As filed with the Securities and Exchange Commission on September 22, 2021.

Registration No. 333-257987

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

AMENDMENT NO. 6
TO
FORM S-1
REGISTRATION STATEMENT
Under
The Securities Act of 1933

THORNE HEALTHTECH, INC.
(Exact name of Registrant as specified in its charter)

Delaware	2834	27-2877253
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

152 W. 57th Street
New York, New York 10019
(929) 251-6321
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Paul Jacobson
Chief Executive Officer
Thorne HealthTech Inc.
152 W. 57th Street
New York, New York 10019
(929) 251-6321
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Philip H. Oettinger
Jesse F. Schumaker
Jeffrey E. Nagashima
Wilson Sonsini Goodrich & Rosati
Professional Corporation
650 Page Mill Road
Palo Alto, California 94304
(650) 493-9300

Stelios G. Saffos
Alison A. Haggerty
Scott W. Westhoff
Latham & Watkins LLP
885 Third Avenue
New York, New York 10022
(212) 906-1200

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Shares(2)	Proposed Maximum Aggregate Offering Price(1)(2)	Amount of Registration Fee(3)
Common Stock $0.01 par value	8,050,000	$11.00	$88,550,000	$9,660.81

(1) Includes 1,050,000 additional shares of common stock that the underwriters have the option to purchase.
(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(a) under the Securities Act of 1933, as amended.
(3) The entire amount of this registration fee was previously paid by the Registrant in connection with the prior filing of its Registration Statement on Form S-1 on July 16, 2021.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion
Preliminary Prospectus dated September 22, 2021

PROSPECTUS

7,000,000 Shares

Thorne HealthTech

Common Stock

This is the initial public offering of shares of common stock of Thorne HealthTech, Inc. We are offering 7,000,000 shares of our common stock.

We expect the public offering price to be between $10.00 and $11.00 per share. Prior to this offering there has been no public market for our common stock. We have applied to list our common stock on the Nasdaq Global Select Market, stock exchange under the symbol "THRN."

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws and, as such, have elected to comply with certain reduced reporting requirements.

Investing in our common stock involves risks that are described in the "Risk Factors" section beginning on page 19 of this prospectus.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to us	$	$

(1) See "Underwriting" for additional information regarding total underwriting discounts and commissions and estimated offering expenses.

We have granted the underwriters the option to purchase up to an additional 1,050,000 shares from us, at the public offering price, less the underwriting discount, for 30 days after the date of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The shares will be ready for delivery on or about , 2021.

BofA Securities **Cowen** **Evercore ISI**

RBC Capital Markets

The date of this prospectus is , 2021.

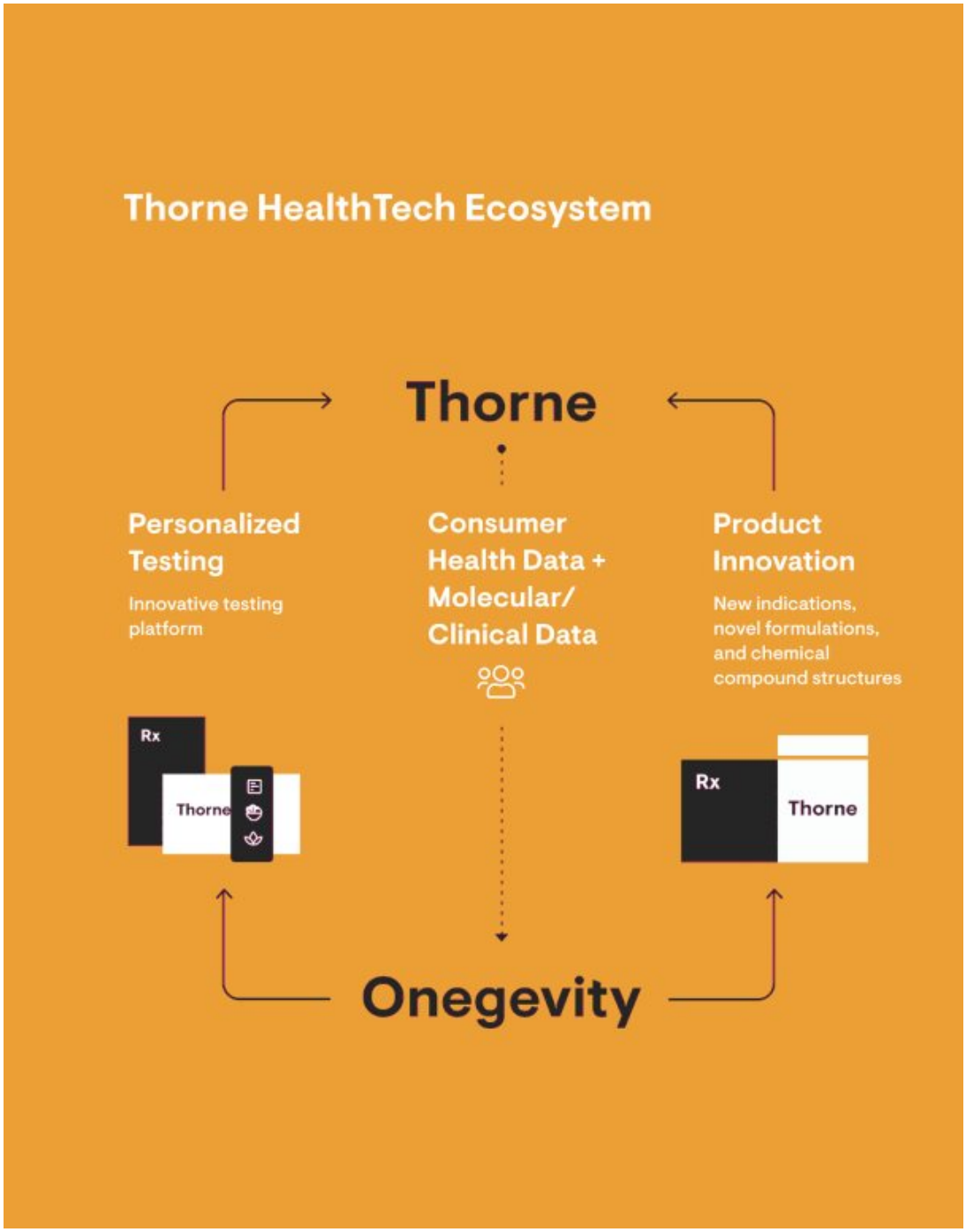
Table of Contents



Table of Contents



Table of Contents



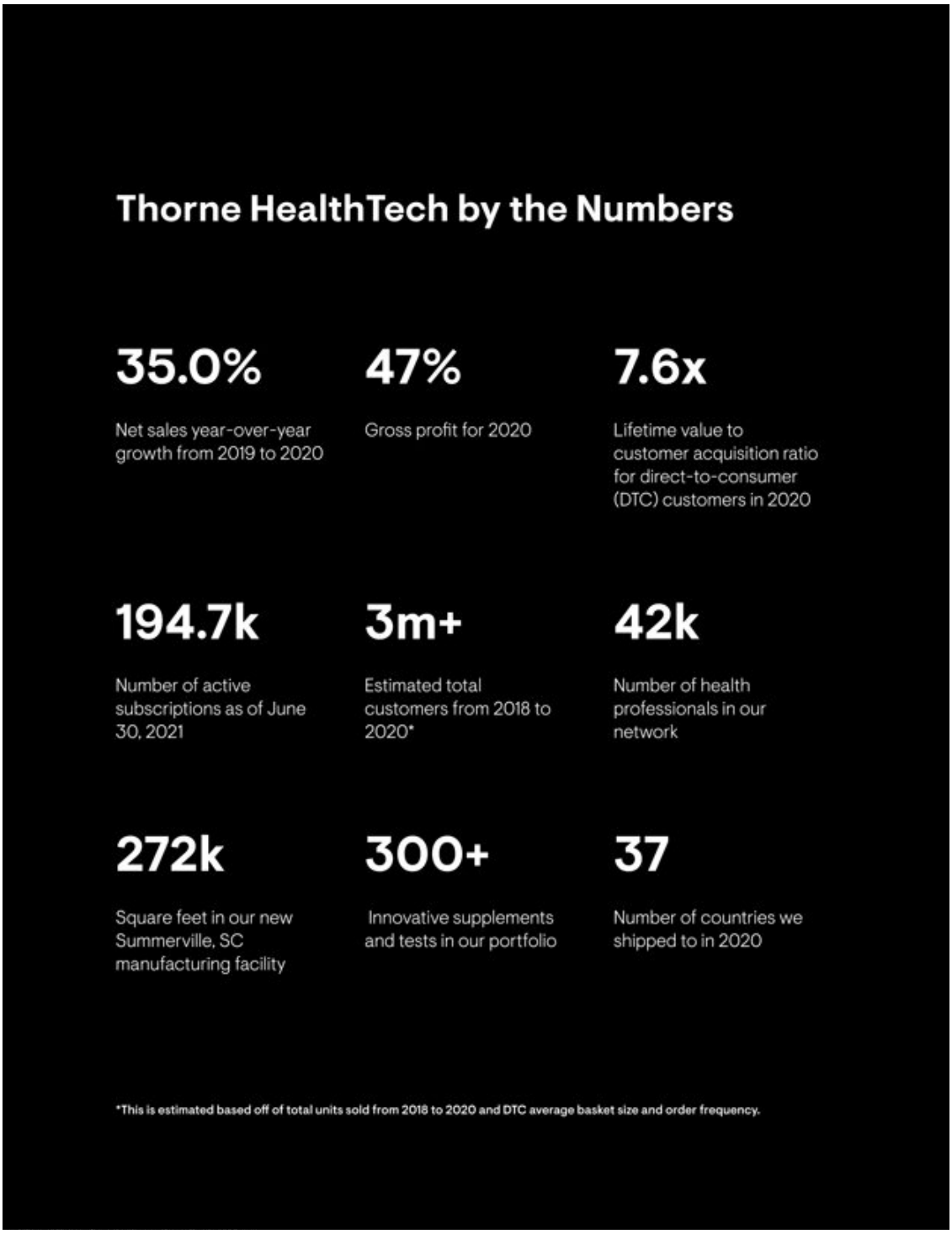

Thorne HealthTech by the Numbers
35.0%
Net sales year-over-year growth from 2019 to 2020
47%
Gross profit for 2020
7.6x
Lifetime value to customer acquisition ratio for direct-to-consumer (DTC) customers in 2020
194.7k
Number of active subscriptions as of June 30, 2021
3m+
Estimated total customers from 2018 to 2020*
42k
Number of health professionals in our network
272k
Square feet in our new Summerville, SC manufacturing facility
300+
Innovative supplements and tests in our portfolio
37
Number of countries we shipped to in 2020
*This is estimated based off of total units sold from 2018 to 2020 and DTC average basket size and order frequency.

