public offering but the claims against the underwriters were dropped. The complaints generally allege that defendants made material misstatements and omissions in violation of the federal securities laws. The complaints were consolidated with the lead case captioned Deora v. NantHealth, Inc., 2:17-cv-01825 ("Deora"). In October 2019, the parties reached an agreement in principle to settle these federal class actions in their entirety for $16.5 million, which was included in accrued and other current liabilities in the Consolidated Balance Sheet at December 31, 2019. The Court granted preliminary approval of the settlement on January 31, 2020. A hearing for final approval of the settlement was scheduled for June 15, 2020, but on June 5, 2020, the Court decided to take the final approval motion on submission, and on July 17, 2020, the Court directed Plaintiff's counsel to submit evidence substantiating all costs incurred. The $16.5 million settlement was paid into a settlement fund prior to the payment deadline of March 2, 2020. The majority of the settlement amount was funded by our insurance carriers, and a portion was funded by us. On September 10, 2020, the Court entered an order granting final approval of the settlement, and the order and the settlement are now final. 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. At a case management conference on December 3, 2019, the parties informed the court of the pending settlement of the federal class action in the Deora action. During a status conference on February 4, 2021, the Court scheduled a further status conference for April 7, 2021 and stated that if Plaintiff did not voluntarily dismiss the action, the Court would entertain a motion to dismiss in light of the finalization of the Deora settlement. Plaintiff filed an unopposed request for voluntarily dismissal on March 15, 2021. On March 22, 2021, the court issued an order granting plaintiff's request and dismissing the action with prejudice. For additional information regarding this and other lawsuits in which we are involved, see Part II, Item 1, Legal Proceedings. We cannot assure you that we will not be involved in additional legal proceedings in the future, with similar, or worse, results which could harm our business, financial conditions and results of operations.

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.

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 customers in connection with commercial disputes and employment claims made by our current or former employees. Litigation, regardless of merit, may result in substantial costs and may divert management's attention and resources, which may harm our business.

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

We maintain product and other insurance, but this insurance may not fully protect us from the financial impact of defending against product liability or other claims. Any product liability or other claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability lawsuit could damage our reputation, or cause current customers to terminate existing agreements and potential customers 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, including our revenue, 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 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 recognizing revenue under our reseller agreement with NantOmics. Disagreement with the regulators as to our current interpretations and any future changes by the regulators of existing accounting standards or changes in our business practices could result in changes in our revenue recognition and/or other accounting policies and practices that could adversely affect our business.

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

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

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 NaviNet Limited and OpenNMS Group Canada, Inc. As a result, a portion of our operations are conducted by and/or rely on entities outside the United States. We may therefore be denied access to our customers or suppliers as a result of economic, legislative, political and military conditions in such countries.

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

- requirements or preferences for domestic products or solutions, which could reduce demand for our products;
- differing existing or future regulatory and certification requirements;
- management communication and integration problems resulting from cultural and geographic dispersion;
- greater difficulty in collecting accounts receivable and longer collection periods;
- difficulties in enforcing contracts;
- difficulties and costs of staffing and managing non-U.S. operations;
- the uncertainty of protection for intellectual property rights in some countries;
- tariffs and trade barriers, export regulations and other regulatory and contractual limitations on our ability to sell our products;
- greater risk of a failure of foreign employees to comply with both U.S. and foreign laws, including export and antitrust regulations, the U.S. Foreign Corrupt Practices Act of 1977, as amended ("FCPA") and any trade regulations ensuring fair trade practices;
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements;
- potentially adverse tax consequences, including multiple and possibly overlapping tax structures;
- the impact of public health epidemics on our employees and suppliers as well as the global economy, including the COVID-19 pandemic; 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.