TABLE OF CONTENTS

	Page
LETTER FROM THE CO-FOUNDER AND CEO	ii
PROSPECTUS SUMMARY	1
THE OFFERING	12
RISK FACTORS	19
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	66
MARKET, INDUSTRY AND OTHER DATA	68
USE OF PROCEEDS	69
DIVIDEND POLICY	71
CAPITALIZATION	72
DILUTION	74
SELECTED CONSOLIDATED FINANCIAL DATA	77
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	80
BUSINESS	108
MANAGEMENT	143
EXECUTIVE COMPENSATION	154
CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS	170
PRINCIPAL STOCKHOLDERS	175
DESCRIPTION OF CAPITAL STOCK	177
SHARES ELIGIBLE FOR FUTURE SALE	183
MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK	185
UNDERWRITING	190
LEGAL MATTERS	199
EXPERTS	199
WHERE YOU CAN FIND ADDITIONAL INFORMATION	199
FINANCIALS	F-1

Neither we nor the underwriters have authorized anyone to provide you any information or make any representations other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: we have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

LETTER FROM PAUL JACOBSON, CO-FOUNDER AND CHIEF EXECUTIVE OFFICER

In the early 2000s, I served on the board of a public biotech company, along with the former Chairman of a major pharma company. He was tired of me asking how big pharma could turn compounds that barely outperformed placebo or natural products into multi-billion-dollar drugs, and one day turned to me and said, "If you think you're so smart, go start a natural products company." He said that in order to do it right we would need to compile clinical data to demonstrate the efficacy of a more natural approach to health. I also knew that we would have to navigate the difficulty of securing patents on natural products.

This sparked my interest to determine whether he was correct, driving me to spend several years researching the natural product industry. Finally, in 2010, together with my partners Tom McKenna and Will McCamy, we identified and purchased Thorne. At the time, Thorne was a small company located in Sandpoint, Idaho, that specialized in manufacturing high-quality nutritional supplement products sold directly to healthcare practitioners. With a large percentage of Americans taking supplements of one form or another, the market was ripe for growth – although our ambitions were and continue to be bigger than just expanding the reach of another supplement company. We saw the potential for unparalleled quality, rigorous science and, eventually, an integrated, comprehensive system for wellness.

Ultimately, we knew that we had the ability to go beyond supplements in ways that would enable us to help people get and stay healthier longer – whether they were professional athletes, members of the Armed Forces, working professionals, or individuals seeking to live their best lives. We set our sights on creating a comprehensive system for wellness – taking what we had built with Thorne and our steadfast commitment to delivering high-quality, rigorously tested supplements and moving beyond. We got to the root of the question: "What do I take to improve my health and why?" through Onegevity. Co-founded by leading scientists from Mount Sinai and Weill Cornell, Onegevity was created to offer the benefits of precision wellness and scientific-based evidence, focused on diseases neglected by mainstream, traditional medicine, such as irritable bowel syndrome, Crohn's disease, and Polycystic Ovary Syndrome. Onegevity is also working with companies to study connections between cognitive functioning and bacterial gut health as well as the largest risk factor to health – aging – which is a fundamental root cause across all diseases.

Together, our vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health. Today, we are a trusted consumer brand with a Net Promoter Score of 74, and are recommended and used by more than 42,000 healthcare professionals, three million customers, thousands of professional athletes and more than 100 professional sports and 11 U.S. Olympic teams. This trust is a direct result of our unwavering commitment to high-quality, clinically validated products and services designed to help people live their best lives. We continue to be guided by the tenets that have been important to us for the last 11 years, and which remain core to everything we do:

- **We seek to bring products with the highest quality and purity, which are clinically validated, to market.** Our products are created completely in-house by a team of 23 scientists and engineers utilizing proprietary technologies, health intelligence systems and Onegevity Discovery. These products are subject to up to four rounds of testing in our in-house laboratories.
- **We invest in our employees and our culture.** We believe that a company's internal culture reflects its products in many ways. Our culture is rooted in a focus on our employees because we believe motivated and happy employees lead to satisfied customers. Our employees are the touchpoint for everything we do as a company. By creating a meritocracy built around hiring and rewarding the best people we have been able to recruit some of the best scientific minds in the country. We have built a team that is reflective of our values – our employees value quality, science, and data over short-term monetary decisions, and they understand that prioritizing the needs of our customers always leads to the best outcomes. We place a high priority on taking care

of our hourly workers who provide the backbone of our manufacturing staff. We compensate our people at the high end of the hourly wage scale while offering full healthcare benefits and wellness programs because preventive health is not a product or commodity – it is security and dignity that everyone deserves.

- **We do what's right for our business, our community and the environment.** We value vertical integration because we know it is the only way to ensure the quality of our products and guarantee our supply chain. By manufacturing in the United States, we retain control over our operations, and, at the same time, we serve our community by employing over 350 people at our South Carolina facility. In 2018, we completed and moved into a new, high-tech manufacturing facility just outside Charleston, South Carolina, which is where we make nearly all of our products. We remain committed to expanding our manufacturing footprint in the United States as we grow. We are very proud of the fact that we made it through COVID-19 without significant supply chain interruptions to date and were able to guarantee a "no backorder" policy for our customers. We also believe that the environment should not be compromised for the sake of profits and we take pride in being a steward of the botanical ingredients we use in our products. If we learn a botanical ingredient is becoming endangered or over-sourcing is diminishing its supply, we look to discontinue its use in our product lines.

Despite all prevailing evidence and studies showing that many chronic diseases are preventable if early action is taken, our healthcare system has chosen to focus on the most expensive way to treat people – a focus on sick-care rather than well-care. The COVID-19 pandemic shone a bright light on the inefficiencies and inadequacies of our healthcare system. Relying on treating disease rather than trying to prevent it in the first place resulted in hundreds of thousands of potentially preventable deaths, as so many people had comorbidities that dramatically heightened the risk and impact of COVID-19. Yet, at the same time, the pandemic has also resulted in a heightened focus on, and a greater commitment to, proactive efforts to maintain health for more people. We are encouraged by this trend and are excited about the opportunity to support more people in their journey to better health and wellness.

Our organization has never been more excited about the future growth potential for and impact of our company as we are today. With the strength of both Thorne and Onegevity, Thorne HealthTech is uniquely positioned to deliver data to help healthcare practitioners, consumers and athletes re-focus on prevention – ultimately delivering the solutions, products and services that offer a comprehensive system of wellness designed to keep people healthier, for longer. We invite you to follow along on our journey as we strive to change the paradigm and create a future focused on better health for more people.

Paul Jacobson



PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, especially the section in this prospectus titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes appearing elsewhere in this prospectus, before making an investment decision. As used in this prospectus, unless the context otherwise requires, references to "we," "us," "our," "our company" and "Thorne" refer to Thorne HealthTech, Inc. and our subsidiaries.

Overview

Our Purpose

We believe that a personalized and scientific approach to wellness can lead to happier and healthier lives. Our goal is to transform the consumer's approach to health and wellness and empower our customers to live healthier longer, which we refer to as increased health span, through testing, teaching and proactive measures that help our customers avoid chronic health conditions before they occur and achieve peak performance.

Who We Are

We are a science-driven wellness company pioneering innovative solutions and personalized approaches to health and well-being. We are building a new health category to deliver better health outcomes through a proactive, empowered approach. Our unique, vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health over their lifetime. By combining our proprietary multi-omics database, artificial intelligence (AI) and digital health content with our science-backed nutritional supplements, we deliver a total system for wellness. We believe our integrated solution will redefine the expectations for good health and peak performance.

Founded in 1984, Thorne Research was a small company dedicated to being a "thorn" in the side of the traditional supplement industry by making the purest and highest quality nutritional supplements to sell to health professionals. With a vision for an unparalleled health ecosystem fueled by innovation and technology, our current Chief Executive Officer, Paul Jacobson, and his management team, acquired Thorne Research in 2010 and co-founded Onegevity. In early 2021, we completed our acquisition of Onegevity and combined these two complementary companies. During the past ten years, we have evolved to become a transformative consumer brand, trusted by more than 3,000,000 customers, 42,000 healthcare professionals, thousands of professional athletes, more than 100 professional sports teams and 11 U.S. Olympic teams.

We utilize testing and data to create improved product quality and deliver personalized solutions to consumers, health professionals and professional sports teams. We also help pharmaceutical and biotechnology companies repurpose existing drugs and compounds, improve existing medications and develop new products. Today, consumers are faced with a healthcare system that is focused on the treatment of disease rather than a proactive approach to health and wellness. The supplement market is crowded with confusing products that lack clinical validation or brand equity. We have positioned our brands as a paradigm shift from a focus on the treatment of disease to a proactive approach to health and wellness. The benefits of focusing on health can include enhanced performance in daily life, longer health spans, younger biological ages and reduced reliance on the healthcare system and its associated costs. We have developed a subscription platform that seamlessly combines convenient and comprehensive testing methods, proprietary data, personalized wellness education and premium nutritional solutions to focus on the human body and its unique needs. Through our platform of innovative health solutions and proprietary technology, we are building a new category within the health and

wellness market. Our total addressable market consists of the $167.8 billion global nutritional supplement market (as of 2019 and projected to have a compound annual growth rate (CAGR) of 9.0% through 2026, according to FNF Research), the $84.1 billion global digital health market (as of 2019 and projected to have a CAGR of 14.8% through 2026, according to FNF Research), the $69.8 billion drug discovery technology and service market (as of 2020 and projected to have a CAGR of 9.6% through 2025, according to BCC Research) and the $29.5 billion global clinical testing market (as of 2020 and projected to have a CAGR of 11.4% through 2025, according to TechSci Research).

Our novel approach seeks to resolve key pain points in the consumer health journey. Our model of test, teach, transform and iterate ensures that consumers are not only active participants in their healthcare, but also educated and empowered to navigate an overwhelming nutritional supplement marketplace. We are able to personalize nutritional supplement recommendations and protocols because we understand there is no one-size-fits-all solution. Our relentless focus on building a new model of health has resulted in a robust portfolio of science-driven products and high customer satisfaction, as demonstrated by our favorable Net Promoter Score (NPS) of 74 during the first six months of 2021. Our success is not limited to the U.S. market; our Thorne brand was sold in 37 countries in 2020, and we expect to continue to expand internationally.

Our unique go-to-market strategy combines our direct-to-consumer (DTC) and subscription model with an ecosystem of health professionals. We provide customers with direct access to our brand through our mobile, web and Amazon channels. In addition to the DTC channel, our broad range of connected health professionals provides another channel for our products to be marketed and distributed to consumers. We have built our active and growing network to more than 42,000 health professionals, which includes medical doctors, naturopathic doctors, registered dieticians, pharmacists, chiropractors, nutritionists, trainers, acupuncturists and other accredited health professionals.

Our Platform

Our Technology

We seek to transform the health and wellness market by combining our proprietary technology platform, Onegevity, a comprehensive multi-omics database that uses AI and machine learning to provide actionable insights, with our premium nutritional supplements and actionable insights.

We use our Onegevity platform to map, integrate and understand the billions of dynamic biological features that precisely describe the state of an individual's health to improve our product formulations and make our recommendations to customers more precise. Using Onegevity across our product portfolio creates an unparalleled ecosystem where data collected from customers and our network of health professionals strengthens our AI model.

Thorne Products

Our Thorne products support the optimization of health and include health tests, education and nutritional supplement products support the optimization of health. Customers uncover insights about their health through our tests and we turn those insights into a personalized plan for how to eat, exercise, and choose supplements based on unique test results.

We offer health tests to generate comprehensive, personalized, molecular portraits for our customers. Our extensive portfolio of health tests includes tests focused on sleep, stress, weight management, gut health, heavy metals, biological age and more. Customers can have our tests delivered to their doorstep, collect biological samples at home, and then can drop their free return envelope in nearly any mailbox. Alternatively, customers can go to a diagnostic

laboratory, such as Quest Diagnostics, to have their samples collected and tests performed. Onegevity uses the results of these tests to create personalized recommendations, which we believe provides individuals with greater conviction about what actions they need to take, such as consulting with their physician or nutritionist, making a lifestyle change, or using nutritional supplements. All of our tests are performed by reputable third-party clinical laboratories, and the test results and comprehensive Onegevity-powered analysis and evidence-based recommendations are reviewed by board-certified physicians prior to being delivered to the customer through our website and app.