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. 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. 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 various patents and patent applications and we possess substantial know-how, copyrights and trade secrets relating to the development and commercialization of healthcare technology products and services. In January 2016, we acquired NaviNet, a leading payer-provider collaboration platform, and in February 2018 we acquired NantHealth Labs, Inc. (formerly Liquid Genomics, Inc.) a liquid tumor profiling company. As part of these and other acquisitions, we acquired patents and other intellectual property. As of June 30, 2022, our patent portfolio consisted of the following matters relating to our proprietary technology and inventions: (i) twenty (20) issued U.S. utility patents and two (2) issued U.S. design patents; (ii) thirteen (13) pending U.S. utility patent applications; (iii) eighteen (18) issued patents outside the United States; and (iv) four (4) patent applications pending in jurisdictions outside the United States. Seven (7) of the US assets are jointly owned and thirteen (13) of the international assets are jointly owned. We believe we have intellectual property rights that are necessary to commercialize our healthcare technology products and services. However, our patent applications may not result in issued patents, and, even if issued, the patents may be challenged and invalidated. Moreover, our patents and patent applications may not be sufficiently broad to prevent others from practicing our technologies or developing competing products. We also face the risk that others may independently develop similar or alternative technologies or may design around our proprietary property.

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

The patent application process, also known as patent prosecution, is expensive and time consuming, and we and any current or future licensors and licensees may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or any current or future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are therefore reliant on our licensors or licensees. Therefore, these and any of our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Although we are unaware of any material defects that we believe would affect the validity or enforceability of our patents, 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 term. In the United States, the natural expiration of a utility patent is generally 20 years after its earliest effective non-provisional 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 may 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 ("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 and network monitoring industries expand 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 products and services. Nevertheless, we are not aware of any issued patents that we believe could prevent us from marketing our 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, proving 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, such as, ex parte review, inter parties review, or post grant review, 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. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which often 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 and 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 many 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, and November 2, 2016.

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 intellectual property licensed to us, we may not be able to do so in a timely manner, at an acceptable cost or at all. Generally, the loss of any one of our current licenses, or any other license we may acquire in the future, could materially harm our business, prospects, financial condition and results of operations.

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

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

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

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

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

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

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

Risks related to government regulation

The healthcare industry is highly regulated, and thus, we are subject to several laws, regulations and industry initiatives, non-compliance with certain of which could materially adversely affect our operations or otherwise adversely affect our business, results of operations and financial condition.

As a participant in the health care industry, our operations and relationships, and those of our clients, are regulated by several U.S. federal, state, local and foreign governmental entities. The impact of these regulations on us is both direct, to the extent that we are subject to these laws and regulations, and also indirect, in terms of government program requirements applicable to our clients for the use of health information technology. Even though we may not be directly regulated by specific healthcare laws and regulations, our products must be capable of being used by our clients in a way that complies with those laws and regulations. There are a number of regulations in the United States, such as regulations in the areas of healthcare fraud and abuse, information blocking, prior authorization, utilization review and practice management solutions, the security and privacy of patient data and interoperability standards, that may be directly or indirectly applicable to our operations and relationships or the business practices of our clients.

U.S. federal and state governments continue to enhance regulation of and increase their scrutiny over practices involving healthcare fraud, waste and abuse perpetuated by healthcare providers and professionals whose services are reimbursed by Medicare, Medicaid and other government health care programs. Our healthcare provider clients, as well as our provision of products to government entities, subject our business to laws and regulations on fraud and abuse which, among other things, prohibit the direct or indirect payment or receipt of any remuneration for patient referrals, or arranging for or recommending referrals or other business paid for in whole or in part by these federal or state healthcare programs. U.S. federal enforcement personnel have substantial powers and remedies to pursue suspected or perceived fraud and abuse. The effect of this government regulation on our clients is difficult to predict. Many of the regulations applicable to our clients and that may be applicable to us, including those relating to marketing incentives offered in connection with sale of products or services and information blocking, are vague or indefinite and have not been fully interpreted by the courts. They may be interpreted or applied by prosecutors, regulatory or judicial authorities in a manner that could broaden their applicability to us or require our clients to make changes in their operations or the way in which they deal with us. If we fail to comply with any applicable laws and regulations, we could be subject to significant civil and criminal penalties, sanctions or other liability, including exclusion from government healthcare programs or from providing certain products to our clients who participate in such programs, which could have a material adverse effect on our business, results of operations and financial condition. Even an unsuccessful challenge by a regulatory authority of our activities could result in adverse publicity, require a costly response from us and adversely affect our business, results of operations and financial condition.

Our products include technology solutions related to claim status and management, utilization management and prior authorization. While we do not submit claims to payors, claims submitted by our clients using our technology solutions are governed by U.S. federal and state laws, which can impact our operations indirectly. U.S. federal law provides civil liability to any persons that knowingly submit, or cause to be submitted, a claim to a payor, including Medicare, Medicaid and private health plans, seeking payment for any services or items that overbills or bills for services or items that have not been provided to the patient. U.S. federal law may also impose criminal penalties for intentionally submitting such false claims. In addition, federal and state law regulates the collection of debt and may impose monetary penalties for violating those regulations. The Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) security, privacy and transaction standards, as discussed below, also have a potentially significant effect on our claims-related technology solutions because those solutions must be structured and provided in a way that supports our clients' HIPAA compliance obligations. In connection with these laws, we may be subjected to U.S. federal or state government investigations and possible penalties may be imposed upon us; false claims actions may have to be defended; private payers may file claims against us; and we may be excluded from Medicare, Medicaid or other government-funded health care programs. Any investigation or proceeding related to these laws, even if unwarranted or without merit, may have a material adverse effect on our business, results of operations and financial condition.

U.S. federal, state and local laws and foreign legislation govern the confidentiality of personal information, how that information may be used, and the circumstances under which such information may be released. These regulations govern both the disclosure and use of confidential personal and patient medical record information and require the users of such information to implement specified security and privacy measures. U.S. regulations currently in place governing electronic health data transmissions continue to evolve and are often unclear and difficult to apply. Laws in non-U.S. jurisdictions are also evolving and may have similar or even stricter requirements related to the treatment of personal or patient information. Data protection regulations impact how businesses, including both us and our clients, can collect and process the personal data of individuals. The costs of compliance with, and other burdens imposed by, such laws, regulations and policies, or modifications thereto, that are applicable to us may limit the use and adoption of our technology solutions and could have a material adverse impact on our business, results of operations and financial condition. Furthermore, we incur development, resource, and capital costs in delivering, updating, and supporting solutions to enable our clients to comply with these varying and evolving standards. If we fail to comply with any applicable laws or regulations or fail to deliver compliant products and solutions, we could be subject to civil penalties, sanctions and contract liability. Enforcement investigations, even if meritless, could have a negative impact on our reputation, cause us to lose existing clients or limit our ability to attract new clients. Furthermore, our failure to maintain confidentiality of sensitive personal information in accordance with the applicable regulatory requirements could damage our reputation and expose us to claims, fines and penalties.

Our commercial and government clients continue to be subject to requirements to adopt interoperable health information technology which requires that our products and solutions to be interoperable with other third-party health information technology providers. Market forces and governmental or regulatory authorities create software interoperability standards that may apply to our products and solutions. For applicable products, these interoperability standards are the basis of certification requirements that our products must meet, and, in turn, many of our clients must meet prerequisite or participation requirements for many federal health insurance programs, including Medicare and Medicaid Fee for Service programs, for alternative payment models under the Innovation Center of CMS and for other federal or state health insurance or reimbursement programs. These expectations for interoperability are supported by the information blocking prohibitions of the Cures Act. If our products are not consistent with those requirements, we could be forced to incur substantial additional development costs to conform. The Office of the National Coordinator for Health Information Technology ("ONC") is also charged under the Cures Act with developing a Trusted Exchange Framework that establishes governance requirements for trusted health information exchange in the United States. ONC has developed the U.S. Common Data Set for Interoperability which may lay the groundwork for iterative expansion of future data exchange requirements for trusted exchange. ONC continues to modify and refine these standards. We may incur increased software development and administrative expenses and delays in delivering such products if we need to update our products to conform to these varying and evolving requirements. In addition, delays in interpreting these standards may result in postponement or cancellation of our clients' decisions to purchase our products. If our products are not compliant with these evolving standards, our market position and sales could be impaired, and we may have to invest significantly in changes to our products.

Various U.S. federal, state and non-government agencies continue to generate requirements for the use of certified health information technology, or certified electronic health record technology ("CEHRT"). In many cases, these requirements have become conditions for receiving payment for health care services to beneficiaries of federal health insurance programs. The Cures Act has tied CEHRT to its policy goals of reducing barriers to the exchange of health information data blocking, encouraging nationwide interoperability, consumer access to health information and improving health information availability between consumers and their care teams. The regulations establishing the certification standards for CEHRT will continue to be updated to support these government policy goals with greater emphasis on interoperability, consumer engagement, patient safety and health information privacy and security. The ONC has finalized additional regulations under the Cures Act to enforce the Act's policy directives relating to data blocking and interoperability. Along with recent CMS actions taken for Medicare and Medicaid, these regulations will also mandate adoption of updated and expanded certified capabilities of CEHRT that some of our clients must adopt to remain able to participate in the federal programs. In addition, the ONC has increased its surveillance activities concerning vendor compliance with respect to CEHRT requirements, which could expose us to greater liability and increased cost of compliance.