We have also developed premium, high-quality nutritional supplements that are developed with rigorous science and comprehensive testing from start to finish. Our formulas are of the highest quality offered in the nutritional supplement market, and our manufacturing processes have received among the highest possible ratings in the industry, which is aligned with our unparalleled commitment and adherence to U.S. and international current Good Manufacturing Practice requirements (cGMPs) and quality throughout our entire supply chain. We manage nearly all product formulations, ingredients, production processes, documentation, testing and product release activities at our 272,000 square foot facility in Summerville, South Carolina, which is third-party certified.

Our distinguished science and medical teams are advancing an innovative pipeline of Thorne products, including a series of next-generation products with nicotinamide riboside (NR). We believe NR contains properties that support healthy aging at the cellular level.

Onegevity Services

Onegevity is AI for health. Onegevity combines AI with professional human assistance to map, integrate and understand the billions of dynamic biological features that illustrate the state of an individual's health. Onegevity's platform and technology are used by customers to manage their own health and by practitioners and professionals to support patient health and advance their scope of practice. Onegevity's portfolio of enterprise-ready models coupled with its proprietary multi-omics database is also designed to improve outcomes and reduce the difficulties and costs of AI adoption in health and wellness and can be used in the development of nutritional supplements and pharmaceuticals by our business-to-business (B2B) customers. We separate our Onegevity services into three categories:

Onegevity Health Intelligence: Our platform leverages AI models to provide insights and personalized health recommendations as a part of an individual's health tests results. Onegevity uses pattern recognition, deep neural networks, bioinformatics and our multi-omics database to provide these personalized recommendations. Designed as a multi-tenant capable service, Onegevity Health Intelligence powers our testing and nutritional supplement channel and also has third-party applications. Pharmacies, health professionals and lifestyle companies can integrate testing and Onegevity Health Intelligence to engage, educate and empower their patients and users to make smarter decisions about their health, all while staying within the third party's own web portal.

Onegevity Discovery: We have combined AI models with our multi-omics database to create a platform that can be used to develop new nutritional and pharmaceutical products at faster speeds and with higher efficiency than traditional development methods. This capability is achieved through predictive algorithms, informed by an array of biological and chemical factors, that can identify pharmaceutical agents or natural products likely to have the targeted result. Our Onegevity Discovery fuels our product development as well as that of clients in diverse fields, including pharmaceuticals, biotechnology, consumer packaged goods (CPGs) and research clinics. We have helped clients repurpose existing drugs and compounds, improve existing medications and develop new products.

Onegevity Lab: Our Onegevity Lab assessments are being developed to provide an in-person clinical experience powered by AI that embodies the personalized scientific wellness paradigm. We believe that by

enabling individuals to obtain a 360-degree snapshot of their health, Onegevity Lab, the potential clinic of the future, will empower individuals to identify opportunities that preserve their health and optimize performance. As part of the session, a trained independent clinician will guide the patient through a personalized health assessment and consultation that includes highly-validated but understudied modules of health, such as cognitive function, grip strength and balance, which are all leading indicators in long-term health, but rarely evaluated when a patient is healthy.

Vertically Integrated Product Development

We have built our brand on the core pillars of safety, credibility, quality and user experience. The foundation for these pillars comes from our vertically integrated capabilities. We believe that we are one of the only vertically integrated science-based wellness companies in the world, which enables us to provide our customers with premium quality products with ingredient integrity that are manufactured in the United States.

Our vertical integration spans from sourcing the highest quality ingredients, research and development activities, product delivery and continued customer engagement. Our product formulation is driven completely in-house by a team of 23 scientists and engineers utilizing proprietary technologies, health intelligence systems and Onegevity Discovery.

We also believe it is crucial to form relationships with leading industry participants in order to continue to provide innovative products to our customers. Our development ecosystem is comprised of research partners Mayo Clinic, Unilever, Tetra Biopharma, Kyowa Hakko and a global pharmaceutical company; sponsorship of UFC, USA Rugby, Penske Racing, Roush Fenway Racing and the U.S. Army World Class Athlete Program; and high-profile customers such as individual Navy SEALs, teams in the NFL, MLB and NBA and other major athletic organizations.

Our Compelling Value Proposition

Our Value Proposition to Consumers

We believe our personalized approach to health and scientific wellness empowers our customers to improve and extend their health span and enjoy happier and healthier lives. Our customers trust the Thorne brand to meet the highest standards of quality and safety. With our history of continued innovation, consumers have access to new ways to measure how biological age and well-being are calculated and controlled. We have created an intuitive and convenient health testing experience and our tests are designed to produce results that are easy to understand and actionable. Our approach, paired with our emphasis on data and AI, consistently delivers further refined insights, which provides our customers with enhanced information to support and maintain their health.

Our Value Proposition to Professional Athletes

We collaborate with sports organizations and professional athletes to ensure they have the tools and information necessary to help individuals improve health and performance through science-backed education and best-in-class products. The National Sanitation Foundation (NSF) International evaluates product and ingredient safety through its accredited certification and testing services. We currently have one of the most comprehensive lines of NSF Certified for Sports products on the market, with an NSF-Certified manufacturing facility and 23 products in the NSF Certified for Sport program in the United States and 11 products in the NSF Certified for Sport program in Canada, each of which certifies dietary supplements to be free from substances banned by major sporting organizations and helps athletes, dietitians, coaches and consumers make more informed decisions when choosing sports supplements. We believe professional athletes, coaches and teams love and have complete confidence in our NSF Certified for Sport product line because of the thorough testing methods that

screen for more than 200 banned substances. Our dedication to science and quality has earned us the trust of more than 100 professional sports teams and 11 U.S. Olympic Teams. It is our ongoing support and collaboration with these professional organizations that has led to our position as one of the most comprehensive NSF Certified for Sport supplement manufacturers in the United States.

Our Value Proposition to Health Professionals

Our mission is to help health professionals improve patient outcomes by encouraging product use, supplying proper patient education materials and providing a consumer-friendly service. We believe this is increasingly valuable in the current competitive landscape of the health industry where physicians and other health professionals are more transparently reviewed by their peers and patients based on patient outcomes. Our value proposition is demonstrated by our active and growing professional network of more than 42,000 health professionals, including medical doctors, naturopathic doctors, registered dieticians, pharmacists, chiropractors, nutritionists, trainers, acupuncturists and other accredited health professionals who recommend our products and services.

Our B2B Value Proposition

Our Onegevity longitudinal multi-omics database is proprietary, difficult to replicate and generates data insights that can be used for further innovation in the fields of health and wellness. We have the opportunity to monetize our database and our unique analysis model to a variety of interested parties, including:

- corporations benefiting from insights on population health;
- pharmaceutical companies and biotechnology companies seeking additional data for new drug discovery and patient identification for clinical trials;
- CPG companies; and
- health intelligence services for consumers and health professionals.

Our Industry and Opportunity

Industry

We participate in the large and growing multi-billion dollar global wellness industry. The market is highly fragmented, and no company holds more than 5% market share. We are redefining consumer health and building a brand with science-backed personalized products that meet the highest standards of quality, safety and efficacy.

Opportunity

We have a significant opportunity to continue to penetrate the product categories and channels we compete in today. In addition, we believe we benefit from several consumer trends, including:

- consumerization of healthcare and an increase of healthcare in the home;
- a shift to personalized health;

- increased demand for safe nutritional supplements driven by increased consumer education and expanding datasets; and
- increased demand for convenience.

What Sets Us Apart

Our Differentiated Consumer Journey

We believe that we provide consumers with one of the world's most innovative solutions for a personalized approach to health, delivered through our integrated platform of testing, supplements and digital health content. Our proprietary platform is redefining consumer health through a model of test, teach, transform and iterate to address the consumer pain points that exist in the market today. Consumers struggle to navigate confusing supplement categories and the market is crowded with ineffective, low-grade products. Personalization has been shown to deliver better health outcomes, yet current health solutions continue a "one-size-fits-all" approach. The healthcare system focuses on treatment of disease, but consumers need and want a proactive, empowered approach to health focused on maintaining and supporting health and promoting wellness.

Test: The first step in addressing these consumer pain points is personalized testing and recommendations. We begin with convenient and comprehensive test collections using multi-omics data, which can be for a range of health areas including sleep, stress, weight management, gut health and heavy metals. The testing phase is concluded with a personalized, AI-driven, actionable health plan with diet, activity and supplement recommendations based on the individual's test results.

Teach: We then build on the testing phase by teaching consumers through an education platform designed to empower and engage consumers through their health journey. The education occurs through both general and personal methods. The general education includes our daily online magazine *Take 5 Daily*, which includes podcasts, videos and articles, wellness guides and ingredients. The personalized education includes supplemental quizzes, connecting with health professionals in our network and analyzing test results.

Transform: We provide customers with premium nutritional solutions to optimize their body and its unique needs, including products to maintain and support heart health, healthy aging and gut health, among many others.

Iterate: The Onegevity platform uses molecular biology and AI to deliver continuous improvement of the test, teach, and transform model. The sophisticated AI system utilizes pattern recognition, deep neural networks, and bioinformatics to deliver unparalleled molecular insight and personalization. In addition, this technology informs our product development and reformulation process. Together, the data and AI consistently provide further refined insights, which provides our customers with enhanced information and more effective products to improve their health.

We teach individuals about their health and what is occurring in their bodies and why we recommend specific supplement choices. We aim to address an individual's health needs and deficiencies with our nutritional supplements, as needed. This is an iterative process and provides a differentiated and simplified journey for our customers to navigate the complicated supplement market and improve their health over time.

Trusted Brand, Products and Services

We believe we are a leader in developing high-quality nutritional supplements in a variety of unique form factors. We presently sell over 300 supplements and test SKUs. Our network of tens of thousands of health professionals, trainers, and world-class athletes deepens the credibility of our product portfolio. Our offering is further

differentiated by conducting all manufacturing and quality management in the United States. We have strong relationships with our suppliers, predominantly located in Europe and United States, who assist in our product innovation cycle and share our commitment to bringing the highest quality products to our customers. This commitment has contributed to our position as one of the most comprehensive NSF Certified for Sport supplement manufacturers in the United States.

Powerful Data and AI engine

Our AI model and multi-omics database improve our product formulations and make our recommendations to consumers more precise. We collect and process approximately 600 personalized tests, evaluations and surveys per day and are able to develop actionable insights from that data with our Onegevity platform. The data collected from customers, combined with a powerful AI engine, enhances our ability to provide personalized recommendations and education to our customers, thereby driving higher conversion and retention. Our platform captures this information which is utilized by our algorithms to create better nutritional supplements with optimal safety and quality and also helps our B2B customers develop more personalized solutions. The availability of this data may open further opportunities for us in the future to drive revenue by providing data services as a health intelligence provider.

Scalable Platform

The large number of highly engaged consumers who trust our Thorne brand and Onegevity platform provide a strong foundation for developing new products that extend across the health and wellness markets. This ecosystem uniquely positions us to create and capture value along the continuum of a consumer's life with safe and innovative formulas that provide support for prenatal development, healthy adult lifestyles and healthy aging. We have achieved a demonstrated ability to develop innovative new products and successfully integrate acquired companies and assets.

Founder-Led, Science-Oriented Team

Our team of pioneers brings unrivaled expertise in science-backed wellness, precision health, systems biology and AI-for-health, and has a proven track record of driving profitable growth. Co-founder Paul Jacobson built this team with a commitment to redefine what it means to be healthy and to push the limits of human potential. Our experienced and highly regarded team of scientists consists of 40 science degrees, including doctorate degrees in 15 specialties, spanning fields such as molecular medicine, neuroscience, immunology and genetics.

Our Growth Strategies

We intend to leverage multiple growth strategies to continue to build our brand and increase our revenue and subscription base, including:

- grow brand awareness;
- launch new products and expand content offerings;
- leverage our multi-omics database and AI with B2B partners;
- continue to improve personalization for a better consumer experience;
- invest in our platform;

- further expand into international markets; and
- selectively pursue acquisitions.

Our Results

We are a fast-growing and scaling health and wellness platform and have experienced significant recent growth. Our compelling financial profile is characterized by accelerated year-over-year growth, improving gross margins, recurring revenue, strong customer retention and efficient customer acquisition.

For the six months ended June 30, 2020 and 2021:

- we generated net sales of $63.5 million and $87.4 million, respectively, representing 37.6% growth from the same period in 2020;
- we generated gross profit of $28.0 million and $46.1 million, respectively, representing 44.2% and 52.8% of net sales, respectively;
- our net loss was $6.3 million for the six months ended June 30, 2020, and our net income was $4.4 million for the six months ended June 30, 2021; and
- our Adjusted EBITDA was $6.2 million and $14.1 million, respectively.

For the twelve months ended December 31, 2019 and 2020:

- we generated net sales of $102.5 million and $138.5 million, respectively, representing 23.0% and 35.0% year-over-year growth, respectively;
- we generated gross profit of $44.7 million and $64.8 million, respectively, representing 43.6% and 46.8% of net sales, respectively;
- our net loss was $18.2 million and $4.0 million, respectively; and
- our Adjusted EBITDA was $8.2 million and $15.3 million, respectively.

See the section titled “Selected Consolidated Financial and Other Data—Adjusted EBITDA and Adjusted EBITDA Margin” for information regarding our use of Adjusted EBITDA and a reconciliation of net loss to Adjusted EBITDA.

Our recent key customer metrics, as defined in the Management Discussion and Analysis section, includes:

- customer acquisition costs (CAC) of $30 and life-time value (LTV) of $136 with 4.5x LTV to CAC in the twelve months ended December 31, 2019, a CAC of $22 and LTV of $170 with 7.6x LTV to CAC in the twelve months ended December 31, 2020, a CAC of $19 and LTV of $126 with 6.6x LTV to CAC in the six months ended June 30, 2020, a CAC of $29 and LTV of $150 with 5.2x LTV to CAC in the six months ended June 30, 2021;
- active subscriptions of 122,501 and 194,778, as of June 30, 2020 and 2021, respectively; and
- orders per customer per year of 2.6 and 2.7, in the twelve months ended December 31, 2019 and 2020, respectively and 1.8 in each of the three months ended June 30, 2020 and 2021, respectively.

See the section titled "Management Discussion and Analysis" for information regarding our calculation of CAC, LTV, active subscriptions and orders per customer.

Risks Associated with Our Business

Our ability to execute on our business strategy is subject to a number of risks, which are discussed more fully in the section titled "Risk Factors." You should carefully consider these risks before making an investment in our common stock. These risks include, among others, the following:

- we have a history of operating losses and can provide no assurance that we will achieve profitability;
- our operating results may fluctuate significantly in the future, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide;
- if the market for our products and services does not continue to grow, grows more slowly than we expect, or fails to grow as large as we expect, our business, financial condition, and operating results may be adversely affected;
- if we fail to maintain adequate quality standards for our products and services, or if we fail to comply with applicable regulatory requirements or receive allegations of noncompliance with regulatory requirements, our business may be adversely affected and our reputation harmed;
- our success depends on our ability to maintain the value and reputation of our brand;
- unfavorable publicity or consumer perception of our products and any similar products distributed by other companies could have a material adverse effect on our business;
- we may fail to attract, acquire or retain health professionals and consumers as customers at our current or anticipated future growth rate, or may fail to do so in a cost-effective manner, which would adversely affect our business, financial condition and results of operations;
- our business depends on the effectiveness of our advertising and marketing programs, including the strength of our social media presence, to attract and retain customers;
- if we are unable to anticipate health professional and consumer preferences and successfully develop new and innovative products and services in a timely manner or effectively manage the introduction of new or enhanced products and services, then our business may be adversely affected; and
- if we are unable to sustain pricing levels for our products and services, our business could be adversely affected.

Corporate Information

We were formed in Delaware as a corporation on June 17, 2010 under the name Thorne Holding Corp. On November 13, 2020, we changed our name to Thorne HealthTech, Inc. Our principal executive offices are located at 152 W. 57th Street, New York, New York 10019. Our telephone number is (929) 251-6321. Our website address is www.thorne.com. Information contained on the website is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus.

We use the Thorne logo and other marks, including NSF Certified for Sport, NiaCel, ResveraCel as trademarks in the United States and other countries. This prospectus contains references to our trademarks and service marks and to those belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the TM symbol, but such references are not intended to indicate in any way that we will not assert, to the fullest extent possible under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other entities' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended (JOBS Act). We will remain an emerging growth company until the earliest to occur of: (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (iii) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period; and (iv) the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- presenting only two years of audited financial statements and only two years of selected financial data;
- an exemption from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley Act);
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements.

As a result of this status, we have taken advantage of reduced reporting requirements in this prospectus and may elect to take advantage of other reduced reporting requirements in our future filings with the U.S. Securities and Exchange Commission. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards, delaying the adoption of these accounting standards until they would apply to private companies. We have elected to avail ourselves of this exemption from new or revised accounting standards, and, therefore, we will not be subject to the same new or revised accounting standards at the same time as other public companies that are not emerging growth companies or those that have opted out of using such extended transition period, which may make comparison of our financial statements with such other public companies more difficult. We may take advantage of these reporting exemptions until we no longer qualify as an emerging growth company, or, with respect to adoption of certain new or revised accounting standards, until we irrevocably elect to opt out of using the extended transition period. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting standards as of public company effective dates.

We are also a "smaller reporting company," meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

THE OFFERING

Common stock offered by us	7,000,000 shares.
Option to purchase additional shares	We have granted the underwriters an option for a period of 30 days to purchase up to 1,050,000 additional shares of our common stock.
Common stock to be outstanding immediately after this offering	52,514,600 shares (or 53,564,600 shares if the underwriters exercise their option to purchase additional shares in full).
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $63.0 million (or $73.3 million if the underwriters exercise their option to purchase additional shares in full), assuming an initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. The principal purposes of this offering are to obtain additional capital to support our operations, establish a public market for our common stock and facilitate our future access to the public capital markets. We currently intend to use the net proceeds from this offering, together with our existing cash to fund (i) additional nutritional supplement product and test development activities, including investment in our Onegevity platform, (ii) expansion of our sales and marketing activities, including expansion into additional international markets, and costs associated with additional warehousing space; (iii) the repayment of current indebtedness, and (iv) working capital, and other general corporate purposes. We may use a portion of the net proceeds to repay any debt we incur in the future or acquire complimentary products, technologies, intellectual property or businesses; however, we currently do not have any agreements or commitments to complete any such transactions and are not involved in negotiations regarding such transactions. See the section titled “Use of Proceeds” for more information.
Risk factors	See the section titled “Risk Factors” for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.
Reserved share program	At our request, an affiliate of BofA Securities, Inc., a participating underwriter, has reserved for sale, at the initial public offering price, up to 5% of the shares offered by this prospectus for sale to our directors, officers and selected senior managers. If these persons

	purchase reserved shares, it will reduce the number of shares available for sale to the general public. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares offered by this prospectus, see "Underwriting—Reserved Share Program."
Proposed Nasdaq trading symbol	"THRN"

The number of shares of our common stock to be outstanding after this offering is based on 45,514,600 shares of our common stock outstanding as of June 30, 2021 (including our convertible preferred stock on an as-converted basis), and excludes:

- 9,771,310 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2021 with a weighted-average exercise price of $5.26 per share;
- 875,760 shares of common stock issuable upon the vesting of restricted stock units (RSUs) granted after June 30, 2021;
- 3,098,535 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2021;
- 933,610 shares of common stock reserved for future issuance under our 2010 Equity Incentive Plan, as amended (2010 Plan), which shares will no longer be available for issuance upon the termination of the 2010 Plan and effectiveness of the 2021 Plan;
- 4,243,075 shares of common stock reserved for future issuance under our Restated 2020 Onegevity Health Equity Plan, as amended (Onegevity Plan), which shares will no longer be available for issuance upon the termination of the Onegevity Plan and effectiveness of the 2021 Plan;
- 3,480,510 shares of common stock reserved for future issuance under our 2021 Equity Incentive Plan (2021 Plan), which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and
- 696,102 shares of common stock reserved for future issuance under our 2021 Employee Stock Purchase Plan (ESPP), which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

Unless otherwise indicated or the context otherwise requires, this prospectus assumes or gives effect to the following:

- no exercise of outstanding options described above after June 30, 2021;
- no exercise by the underwriters of their option to purchase additional shares of common stock from us in this offering;
- the conversion of all outstanding shares of our Class B non-voting common stock into shares of a single class of voting common stock;

- the 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E convertible preferred stock effected on September 10, 2021, whereby all related share and per share amounts, and other related information, including shares of common stock underlying warrants, stock options and restricted stock units, have been retroactively adjusted for all periods presented to reflect the 445-for-1 forward stock split;

- the automatic conversion of all outstanding shares of our convertible preferred stock as of June 30, 2021 on a one-to-one basis into an aggregate of 27,011,500 shares of our common stock immediately prior to the completion of this offering; and

- an initial public offering price of $10.50 per share, the midpoint of the estimated public offering price range on the cover of this prospectus.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth a summary of certain of our consolidated financial data for the periods and as of the dates indicated. We have derived the summary statements of operations data for the years ended December 31, 2019 and 2020, from our audited financial statements appearing elsewhere in this prospectus. We also derived the following summary statements of our unaudited consolidated statement of operations data for the six months ended June 30, 2020 and 2021, and our summary balance sheet data as of June 30, 2021, from our unaudited consolidated financial statements and related notes included elsewhere in this prospectus. Our interim unaudited financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (GAAP) on the same basis as the annual audited financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, necessary for the fair statement of our financial position as of June 30, 2021 and our results of our operations for the six months ended June 30, 2020 and 2021. Our historical results are not necessarily indicative of the results that should be expected for any future period, and our interim results are not necessarily indicative of our results for the full fiscal year. You should read the following summary consolidated financial data together with our financial statements and the related notes appearing elsewhere in this prospectus and the information in the sections titled “Selected Consolidated Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

	Years Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(dollars in thousands, except per share amounts)		(unaudited)	
Net Sales	$ 102,532	$ 138,455	$ 63,504	$ 87,374
Cost of sales	57,789	73,667	35,456	41,241
Gross profit	44,743	64,788	28,048	46,133
	43.6%	46.8%	44.2%	52.8%
Operating expenses:				
Research and development	3,899	4,225	2,572	2,043
Write off of acquired Drawbridge in-process research and development[1]	—	—	—	1,563
Selling, general, and administrative	54,751	59,548	29,525	32,856
Income (loss) from operations	(13,907)	1,015	(4,049)	9,671
Other expense (income):				
Interest expense, net	406	1,125	862	364
Guarantee fees	298	243	172	279
Change in fair value of warrant liability	1,992	1,912	718	1,310
Loss on Drawbridge transaction[1]	—	—	—	166
Other expense (income), net	(44)	2	—	(38)
Total other (income) expense, net	2,652	3,282	1,752	2,081
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	(16,559)	(2,267)	(5,801)	7,590
Income tax expense	33	177	80	44
Net income (loss) before loss from equity interest in unconsolidated affiliates	(16,592)	(2,444)	(5,881)	7,546
Loss from equity interest in unconsolidated affiliates[2]	(1,625)	(1,510)	(444)	(3,173)
Net income (loss)	(18,217)	(3,954)	(6,325)	4,373
Net loss - non-controlling interest[3]	(1,492)	(596)	(687)	(245)
Net income (loss) attributable to Thorne HealthTech, Inc.	(16,725)	(3,358)	(5,638)	4,618
Deemed Dividends	(4,813)	—	—	—
Undistributed earnings attributable to Series E convertible preferred stockholders	—	—	—	(4,618)
Net income (loss) attributable to common stock	$ (21,538)	$ (3,358)	$ (5,638)	$ —
Earnings (loss) per share:[4][5]				
Basic	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Diluted	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Weighted average common shares outstanding:				
Basic	7,848,910	9,985,800	7,949,925	17,650,035
Diluted	7,848,910	9,985,800	7,949,925	17,650,035
Unaudited pro forma information:				
Pro forma net income (loss) attributable to Thorne HealthTech, Inc.[6][7]		(2,898)		4,964
Pro forma earnings (loss) per share:[8]				
Pro forma basic		$ (0.08)		$ 0.11
Pro forma diluted		$ (0.08)		$ 0.10
Pro forma weighted average common shares outstanding:				
Pro forma basic[9]		36,425,871		44,090,106
Pro forma diluted[10]		36,425,871		51,213,807

(1) See Notes to our unaudited consolidated financial statements appearing at the end of this prospectus for the acquisition of the assets of Drawbridge Health, Inc. (Drawbridge).