Our delegated services and offerings with health plans could subject us to audits by health plans and governmental payors and increase our exposure to liabilities under federal and state health care fraud and abuse laws, including claims under the False Claims Act.

Our contracts with health plans or qualified health plan (QHP) partners for delegated services obligate us and any contractors or agents we use for such delegated services to comply with additional regulatory and contractual requirements and standards as a delegated entity, including 45 CFR Parts 155 and 156, which increase our exposure to additional liabilities under health care fraud and abuse laws, require us to maintain a more robust healthcare compliance program, as well as obtain and comply with applicable licensing and credentialing requirements. We are subject to stringent regulatory and contractual oversight, including audits by our health plan partners, CMS, and other regulatory authorities. Negative results of any such audit could have a material adverse effect on our business, financial condition, results of operations or prospects and could damage our reputation. Changes in regulations, standards, and contractual obligations can increase our compliance costs, expose us to greater liability, or materially impact our profitability.

In particular, entities that perform prior authorization and utilization management functions as a delegated entity are subject to additional federal and state requirements, including, but not limited to, credentialing, accreditation or licensing requirements and standards (such as requirements of the National Committee for Quality Assurance), state prior authorization laws, Medicare and Medicaid regulations, manuals and policies, and other federal and state laws and standards related to delegation, prior authorization, and utilization management. Health plans and other healthcare organizations that contract with delegated entities flow down extensive federal and state requirements to delegated entities, which can increase the cost of operations and exposure to potential liabilities for such delegated entities. Delegated entities are also subject to audits and oversight by healthcare plans as well as federal and state regulatory authorities. To the extent federal and state government programs or regulatory authorities change current laws, regulations or policies, or the prior authorization process and related requirements, such changes could impact our business operations. Complying with new regulatory requirements or changes to current regulations could be time-intensive and expensive, resulting in a material adverse effect on our business. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, we may lose regulatory licensure or authorization for our products and services, be exposed to contractual liabilities, and we may not achieve or sustain profitability. Efforts to ensure compliance with applicable healthcare laws and regulations can involve substantial costs. Violations of healthcare laws can result in significant penalties, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other U.S. healthcare programs, integrity oversight and reporting obligations, contractual damages, reputational harm, diminished profits and future earnings, and curtailment or restructuring of operations.

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 ("PHI"). The Health Information Technology for Economic and Clinical Health Act, "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 customers 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 customers, 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, other laws or regulations relating to health information privacy or security, or our customers’ 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 or other laws or regulations relating to health information privacy or security, 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, or if any of the foregoing is perceived or believed to have occurred, we could be subject to significant liabilities and consequences, including, without limitation:

- actual or asserted breach of our contractual obligations to customers, which may cause our customers to terminate their relationship with us and may result in potentially significant financial obligations to our customers;
- 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 claims and litigation, including by individuals adversely affected by any misuse of their personal health information for which we are or are asserted to be responsible; and
- negative publicity, which may decrease the willingness of current and potential future customers to work with us and negatively affect our sales and operating results.

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

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

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

The regulatory framework for privacy, data protection, and cybersecurity issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. The U.S. federal and various state, local and foreign government bodies and agencies have adopted or are considering adopting laws and regulations limiting, or laws and regulations regarding, the collection, distribution, use, disclosure, storage, security, and other processing of data relating to individuals.

For example, the California Consumer Privacy Act of 2018 ("CCPA"), which went into effect on January 1, 2020, requires covered businesses to provide substantial disclosures to California residents and honor such residents' data protection and privacy rights, including the right to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches that result in the compromise of highly sensitive personal information, which may increase the likelihood of, and risks associated with, data breach litigation. The CCPA has been amended several times, including by the California Privacy Rights Act ("CPRA"), a ballot initiative that passed in November 2020 that, among other things, created a new state agency vested with authority to implement and enforce the CCPA and the CPRA. Effective in most material aspects starting on January 1, 2023, the CPRA will, among other things, expand California residents' rights with respect to certain sensitive personal information and give California residents' a right to opt out of the sharing of certain personal information for targeted online advertising.