(2) Represents our proportionate loss arising from our equity interest in Drawbridge before the acquisition (the Drawbridge Transaction) and Tecton Group, LLC (Tecton). For the six months ended June 30, 2021, our portion of Drawbridge's loss was $0.2 million plus an additional $3.0 million impairment of our investment and for Tecton it was $0. For the six months ended June 30, 2020, our portion of Drawbridge's loss was $0.4 million and for Tecton was $0. For 2020, our portion of Drawbridge's loss was $0.9 million and for Tecton was $0.5 million. For 2019, our portion of Drawbridge's loss was $1.2 million and for Tecton was $0.8 million.

(3) Represents the net loss attributable to the minority shareholders of Onegevity and Drawbridge for the six months ended June 30, 2021, and to the minority shareholders of Onegevity and Health Elements for the six months ended June 30, 2020 and for the twelve months ended December 2020 and 2019.

(4) See Note 20 to our consolidated financial statements appearing at the end of this prospectus for details on the calculation of basic and diluted net loss per share and Note 15 to our unaudited consolidated financial statements.

(5) On September 10, 2021, we approved and effected a 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E preferred stock. The par value and other terms of the common stock and convertible preferred stock were not affected by the forward stock split. All related share and per share amounts have been retroactively adjusted for all periods presented to reflect the 445-for-1 forward stock split. See Note 21 to our consolidated financial statements appearing at the end of this prospectus for details on the forward stock split and Note 18 to our unaudited consolidated financial statements.

(6) Pro forma net income (loss) per share reflects the repayment of the $20.0 million loan from Sumitomo Mitsui Banking Corporation and the guarantee fees paid to Kirin Holdings Company Limited and Mitsui & Co. Ltd. described in the "Use of Proceeds" section of this prospectus and the automatic conversion of our Series E convertible preferred stock into shares of common stock as if they occurred on January 1, 2019. This pro forma data is presented for informational purposes only and does not purport to represent what our net income (loss) or earnings (loss) per share would have been had the offering and use of proceeds therefrom occurred on January 1, 2019 or to project our net income (loss) or earnings (loss) per share for any future period.

(7) Pro forma net income (loss) attributable to Thorne HealthTech, Inc. is calculated by adding back the interest expense associated with the $20.0 million loan from Sumitonom Mitusi Banking Corporation and the guarantee fees paid to Kirin Holdings Company Limited and Mitsui & Co., Ltd.

(8) Pro forma earnings (loss) per share is calculated by dividing the pro forma net income (loss) attributable to Thorne HealthTech, Inc. by the pro forma weighted average common shares outstanding.

(9) Pro forma basic weighted average common shares outstanding include the historical weighted average common shares as reported above plus 27,011,500 shares of common stock as a result of the automatic conversion of Series E convertible preferred stock to shares of common stock plus 1,904,762 new shares of common stock being issued in this offering and used to pay the $20.0 million loan discussed in footnote (6).

(10) Pro forma diluted common shares include the pro forma basic weighted average common shares outstanding described in footnote (9) plus the impact of dilutive securities such as stock options and equity-classified warrants under the treasury stock method.

	As of June 30, 2021 (unaudited)		
Consolidated Balance Sheet Data	**Actual**	**Pro Forma(1)**	**Pro forma As Adjusted(2)(3)**
	(in thousands)		
Cash	$ 9,720	$ 9,720	$ 52,769
Working capital(4)	15,080	15,080	78,129
Total assets	130,591	130,591	173,640
Total debt	21,814	21,814	1,814
Total liabilities	78,825	78,825	58,825
Series E convertible preferred stock	133,485	—	—
Total stockholders' (deficit) equity	$ (81,719)	$ 51,766	$ 114,815

(1) The pro forma balance sheet data gives effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,011,500 shares of our common stock which will occur immediately prior to the completion of this offering, resulting in an aggregate of 45,514,600 outstanding shares of our common stock.

(2) The pro forma as adjusted column in the balance sheet data gives effect to (i) the pro forma adjustments described in footnote (1) above, (ii) the issuance and sale of 7,000,000 shares of common stock in this offering at the initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us and (iii) the repayment of $20.0 million of outstanding indebtedness under our Credit and Security Agreement with Sumitomo Mitsui Banking Corporation.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash, working capital, total assets and stockholders' equity by $6.5 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares in the number of shares offered by us at the assumed initial public offering price would increase or decrease, as applicable, each of our cash, working capital, total assets, and stockholders' equity by $9.8 million. The pro forma as adjusted information set forth above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

(4) Working capital is defined as current assets less current liabilities. See our financial statements appearing elsewhere in this prospectus for further details regarding our current assets and current liabilities.

	Year Ended December 31,		Six Months Ended June 30, (unaudited)	
	2019	2020	2020	2021
	(dollars in thousands)			
Net income (loss)	$(18,217)	$ (3,954)	$(6,325)	$ 4,373
Adjusted EBITDA (unaudited)	8,167	15,346	6,247	14,069
Adjusted EBITDA margin (unaudited)	8.0%	11.1%	9.8%	16.1%
Net cash provided by (used in) operating activities	(7,621)	17,107	5,925	886
Free cash flow (unaudited)	(10,526)	14,784	4,847	(814)

See subsection “Key Financial and Operating Data” in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for further details.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this prospectus, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes, before making a decision to invest in our common stock. Our business, financial condition, results of operations, or prospects could also be harmed by risks and uncertainties not currently known to us or that we currently do not believe are material. If any of the risks actually occur, our business, financial condition, results of operations, and prospects could be adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment.

Risks Related to Our Business and Industry

We have a history of operating losses and can provide no assurance that we will achieve profitability.

We have a history of operating losses, including net losses of $18.2 million and $4.0 million for the years ended December 31, 2019 and 2020, respectively. We have an accumulated deficit of $134.8 million as of June 30, 2021. We expect our operating expenses to increase in the future as we increase our sales and marketing efforts, continue to invest in research and development, expand our operating and manufacturing infrastructure and expand into new geographies. Further, as a public company, we will incur additional legal, accounting and other expenses that we did not incur as a private company. These efforts and additional expenses may be more costly than we expect, and we cannot guarantee that we will be able to increase our revenue to offset our operating expenses. As a result, we may need additional financing to meet our future capital requirements. Our revenue growth may slow or our revenue may decline for a number of other reasons, including reduced demand for our products and services, increased competition, a decrease in the growth or reduction in size of our overall market or if we cannot capitalize on growth opportunities. If our revenue does not grow at a greater rate than our operating expenses, we will not be able to maintain profitability.

Our operating results may fluctuate significantly in the future, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide.

Our quarterly and annual operating results may fluctuate significantly, which makes it difficult for us to predict our future operating results. These fluctuations may occur due to a variety of factors, many of which are outside of our control, including, but not limited to:

- our ability to successfully commercialize our products and services on our anticipated timelines;
- the timing and cost of, and level of investment in, new marketing initiatives, research and development and commercialization activities relating to our products and services, which may change from time to time;
- our ability to drive adoption of our products and services in our health and wellness market and our ability to expand into any future target markets or geographies;
- the prices at which we will be able to sell our products and services;
- the timing and amount of expenditures that we may incur to develop, commercialize or acquire additional products or expand our facilities or enter into different geographies;
- seasonal spending patterns of our customers;

- any new laws and regulations that become applicable to us;
- future accounting pronouncements or changes in our accounting policies;
- the outcome of any future litigation or governmental investigations involving us, our industry or both;
- the impact of the COVID-19 pandemic on the economy, investment in the health and wellness industry, our business operations, and resources and operations of our customers, suppliers and distributors; and
- general industry, economic and market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

The cumulative effects of the factors discussed above could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance.

The variability and unpredictability of our operating results could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our operating results fall below the expectations of analysts or investors or below any guidance we may provide, or if the guidance we provide is below the expectations of analysts or investors, it could cause the market price of our common stock to decline.

If the market for our products and services does not continue to grow, grows more slowly than we expect, or fails to grow as large as we expect, our business, financial condition and operating results may be adversely affected.

Our success depends substantially on the continued willingness of consumers to adopt health and wellness products and, in particular, to place value in the personalized nature of our platform and scientific evidence we use to market our products and services. To be successful, we will have to continue to significantly invest in educating consumers about our products and services, and provide high-quality products and services that are superior to those offered by our competitors. For example, our customers use our Onegevity platform and take our tests in order to benefit from our nutritional supplement product offerings. The personalized health and wellness market has only recently adopted the use of digital platforms like Onegevity, and it is uncertain whether such service models will sustain high levels of demand or achieve widespread market acceptance. If our customers do not have confidence in our Onegevity platform or the results of the tests they take, they may not act on our recommendations or purchase our products and our revenues will be negatively impacted as a result. In addition, the health and wellness market is heavily saturated, and the demand for and market acceptance of new products and services in the market is uncertain. While we predict that the overall health and wellness market will continue to grow, it is difficult to predict the future growth rates, if any, to the size of our market. We cannot assure you that our market will continue to develop, that the public's interest in personalized health and wellness will continue or that our products and services will become widely adopted. If our market does not further develop, develops more slowly than expected or becomes saturated with competitors or if our products and services do not achieve market acceptance, our business, financial condition and operating results could be adversely affected.

If we fail to maintain adequate quality standards for our products and services, our business may be adversely affected and our reputation harmed.

Our products, including nutritional supplements and health tests, may contain defects or errors may not perform as intended. These defects or errors could result in a product recall, market withdrawal, negative

publicity or other events that would result in harm to our reputation, loss of customers or revenue, refunds, order cancellations, subscription terminations and lack of market acceptance of our products and services. In addition, Onegevity offers health-related services through Thorne's digital platform as well as directly to business customers. Our Onegevity engine relies on third-party testing facilities to process the customer tests and generate patient data and physicians to interpret these results. These services may contain undetected defects, errors or vulnerabilities currently or when new versions or enhancements are released. These defects and errors may also result in Onegevity's engine providing inaccurate recommendations to our customers. As the use of our Onegevity technology grows and we add new features, we may be subject to increased scrutiny, reputational risk and liability should there be a data breach or if our platform fails to perform as anticipated. Any such defects, errors or vulnerabilities would require us to take remedial action, which could require us to allocate significant research and development and customer support resources to address any such problems. Further, as we make acquisitions, we may encounter difficulties in integrating acquired technologies into our services and in augmenting those technologies to meet the quality standards that are consistent with our brand and reputation.

Our agreements with customers, distribution partners and other third parties may include indemnification provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred in connection with any such defects or errors of our products or services, or other liabilities relating to or arising from our products or services. Some of these indemnity agreements provide for uncapped liability for which we would be responsible, and some indemnity provisions survive termination or expiration of the applicable agreement. Large indemnity payments could harm our business, financial condition and results of operations. Although we attempt to contractually limit our liability with respect to such indemnity obligations, we are not always successful and may still incur substantial liability related to such claims. In addition, although we carry general liability insurance, our insurance against this liability may not be adequate to cover a potential claim, and such coverage may not be available to us on acceptable terms, or at all. Any dispute with a customer or other third party with respect to such obligations could have adverse effects on our relationship with such customer or other third party, our reputation and demand for our platform. Any of the foregoing could adversely affect our business, financial condition and results of operations.

Our success depends on our ability to maintain the value and reputation of our brand.

We believe that our customers associate our name with quality products and services and that the strength of our brand is important to attracting and retaining customers. We rely on our trusted brand to differentiate our products and services from those of our competitors in a crowded and saturated market for nutritional supplements and personalized health services. Maintaining, protecting and enhancing our brand depends largely on the success of our marketing efforts, ability to provide consistent, high-quality products, services, features, content and support, and our ability to successfully secure, maintain and defend our rights to use the "Thorne" and "Onegevity" marks and other trademarks important to our brand. We believe that the importance of our brand will increase as competition further intensifies. Accordingly, brand promotion activities aimed at bolstering our brand may require substantial expenditures. Our brand could be harmed if we fail to achieve these objectives or if our public image were to be tarnished by negative publicity. Our brand could also be harmed if any of our key influencers or professional athlete endorsers receive negative publicity, or if our products and services do not perform as intended.

Adulterated or counterfeit products appearing on the market under the Thorne brand may subject us to costs or liabilities or damage our reputation and brand.

We recently became aware of a limited number of adulterated or counterfeit supplement products sold under our brand that did not contain the labeled ingredients intended to be present, did not perform as intended, and may have been placed on the market in an attempt to damage our reputation and brand. Although the ingredients contained in the supplements were harmless, adulterated or counterfeit supplements sold under our brand in the future could contain harmful ingredients or may not perform as intended. Furthermore, a counterfeit test sold may not produce accurate test results. In the future, we could become involved in investigations with the

FDA or other federal and state agencies as a result of adulterated or counterfeit supplements or tests. We may incur costs or liabilities resulting from an investigation or become involved in product liability litigation resulting from adulterated or counterfeit supplements or tests. Even if there is no customer harm, adulterated or counterfeit products that do not perform as intended could damage our reputation and brand and lead to a loss of customer sales as a result.

Unfavorable publicity or customer perception of our products and any similar products distributed by other companies could have a material adverse effect on our business.

We believe the nutritional supplement market is highly dependent upon customer perception regarding the safety, efficacy and quality of nutritional supplements generally, as well as of products distributed by us specifically. Customer perception of our products can be significantly influenced by scientific research or findings, regulatory investigations, litigation, national media attention and other publicity regarding the consumption of nutritional supplements. We cannot assure you that future scientific research, findings, regulatory proceedings, litigation, media attention or other research findings or publicity will be favorable to the nutritional supplement market or any product, or consistent with earlier publicity. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favorable than, or that question, such earlier research reports, findings or publicity could diminish confidence in our products and services and could result in a material decrease in the demand for our products and consequently harm our business, results of operations, financial condition and cash flows.

Our dependence upon customer perceptions means that adverse scientific research reports, findings, regulatory proceedings, litigation, media attention or other publicity could have a material adverse effect on the demand for our products, the availability and pricing of our ingredients and our business, results of operations, financial condition and cash flows. Further, adverse public reports or other media attention regarding the safety, efficacy and quality of nutritional supplements in general, or our products specifically, or associating the consumption of nutritional supplements with illness, could have a material adverse effect on our business. Any such adverse public reports or other media attention could arise even if the adverse effects associated with such products resulted from consumers' failure to use such products as directed and the content of such public reports and other media attention may be beyond our control.

We may fail to attract, acquire or retain health professionals and consumers as customers at our current or anticipated future growth rate, or may fail to do so in a cost-effective manner, which would adversely affect our business, financial condition and results of operations.

Our continued growth depends, in part, on our ability to attract, acquire and retain consumers and health professionals as customers in a cost-effective manner. Numerous factors, however, may impede our ability to attract, acquire or retain consumers and health professionals as customers, including our failure to attract, effectively train, retain and motivate sales and marketing personnel, our failure to educate customers and health professionals about the benefits of our products, our failure to develop or expand relationships with our distribution partners, our inability to convert initial adoption into ongoing recurring revenue and our failure to provide customer support once products are delivered.

Our DTC success depends, in part, on our existing customers continuing to purchase our products and purchase our subscription services. Our customers have no obligation to purchase our products or renew their subscriptions, and in the normal course of business, some customers may decide to purchase less or none of our products or may decide not to renew their product subscriptions. If we acquire fewer customers than expected, or fewer customers purchase our existing products, try our new products or renew their subscriptions, then our business, financial condition and results of operations would be adversely affected.

In addition, our ability to expand our relationship with our health professional customers depends in large part on our ability to provide new and innovative products and train these professionals on the utility of

such products. We believe that our health professional customers place a premium on the efficacy of our products and may not continue to recommend our products to their patients if we do not continue to provide scientific evidence of efficacy for new products and services or if our products fail to achieve the intended patient results. If we are unable to successfully develop new products, educate and train our health professional customers on the benefits of our products and demonstrate a successful value proposition for these health professional customers, then our business, financial condition and results of operations would be adversely affected.

Our business depends on the effectiveness of our advertising and marketing programs, including the strength of our social media presence, to attract and retain customers.

Our business success depends on our ability to attract and retain customers. Our ability to attract and retain customers depends significantly on the effectiveness of our advertising and marketing practices. From time-to-time, we use the success stories of our customers, and utilize brand ambassadors, spokespersons and social media influencers, including in some cases celebrities, in our advertising and marketing programs to communicate on a personal level with consumers. Any actions taken by these individuals that harm their personal reputation or image, or their decision to stop using our products and services, could have an adverse impact on the advertising and marketing campaigns in which they are featured. We and our brand ambassadors, spokespersons and social media influencers also use social media channels as a means of communicating with customers. Unauthorized or inappropriate use of these channels could result in harmful publicity or negative consumer experiences, which could have an adverse impact on the effectiveness of our marketing in these channels. In addition, substantial negative commentary by others on social media platforms could have an adverse impact on our brand, reputation and ability to attract and retain customers. If our advertising and marketing campaigns do not generate a sufficient number of customers, our business, financial condition and results of operations will be adversely affected.

If we are unable to anticipate health professional and consumer preferences and successfully develop new and innovative products and services in a timely manner or effectively manage the introduction of new or enhanced products and services, then our business may be adversely affected.

Part of our success is our ability to innovate and introduce new products focused on our health professional and consumer demands. To maintain our success and increase our customer base, we must continue to develop products and services and anticipate and react to changing health professional and consumer demands in a timely manner. Our products and services are subject to changing consumer preferences that cannot be predicted with certainty. If we are unable to introduce new or enhanced products in a timely manner, or our new or enhanced products are not accepted by our customers, then our competitors may introduce competitive products faster than us, which could negatively affect our rate of growth. Moreover, our new products may not receive customer acceptance because preferences could shift rapidly to alternative nutritional supplements, and our future success depends in part on our ability to anticipate and respond to these changes. Failure to anticipate and respond in a timely manner to changing customer preferences could lead to, among other things, lower sales and subscriptions, pricing pressure, lower gross margins, and excess inventory. Even if we are successful in anticipating consumer preferences, our ability to adequately react to and address them will partially depend upon our continued ability to develop and introduce innovative, high-quality product and services offerings. Development of new or enhanced products and services may require significant time and financial investment, which could result in increased costs and a reduction in our profit margins.

If we are unable to sustain pricing levels for our products and services, our business could be adversely affected.

The prices for our nutritional supplement products reflect their high quality, safety and efficacy. If we are unable to sustain pricing levels for our products and services, whether due to competitive pressure or otherwise, then our gross profits could be reduced. Further, our decisions regarding the development of new products and services are based on assumptions about future pricing. If there is price compression in the market

after these decisions are made, then it could lower our gross profits and have a negative effect on our results of operations.

We operate in a highly competitive market and we may be unable to compete successfully against existing and future competitors.

We face significant competition in the health and wellness market. Due to our comprehensive approach to health and wellness, we currently compete with different health and wellness companies in different markets, such as Nestle Health Science and Metagenics in the nutritional supplement market, Hims, 23andMe and Livongo in the health services and online testing market, and companies like Schrodinger and SEMA4 in the AI-driven healthcare market. We believe that the principal competitive factors in our market are product quality, consumer experience, brand awareness and loyalty, reliability and trust in the quality of our products and services.

Some of our current competitors are large publicly-traded companies, or are divisions of large publicly-traded companies, and may enjoy a number of competitive advantages over us, including:

- greater name and brand recognition;
- greater financial and human resources;
- broader and deeper product lines and services;
- larger sales forces and more established distributor networks;
- substantial intellectual property portfolios;
- larger and more established customer bases and relationships; and
- better established, larger scale and lower cost manufacturing capabilities.

Our competitors may develop, or have already developed, products, features, services and technologies that are similar to ours or that achieve greater acceptance. They may undertake more successful product development efforts, create more compelling employment opportunities or marketing campaigns and may adopt more aggressive pricing policies. Our competitors may also develop or acquire, or have already developed or acquired, intellectual property rights that significantly limit or prevent our ability to compete effectively in the public marketplace. In addition, our competitors may have significantly greater resources than us, allowing them to identify and capitalize more efficiently upon opportunities in new markets and consumer preferences and trends, quickly transition and adapt their products and services, devote greater resources to marketing and advertising and be better positioned to withstand substantial price competition. We cannot assure investors that our products will compete favorably or that we will be successful in the face of increasing competition from products, services and technologies introduced by our existing or future competitors, or developed by our distributors or healthcare professionals. In addition, we cannot assure investors that our competitors do not have or will not develop products or services with better outcomes or at lower costs than ours. Any failure to compete effectively could materially and adversely affect our business, financial condition and operating results.

We have grown rapidly in recent years and have limited operating experience at our current scale of operations. If we are unable to manage our growth effectively, our brand, company culture and financial performance may suffer.

We have expanded our operations rapidly and have limited operating experience at our current size. We have never had an investor relations function and we expect we will need to hire new personnel or train existing personnel to support that function or outsource those activities. We also expect to hire additional personnel to support our finance, legal and compliance department as we adapt to operating as a public company.