The CCPA and other similar laws could impact our business activities, depending on their interpretation. Additionally, other state legislatures have enacted or are currently contemplating, and may pass, their own comprehensive data privacy and security laws, with potentially greater penalties and more rigorous compliance requirements relevant to our business. For example, in March 2021, Virginia enacted the Virginia Consumer Data Protection Act ("CDPA"), a comprehensive privacy statute that becomes effective on January 1, 2023 and shares similarities with the CCPA, the CPRA, and legislation proposed in other states. Similarly, in June 2021, Colorado enacted the Colorado Privacy Act ("CPA"), which takes effect on July 1, 2023.

The EU has adopted data protection laws and regulations which may apply to us in certain circumstances, or in the future. The collection and use of health data and other personal data is governed in the EU by the General Data Protection Regulation ("GDPR"), which extends the geographical scope of EU data protection law to entities and operations outside of the EU under certain conditions and imposes substantial obligations upon companies and new rights for individuals, and by certain EU member state-level legislation. The GDPR, which is wide-ranging in scope and applicability, imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, the security and confidentiality of the personal data, data breach notification and the use of third party processors in connection with the processing of personal data, including clinical trials. The GDPR also imposes strict rules on the transfer of personal data out of the EU to the U.S., provides an enforcement authority and imposes large penalties for noncompliance, including the potential for fines of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater.

In addition, other new regulation or legislative actions regarding data privacy and security (together with applicable industry standards) may increase our costs of doing business. In this regard, we expect that there will continue to be new proposed laws, regulations and industry standards relating to privacy and data protection in the United States, the EU, the UK and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business. With the GDPR, UK GDPR, CCPA, CPRA, CDPA, CPA, and other laws, regulations and other obligations relating to privacy, data protection, and cybersecurity imposing new and relatively burdensome obligations, and with substantial uncertainty over the interpretation and application of these and other obligations, we may face challenges in addressing their requirements and making necessary changes to our policies and practices, and may incur significant costs and expenses in an effort to do so. Additionally, if third parties we work with, such as vendors or service providers, violate applicable laws or regulations or our policies, such violations may also put our or our customers' data at risk and could in turn have an adverse effect on our business. Any failure or perceived failure by us or our service providers to comply with our applicable policies or notices relating to privacy, data protection, or cybersecurity, our contractual or other obligations to third parties, or any of our other legal obligations relating to privacy, data protection, or cybersecurity, may result in governmental investigations or enforcement actions, litigation, claims and other proceedings, harm our reputation, and could result in significant liability.

To the extent we contract with government entities, such government contracts could expose us to additional risks inherent in the government contracting environment.

To the extent we contract with any government entities, such government contracts carry various risks inherent in contracting with government entities. These risks include, but are not limited to, the following:

- Government entities, particularly in the United States, often reserve the right to audit our contracts and conduct reviews, inquiries and investigations of our business practices and performance with respect to government contracts. If a government client discovers improper conduct during its audits or investigations, we may become subject to various civil and criminal penalties, including those under the civil U.S. False Claims Act, and administrative sanctions, which may include termination of contracts, suspension of payments, fines and civil money penalties, and suspensions or debarment from doing business with other government agencies.
- U.S. government contracting regulations impose strict compliance and disclosure obligations and our failure to comply with these obligations could be a basis for suspension or debarment, or both, from federal government contracting in addition to breach of the specific contract.
- Government contracts are subject to heightened reputational and contractual risks compared to contracts with commercial clients and often involve more extensive scrutiny and publicity. Negative publicity, including allegations of improper or illegal activity, poor contract performance, or information security breaches, regardless of accuracy, may adversely affect our reputation.
- Terms and conditions of government contracts also tend to be more onerous, are often more difficult to negotiate and involve additional costs. We must comply with specific procurement regulations and a variety of other socio-economic requirements, as well as various statutes, regulations and requirements related to employment practices, recordkeeping and accounting. Our failure to comply with a variety of complex procurement rules and regulations could result in our liability for penalties, including termination of our government contracts, disqualification from bidding on future government contracts and suspension or debarment from government contracting.
- Government entities typically fund projects through appropriated monies, which can be impacted by changes in presidential administration and budget priorities.
- Government entities reserve the right to change the scope of or terminate these projects at their convenience for lack of approved funding or other reasons, which could limit our recovery of reimbursable expenses or investments. In addition, government contracts may be protested, which could result in administrative procedures and litigation, result in delays in performance and payment, be expensive to defend and be incapable of prompt resolution.
- It is common in contracting with governments for there to be a prime contractor with privity of contract to the government client and one or more subcontractors. There are inherent risks in being a subcontractor, including without limitation, reliance on the performance of the prime contractor for the execution of the contract to the satisfaction of the client. Additionally, when we serve as the prime contractor, we rely on our subcontractors to fulfill certain contractual obligations under our agreements with government clients. A failure by the prime contractor to perform under an agreement under which we serve as a subcontractor, or a failure by a subcontractor to perform under an agreement under which we serve as a prime contractor, could have a material adverse impact on our business, results of operations and financial condition.

The occurrences or conditions described above could affect not only our business with government entities involved, but also our business with other entities of the same or other governmental bodies or with certain commercial clients and could have a material adverse effect on our business, results of operations and financial condition.

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

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

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

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

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

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

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

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

Changes in political, economic and regulatory influences could impact the purchasing practices and operations of our clients and increase our costs to deliver products and solutions that enable our clients to meet their compliance requirements. The demand for our products and solutions is subject to changes in new regulatory requirements and compliance deadlines, which could impact our financial results. We cannot predict whether or when future health care reform initiatives at the federal or state level or other initiatives affecting our business will be proposed, enacted or implemented, or what impact those initiatives may have on our business, results of operations and financial condition.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, 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, 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, may reduce our profits and have a materially adverse effect on our business, financial condition, results of operations, and cash flows.

Furthermore, since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. In June 2021, the United States Supreme Court held that Texas and other challengers had no legal standing to challenge the ACA, dismissing the case without specifically ruling on the constitutionality of the ACA. Accordingly, the ACA remains in effect in its current form. It is unclear how this Supreme Court decision, future litigation, or healthcare measures promulgated by the Biden administration will impact our business, financial condition and results of operations. Complying with any new legislation or changes in healthcare regulation could be time-intensive and expensive, resulting in material adverse effect on our business.

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. We face uncertainties that might result from legislative, executive, and administrative actions and future healthcare measures and agency rules implemented by at the federal and state levels. Any changes to the ACA or implementation of cost containment measures or other healthcare reforms are likely to have an impact on our results of operations and may have a material adverse effect on our results of operations, or may prevent us from being able to generate revenue or attain profitability. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States may have on our business. Changes in healthcare policy could increase our costs and subject us to additional regulatory requirements that may interrupt commercialization of our current and future solutions.

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 ("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 select government and state-owned entities outside of the United States. In addition, we engage third-party intermediaries to promote and sell certain of 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 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. 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 customers, including assistance in interpreting the results of our Eviti solution. 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 business.

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

We rely on our customers, and we contractually obligate them, to provide us with accurate and appropriate data and directives for our actions. We rely upon our customers, as users of our solutions and systems infrastructure, for key activities to produce proper claims for reimbursement. Failure of customers 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 2021 Notes, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. For example, on April 13, 2021 we and our wholly owned subsidiary, NaviNet, as guarantor, entered into a note purchase agreement with Highbridge Capital Management, LLC and certain other buyers, including Nant Capital, LLC, ("Nant Capital") to issue and sell $137.5 million in aggregate principal amount of our 2021 Notes in a private placement pursuant to an exemption from registration under Section 4(a)(2) of the Securities Act. The 2021 Notes were issued on April 27, 2021. In addition, under the terms of the 2021 Notes, we may be required to repurchase the notes of such series at a price equal to 100% of the principal amount of such notes to be repurchased, plus accrued and unpaid interest, upon the occurrence of a fundamental changes (as defined in the indenture governing the 2021 Notes). For example, in connection with the issuance of the 2021 Notes and the related amended and restated promissory notes on April 27, 2021, we provided a notice of fundamental change (as defined in the indenture governing our 5.5% senior convertible notes due 2021 (the “2016 Notes”)) and an offer to repurchase all of the outstanding 2016 Notes. On May 25, 2021, we purchased approximately $55.6 million of the outstanding 2016 Notes (“Fundamental Change Repurchase”) and paid approximately $1.4 million of accrued and unpaid interest thereon.