As we grow, our business will become increasingly complex. To effectively manage and capitalize on our growth, we must also continue to expand our sales and marketing capabilities, focus on innovative products and services, upgrade our information management systems and other processes and expand our facilities. Our continued growth could strain our existing resources, and we could experience ongoing operating difficulties in managing our business across numerous geographies, including difficulties in hiring, training and managing a decentralized and growing employee base. Failure to scale and preserve our company culture during this high-growth period could harm our future success, including our ability to retain and recruit personnel and to effectively focus on and pursue our corporate objectives. Moreover, the vertically integrated nature of our business, where we design and manufacture most of our products, develop our own software services and sell our products through our own sales teams and e-commerce sites, exposes us to risk and disruption at many points that are critical to successfully operating our business and may make it more difficult for us to scale our business. If we do not adapt to meet these evolving challenges, or if our management team does not effectively scale with our growth, we may experience erosion to our brand, the quality of our products and services may suffer, and our company culture may be harmed.

Our growth strategy anticipates a significant increase in our advertising and other marketing costs. Successful implementation of our growth strategy will require significant expenditures and we cannot guarantee that these increased investments will result in corresponding and offsetting revenue growth. Because we have a limited history operating our business at its current scale, it is difficult for us to evaluate our current business and future prospects, including our ability to plan for and model future growth. Our limited operating experience at this scale, combined with the rapidly evolving nature of the health and wellness market in which we sell our products and services, substantial uncertainty concerning how these markets may develop, and other economic factors beyond our control, reduces our ability to accurately forecast quarterly or annual revenue. Failure to manage our future growth effectively could have an adverse effect on our business, financial condition and operating results.

We may choose to raise additional funding in order to develop future products, acquire other companies or technologies or expand into other geographies.

We expect that the net proceeds from this offering, together with our existing cash as of the date of this prospectus, will be sufficient to fund our operating expenses and capital expenditures for at least the next 12 months. Our future capital requirements will depend on and could increase significantly as a result of many factors, including:

- the number and type of products we develop and commercialize;
- the cost of intellectual property proceedings and any intellectual property litigation involving us;
- the success of any collaborations and joint ventures that we enter into with third parties and the ability to maintain them thereafter;
- the extent to which we acquire or invest in businesses, products and technologies;
- the rate at which we expand internationally and offer our products in additional geographies;
- our headcount growth and associated costs as we expand our business operations and our research and development and manufacturing activities;
- the impact of any business interruptions to our operations or to operations of our manufacturers, suppliers or other vendors resulting from the COVID-19 pandemic or a similar public health crisis or other force majeure event; and
- the costs of operating as a public company.

We may need to access additional financing to achieve our business objectives and additional financing may or may not be available to us at the time we need it. The inability to raise additional capital when needed would have a material and adverse effect on our business, financial condition and results of operations.

Any additional fundraising efforts may divert our management from day-to-day activities, which may adversely affect our ability to develop and commercialize our products and services, and we can provide no assurance that such funding will be available on terms that are acceptable to us, or at all.

If we need additional financing in the future, we cannot guarantee that it will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our common stock to decline. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest will be diluted, and the terms of those securities may include liquidation or other preferences that materially adversely affect your rights as a common stockholder. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to make capital expenditures, declare dividends or otherwise conduct our business. If we are unable to obtain any funding we need on a timely basis, we may be required to significantly curtail, delay or discontinue research or development of new products or our digital platform and the commercialization of our products or expansion into new geographies, any of which could materially affect our business, financial condition, and results of operations.

Unfavorable U.S. or global economic conditions as a result of the COVID-19 pandemic, or otherwise, could adversely affect our ability to raise capital and our business, results of operations and financial condition.

While the potential economic impact brought by, and the duration of, the COVID-19 pandemic is difficult to assess or predict, the COVID-19 pandemic has resulted in, and may continue to result in, extreme volatility and disruptions in the capital and credit markets, reducing our ability to raise additional capital through equity, equity-linked or debt financings, which could negatively impact our short-term and long-term liquidity and our ability to operate in accordance with our operating plan, or at all. Additionally, our results of operations could be adversely affected by general conditions in the global economy and financial markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including weakened demand for our products and services our ability to raise additional capital when needed on favorable terms, if at all. A weak or declining economy could strain our customers' budgets or cause delays in their payments to us. Any of the foregoing could harm our business, and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our ability to raise capital, business, results of operations and financial condition.

An economic downturn or economic uncertainty may adversely affect customer discretionary spending and demand for our products and services.

Some customers may consider our products and services to be discretionary. Factors affecting the level of consumer spending for such discretionary items include current economic conditions, customer confidence in future economic conditions, fears of recession, the availability and cost of customer credit, levels of unemployment and tax rates. In recent years, the United States and other significant economic markets have experienced cyclical downturns and worldwide economic conditions remain uncertain. As global economic conditions continue to be volatile or economic uncertainty remains, trends in customer discretionary spending also remain unpredictable and subject to reductions. To date, our business has operated almost exclusively in a relatively strong economic environment or in the COVID-19 pandemic where healthcare is a priority and, therefore, we cannot be sure the extent to which we may be affected by recessionary conditions without a

pandemic. Unfavorable economic conditions may lead customers to delay or reduce purchases of our products and services and customer demand for our products and services may not grow as we expect. Sensitivity to economic cycles and any related fluctuation in customer demand for our products and services could have an adverse effect on our business, financial condition and operating results.

Our nutrition-oriented educational activities may be impacted by government regulation or our inability to secure adequate professional liability insurance.

We provide nutrition-oriented education and supplement plans to our customers, and these activities may be subject to state and federal regulation and oversight by professional organizations. In the past, the FDA has expressed concerns regarding summarized health and nutrition-related information that (i) does not, in the FDA's view, accurately present such information, (ii) diverts a consumer's attention and focus from FDA-required nutrition labeling and information or (iii) impermissibly promotes drug-type disease-related benefits. If our employees, consultants or the other third parties we engage to provide this information do not act in accordance with regulatory requirements, we may become subject to penalties that could have a material adverse effect on our business. We believe we are currently in compliance with relevant regulatory requirements, and we maintain professional liability insurance in order to mitigate risks associated with this nutrition-oriented education. However, we cannot predict the nature of future government regulation and oversight, including the potential impact of any such regulation on this activity. Furthermore, the availability of professional liability insurance or the scope of such coverage may change, or our insurance coverage may prove inadequate, which may adversely impact the ability of our customer educators to provide some information to our customers. The occurrence of any such developments could negatively impact the perception of our brand, our sales and our ability to attract new customers.

We may initiate product recalls or withdrawals, may be subject to regulatory enforcement actions or incur material product liability claims, any of which could increase our costs and adversely affect our reputation and our results of operations.

As a manufacturer, marketer and retailer of products designed for human consumption, we may initiate product recalls or withdrawals, or may be subject to seizures and adverse public relations if our products are contaminated, adulterated, mislabeled, misbranded or fail to achieve expected stability or shelf life, are alleged to cause injury or illness, or if we are alleged to have violated governmental regulations in the manufacture, labeling, promotion, sale or distribution of any of our products, whether caused by us or someone in our manufacturing or supply chain. Our products primarily consist primarily of nutritional supplements and, in most cases, are not necessarily subject to pre-market regulatory review or approval in the United States. The raw materials used to make certain of our products may be vulnerable to spoilage and contamination by naturally occurring molds and pathogens. Additionally, some of our products contain ingredients that do not have long histories of human consumption. Previously unknown adverse reactions resulting from human consumption of these ingredients could occur. Some of the products we sell are produced by third-party manufacturers.

A product recall, withdrawal or seizure could result in destruction of product inventory and inventory write-off, negative publicity, temporary facility closings for us or our contract manufacturers, supply chain interruption, fines and substantial and unexpected expenditures, any of which would reduce operating profit and cash flow. In addition, a product recall, withdrawal or seizure may require significant management attention. Product recalls may materially and adversely affect consumer confidence in our brands, hurt the value of our brands and lead to decreased demand for our products. Product recalls, withdrawals or seizures also may lead to increased scrutiny by federal, state or international regulatory agencies of our operations and increased litigation and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

We have been in the past, and may be in the future, be subject to various product liability claims, including, among others, that our products include inadequate instructions for use or inadequate warnings

concerning possible side effects and interactions with other substances. Any such product liability claims may also include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection laws. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our existing products. As a marketer of products manufactured by third parties, we also may be liable for various product liability claims for products we do not manufacture. Even successful defense would require significant financial and management resources.

Regardless of the merits or eventual outcome, liability claims may result in any of the following:

- decreased demand for our products or products that we may develop in the future;
- decline in price charged for our products;
- loss of revenue;
- injury to our reputation;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants;
- product recalls or withdrawals;
- labeling, packaging, marketing or promotional modifications or restrictions;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize our existing or future products; and
- a decline in our stock price.

The cost of any product liability litigation or other proceeding, even if resolved in our favor, could be substantial. In addition, our inability to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims could prevent or inhibit the development and commercial production and sale of our products, which could adversely affect our business, financial condition, results of operations, and prospects. Insurance policies may also have various exclusions, and we may be subject to a product liability claim for which we have no or inadequate coverage. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

If our products do not have the effects intended or cause undesirable side effects, our business may suffer.

Although many of the ingredients in our current dietary supplement products are vitamins, minerals and other substances for which there is a long history of human consumption, they also contain innovative ingredients or combinations of ingredients. Although we believe all of such products and the combinations of

ingredients in them are safe when taken as directed, the products could have certain undesirable side effects if not taken as directed or if taken by a consumer that has certain medical conditions. In addition, such products may not have the effect intended if they are not taken in accordance with certain instructions, which include certain dietary restrictions. Furthermore, there can be no assurance that any of the products, even when used as directed, will have the effects intended or will not have harmful side effects in an unforeseen way or affect populations differently. If any of our products or products we develop or commercialize in the future are shown to be harmful or generate negative publicity from perceived harmful effects, our business, financial condition, results of operations and prospects would be harmed significantly.

Increases in ingredient costs, long lead times, supply shortages and supply changes could disrupt our supply chain and have an adverse effect on our business, financial condition and operating results.

Meeting customer demand partially depends on our ability to obtain timely and adequate delivery of ingredients for our nutritional supplement products. Certain ingredients that get incorporated into our nutritional supplement products are sourced from a limited number of third-party suppliers, and some of these ingredients are provided by a single supplier. These suppliers may breach or otherwise terminate our supply agreements, or their capabilities to deliver adequate ingredients to us may be affected by other factors such as fluctuations in the market, litigation or regulatory issues or force majeure events, and in any of the cases, the sourcing and commercialization of our products can be adversely affected. For example, there is considerable patent and other intellectual property development activity in the personalized health and wellness products industry, and litigation, based on allegations of infringement or other violations of intellectual property, is frequent in this industry. If our suppliers are sued, their capabilities to deliver adequate ingredients to us may be adversely affected. We are therefore subject to the risk of shortages and long lead times in the supply of these ingredients and the risk that our suppliers discontinue or modify ingredients. In addition, the lead times associated with certain ingredients are lengthy and preclude rapid changes in quantities and delivery schedules. We have experienced supply shortages and resulting longer lead-times in the past and may in the future experience ingredient shortages, and the predictability of the availability of these ingredients may be limited. In the event of an ingredient shortage or a supply interruption from suppliers of these ingredients, we may not be able to develop alternate sources of supply in a timely manner. Developing alternate sources of supply for these ingredients may be time-consuming, difficult and costly and we may not be able to source these ingredients on terms that are acceptable to us, or at all, which may undermine our ability to fill our orders in a timely manner. Any interruption or delay in the supply of any of these ingredients, or the inability to obtain these ingredients from alternate sources at acceptable prices and within a reasonable amount of time, would harm our ability to meet our scheduled product deliveries to our customers. In addition, increases in our ingredient costs could have a material effect on our gross margins. The loss of a significant supplier, an increase in ingredient costs, or delays or disruptions in the delivery of ingredients, could adversely impact our ability to generate future revenue and earnings and have an adverse effect on our business, financial condition and operating results.