Our business may not continue to generate cash flow from operations in the future sufficient to service our debt, including the 2021 Notes, 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.

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 August 2020, the FASB issued ASU 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity’s Own Equity. We early adopted this standard on January 1, 2021, and thus, the accounting for our convertible notes was transitioned to the application of this standard as of January 1, 2021. Upon the adoption of ASU 2020-06, the cash conversion model was eliminated, and we will no longer separate our convertible notes into liability and equity components. As a result, there is no longer an associated debt discount or subsequent amortization to be recognized as interest expense due to bifurcation. The elimination of these separation models will reduce our non-cash interest expense, and thereby reduce our net loss. In addition, ASU 2020-06 requires the use of the if-converted method to calculate our diluted shares outstanding for all convertible instruments, which could adversely affect our diluted earnings per share.

The note holders will not be entitled to any rights with respect to our common stock, but will be subject to all changes made with respect to our common stock.

Holders of notes will not be entitled to any rights with respect to our common stock (including, without limitation, voting rights and rights to receive any dividends or other distributions on our common stock), but note holders will be subject to all changes affecting our common stock. For example, if an amendment is proposed to our certificate of incorporation requiring stockholder approval and the record date for determining the stockholders of record entitled to vote on the amendment occurs prior to the relevant conversion date, such holder will not be entitled to vote on the amendment to our certificate of incorporation, although such holder will nevertheless be subject to any changes in the powers, preferences or special rights of our common stock.

Risks related to our common stock

Dr. Soon-Shiong, our Chairman and Chief Executive Officer and our principal stockholder, 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 4, 2022, our Chairman and Chief Executive Officer and our principal stockholder, Dr. Soon-Shiong, and entities affiliated with him, collectively beneficially own approximately 62% of the voting power of our common stock. As a result, Dr. 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. Soon-Shiong has significant interests in other companies which may conflict with our interests.

Dr. Soon-Shiong, is the founder of NantWorks. The various NantWorks companies are currently exploring opportunities in the immunotherapy, infectious disease and inflammatory disease fields. As a result, they or other companies affiliated with Dr. Soon-Shiong may compete with us for business opportunities or, in the future, develop products that are competitive with ours. As a result, Dr. 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. 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 62% of the voting power of our common stock as of August 4, 2022.

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 (Nasdaq"), 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. 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 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;
- 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;
- commencement of, or our involvement in, litigation, including claims by our equity holders 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, including the current macroeconomic trends and geopolitical events. 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.

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

We are required, pursuant to Section 404 ("Section 404") of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), to furnish a report by management on the effectiveness of our internal control over financial reporting. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. We are required to comply with, among other requirements, the auditor attestation requirements of Section 404. If we have a material weakness, we would receive an adverse opinion regarding our internal control over financial reporting from our independent registered accounting firm.

Our compliance with Section 404 requires that we incur substantial accounting expense and expend significant management efforts. We have engaged outside consultants who function in the capacity of an internal audit group, and we will continue to hire additional consultants, accounting and financial staff with appropriate public company experience and technical accounting knowledge as we maintain the system and process documentation necessary to perform the evaluation needed to comply with Section 404.

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, as amended (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.

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

Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness in our internal control over financial reporting, we may be late with the filing of our periodic reports, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities, and become subject to litigation from investors and stockholders, which could harm our reputation, financial condition or divert financial and management resources from our core business and would have a material adverse effect on our business, financial condition and results of operations. Failure to remedy our current and any future material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

In addition, our independent registered public accounting firm did not perform an evaluation of our internal control over financial reporting during any period in accordance with the provisions of the Sarbanes-Oxley Act. Had our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional control deficiencies amounting to significant deficiencies or material weaknesses may have been identified. 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, 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.

Our common stock may be delisted from The Nasdaq Global Select Market if we cannot regain compliance with Nasdaq's continued listing requirements.

In order to maintain our listing on Nasdaq, we are required to comply with the Nasdaq requirements, which includes maintaining a minimum bid price and a minimum public float. In particular, we are required to maintain a minimum bid price of $1.00 per share. On February 18, 2022, we received a notice from Nasdaq stating that we were not in compliance with Nasdaq Listing Rule 5450(a)(1) (the "Minimum Bid Price Rule") because our common stock failed to maintain a minimum closing bid price of $1.00 for 30 consecutive business days. This notice had no immediate effect on the Nasdaq listing or trading of our common stock.

We have a compliance period for the Minimum Bid Price Rule of 180 calendar days, or until August 17, 2022, in which to regain compliance, pursuant to Nasdaq Marketplace Rule 5810(c)(3)(A). If, at any time before that date the bid price of our common stock closes at $1.00 per share or more for a minimum of 10 consecutive business days, Nasdaq will notify us that we have achieved compliance with the Rule.

If we do not achieve compliance with the Minimum Bid Price Rule during the initial 180 calendar day period, we may be eligible for an additional 180 calendar day compliance period. To qualify, we would need to transfer the listing of our common stock to the Nasdaq Capital Market, provided that it meets the continued listing requirement for market value of publicly held shares and all other initial listing standards of the Nasdaq Capital Market, with the exception of the Minimum Bid Price Rule. In addition, the Company would also be required to notify Nasdaq of its intent to cure the minimum bid price deficiency, which may include, if necessary, implementing a reverse stock split. However, if it appears to the Staff that we will not be able to cure the deficiency, or if we do not meet the other listing standards, the Staff could provide notice that the common stock will become subject to delisting. In the event we receive notice that our common stock is being delisted, Nasdaq rules permit us to appeal any delisting determination by the Staff to a Hearings Panel (the "Panel"). We expect that our common stock would remain listed pending the Panel's decision. However, there can be no assurance that, if we do appeal the delisting determination by the Staff to the Panel, that such appeal would be successful, or that we will be able to regain compliance with the Minimum Bid Price Rule or maintain compliance with the other listing requirements.

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

We 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, and increasingly after we no longer qualify as a "smaller reporting company," we have incurred and will continue to incur significant additional legal, accounting and other expenses as a result of operating as a public company. In addition, changing laws and regulations and standards relating to corporate governance and public disclosure, including compliance with the Sarbanes-Oxley Act, as well as rules implemented by the SEC and Nasdaq, may increase legal and financial compliance costs and make some activities more time consuming. These laws, regulations and standards are subject to varying interpretations and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. If, notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

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 Wall Street Reform and Consumer Protection Act (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. New laws and regulations, as well as changes to existing laws and regulations affecting public companies, including provisions of the Sarbanes-Oxley Act, Dodd-Frank Act and rules adopted by the SEC and Nasdaq, will likely result in increased costs to us as we respond to their requirements. We are currently evaluating and monitoring developments with respect to these rules and regulations, and we cannot predict or estimate the amount of additional costs we may incur or the timing of such costs.

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

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

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

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

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

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

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

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

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

We qualify as a "smaller reporting company" during fiscal year 2022, which allows us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. 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; and
- reduced disclosure obligations regarding executive compensation.

Investors may 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 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. 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. Soon-Shiong, our Chairman and Chief Executive Officer (who, with entities affiliated with him, beneficially own approximately 62% of the voting power of our common stock, as of August 4, 2022), 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.

Recent Repurchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None

Item 6. Exhibits Index

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
3.1	Amended and Restated Bylaws	8-K	3.1	June 10, 2022	
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 - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				X
101.SCH**	XBRL Taxonomy Extension Schema Document.				X
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document.				X
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document.				X
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document.				X
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document.				X
104	Cover Page Interactive Data File - the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document (included in Exhibit 101).				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 5, 2022	By:	/s/ Patrick Soon-Shiong
		Name:	Patrick Soon-Shiong
		Its:	Chairman, Chief Executive Officer and Director
			(Principal Executive Officer)
Date:	August 5, 2022	By:	/s/ Bob Petrou
		Name:	Bob Petrou
		Its:	Chief Financial Officer
			(Principal Financial and Accounting Officer)

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 5, 2022

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, Bob Petrou, 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 5, 2022

By: /s/ Bob Petrou
Bob Petrou
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

I, Patrick Soon-Shiong, the chief executive officer of NantHealth, Inc. (the “Company”), certify for purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(i) the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (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 the Company.

Date: August 5, 2022

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 the Company 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

I, Bob Petrou, the chief financial officer of NantHealth, Inc. (the “Company”), certify for purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(i) the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (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 the Company.

Date: August 5, 2022

By: /s/ Bob Petrou
Bob Petrou
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 the Company 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.