Our operating results could be adversely affected if we are unable to accurately forecast customer demand for our products and services and adequately manage our inventory.

To ensure adequate inventory supply, we must forecast inventory needs and expenses and place orders sufficiently in advance with our suppliers, based on our estimates of future demand for particular products and services. Failure to accurately forecast our needs may result in manufacturing delays or increased costs. Our ability to accurately forecast demand could be affected by many factors, including changes in customer demand for our products and services, changes in demand for the products and services of our competitors, widespread acceptance of personalized health recommendations and nutritional supplements, unanticipated changes in general market conditions and the weakening of economic conditions or consumer confidence in future economic conditions. This risk may be exacerbated by the fact that we may not carry a significant amount of inventory and may not be able to satisfy short-term demand increases. If we fail to accurately forecast customer demand, we may experience excess inventory levels or a shortage of products available for sale. Inventory levels in excess of customer demand may result in inventory write-downs or write-offs and the sale of excess inventory at

discounted prices, which would cause our gross margins to suffer and could impair the strength and our brand. Further, lower than forecasted demand could also result in excess manufacturing capacity or reduced manufacturing efficiencies, which could result in lower margins. Conversely, if we underestimate customer demand, our suppliers and manufacturers may not be able to deliver products to meet our requirements or we may be subject to higher costs in order to secure the necessary production capacity. An inability to meet customer demand and delays in the delivery of our products to our customers could result in reputational harm and damaged customer relationships and have an adverse effect on our business, financial condition and operating results.

We acquire ingredients for our products from foreign suppliers and may be negatively affected by the risks associated with international trade and importation issues.

We acquire ingredients for a number of our products from suppliers outside of the United States. Accordingly, the acquisition of these ingredients is subject to the risks generally associated with importing raw materials, including, among other factors, delays in shipments, changes in economic and political conditions, quality assurance, health pandemics affecting the region of such suppliers, including COVID-19, nonconformity to specifications or laws and regulations, tariffs, trade disputes and foreign currency fluctuations. While we audit and inspect our suppliers' and manufacturers' facilities as necessary both in the United States and internationally, we cannot assure you that raw materials received from suppliers or finished products from manufacturers outside of the United States will conform to all specifications, laws and regulations or our internal standards. There have in the past been quality and safety issues in our industry with certain items imported from overseas. We may incur additional expenses and experience shipment delays due to preventative measures adopted by the U.S. governments, our suppliers and our company.

Our success will depend on our ability to use the data our Onegevity platform collects and the ability of our proprietary algorithm and network of medical doctors to interpret test results accurately and consistently, and our failure to do so would have an adverse effect on our operating results and business, harm our reputation and could result in substantial liabilities that exceed our resources.

Our success depends on our ability to provide reliable, high-quality tests that incorporate rapidly evolving information about the role of various risk factors in disease and aging. Errors, including if our tests fail to perform with high accuracy, or mistakes in the interpretation of those results, could have a significant adverse impact on our business. A substantial amount of judgment is required in order to interpret testing results for an individual patient and to develop appropriate, customized customer recommendations. We also rely on medical doctors to interpret the data that we collect and to incorporate specific information about an individual customer into their profile.

We do not provide recommendations regarding disease. The marketing, sale and use of our Onegevity platform testing service could subject us to liability for errors in, misunderstandings of, or inappropriate reliance on information we provide, and could lead to claims against us if someone were to allege that our tests failed to perform as it was designed or if our medical doctors failed to correctly interpret the data. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend. Although we maintain liability insurance, including for errors and omissions, we cannot assure you that our insurance would fully protect us from the financial impact of defending against these types of claims or any judgments, fines or settlement costs arising out of any such claims. Any liability claim, including an errors and omissions liability claim, brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any liability lawsuit could cause injury to our reputation or cause us to suspend the use of the Onegevity platform or sales of our products and tests. The occurrence of any of these events could have an adverse effect on our business, reputation and results of operations.

We depend on key personnel, the loss of any of which could negatively affect our business.

We depend greatly on our executive team, including Paul F. Jacobson, our Chief Executive Officer, Will C. McCamy, our President, Tom P. McKenna, our Chief Operating Officer, Michelle L. Crow, our Chief Marketing Officer, Stephen M. Phipps, our Chief Innovation Officer, Bodi Zhang, our Chief Science Officer for Onegevity, Nathan D. Price, Chief Executive Officer for Onegevity, Scott R. Hurth, our Chief Technology Officer and Daniel McEvoy, our President of Onegevity. We rely heavily on the continued service and performance of our senior management team, which provides leadership, contributes to the core areas of our business and helps us to efficiently execute our business. We also depend greatly on other key employees, including key scientific personnel and health professionals. In general, only highly qualified and trained scientists and health professionals have the necessary skills to develop and market our products and provide our services. In addition, some of our manufacturing, quality control, safety and compliance, information technology, sales and e-commerce related positions are highly technical as well. Also imperative to our success are our influencers, who we rely on to market our products and services, and who act as brand ambassadors. If the senior management team, including any new hires that we make, fails to work together effectively and to execute our plans and strategies on a timely basis, then our business and future growth prospects could be harmed.

Additionally, the loss of any key personnel could make it more difficult to manage our operations and research and development activities, reduce our employee retention and revenue, and impair our ability to compete. Although we have entered into employment offer letters with our key personnel, these agreements have no specific duration and constitute at-will employment. We do not maintain key person life insurance policies on any of our employees. The loss of services of our senior management team or key employees that may be hired in the future may have a material and adverse effect on our business.

Our future success depends on our ability to attract and retain highly skilled personnel and senior management.

Our future success depends, in part, on our ability to continue to identify, attract, develop, integrate and retain qualified and highly skilled personnel, including senior management, engineers, scientists, product managers, logistics and supply chain and quality control personnel. Competition for highly skilled personnel is often intense. We may not be successful in attracting, integrating or retaining qualified personnel to fulfill our current or future needs. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring highly skilled employees with appropriate qualifications. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our common stock declines, it may adversely affect our ability to hire or retain highly skilled employees. In addition, we may periodically change our equity compensation practices, which may include reducing the number of employees eligible for equity awards or reducing the size of equity awards granted per employee. If we are unable to attract, integrate, or retain the qualified and highly skilled personnel required to fulfill our current or future needs, our business and future growth prospects could be harmed.

We face intense competition for these professionals from our competitors, customers, marketing partners and other companies throughout the industries in which we compete. Our success will depend, in part, upon our ability to attract and retain additional skilled personnel, which may require substantial additional funds. There can be no assurance that we will be able to find and attract additional qualified employees or retain any such personnel. Our inability to hire qualified personnel may have a material and adverse effect on our business.

Our passion and focus on delivering a high-quality consumer experience may not maximize short-term financial results, which may yield results that conflict with the market's expectations and could result in our stock price being negatively affected.

We are committed to our focus on producing high-quality products and engaging our customers through personalized recommendations and investment in our platform, which may not necessarily maximize short-term

financial results. We frequently make business decisions that may reduce our short-term financial results, such as sourcing higher quality ingredients and investing substantially in product research and development, if we believe that the decisions are consistent with our goals. We believe this will improve our financial results over the long term as we deliver actionable recommendations and quality products to our customers. These decisions may not be consistent with managing costs and the short-term expectations of our stockholders and may not produce the long-term benefits that we expect, in which case our growth and consumer engagement, and our business, financial condition and operating results could be harmed.

We plan to expand into international markets, which will expose us to significant risks.

We are currently expanding our operations to other countries, which requires significant resources and management attention and subjects us to regulatory, economic, and political risks in addition to those we already face in our primary markets of the United States, Canada, the United Kingdom, Australia, China, and the European Union. There are significant risks and costs inherent in doing business in international markets, including:

- difficulty establishing and managing international operations and the increased operations, travel, infrastructure, including establishment of local delivery service and customer service operations and legal compliance costs associated with locations in different countries or regions;
- the need to vary pricing and margins to effectively compete in international markets;
- the need to adapt and localize products for specific countries, including obtaining rights to third-party intellectual property used in each country;
- increased competition from local providers of similar products and services;
- the ability to protect and enforce intellectual property rights abroad;
- the need to offer customer support in various languages;
- the challenges of negotiating with foreign distributors;
- difficulties in understanding and complying with local laws, regulations and customs in other jurisdictions;
- compliance with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act (FCPA), and the U.K. Bribery Act 2010 (U.K. Bribery Act), by us, our employees and our business partners;
- complexity and other risks associated with current and future legal requirements in other countries, including legal requirements related to consumer protection, consumer product safety and data privacy and data protection frameworks, such as the E.U. General Data Protection Regulation (GDPR);
- tariffs and other non-tariff barriers, such as quotas and local content rules, as well as tax consequences;
- fluctuations in currency exchange rates and the requirements of currency control regulations, which might restrict or prohibit conversion of other currencies into U.S. dollars; and
- political or social unrest or economic instability in a specific country or region in which we operate, including, for example, the effects of “Brexit,” which could have an adverse impact on our operations in the United Kingdom and E.U.

We have limited experience with international regulatory environments and market practices and may not be able to penetrate or successfully operate in the markets we choose to enter. In addition, we may incur significant expenses as a result of our international expansion, and we may not be successful. We may face limited brand recognition in certain parts of the world that could lead to non-acceptance or delayed acceptance of our products and services by customers in new markets. We may also face challenges to acceptance of our health and wellness content in new markets. Our failure to successfully manage these risks could harm our international operations and have an adverse effect on our business, financial condition and operating results.

A substantial portion of our sales are through distributors and health professionals, and we do not have direct control over the efforts these distributors and health professionals may use to sell our products. If our relationships with these third-party distributors or health professionals deteriorate, or if these third-party distributors or health professionals fail to sell our products or engage in activities that harm our reputation, or fail to adhere to applicable regulations, our financial results may be adversely affected.

Our sales model depends on our ability to sell our products through health professionals and through distributors. Our network of health professionals typically receive a discount from list price or rebate on the products their patients purchase from us. We can provide no assurance that these health professionals will continue to recommend our products at their current levels, or at all. Additionally, we may be unable to continue to grow our network of health professionals and therefore may not continue to achieve revenue growth through this channel.

In the United States, we have select strategic distributors in addition to our DTC and health professional channels. We also rely on a third-party reseller to manage our sales and fulfillment through the Amazon platform for operational convenience. We do not control the operational decisions of Amazon or this third-party provider, such as the amount of warehousing and inventory space to make available for our products. We have experienced instances in the past where Amazon has prioritized warehousing space to other products on a seasonal basis, which may cause an order backlog for our products if there is not a sufficient quantity of our products ready to ship from these facilities. If a backlog on orders through Amazon became frequent, it may reduce our revenue and harm our reputation. The loss of these third-party providers in the United States may result in delayed revenue as we seek alternative providers or transition those activities to a direct model.

A significant portion of our international sales are through distributors. We believe that our reliance on distributors internationally improves the economics of our business, as we do not carry the high fixed costs of a direct sales force in any of the countries in which our products are sold, with the exception of Canada. It is part of our strategy to partner with local distributors in foreign countries, such as Australia, New Zealand, United Kingdom, among others, to resell our products as those distributors are most familiar with the local market and regulations.

If we are unable to maintain or enter into such distribution arrangements on acceptable terms, or at all, we may not be able to successfully commercialize our products in certain countries. Furthermore, distributors can choose the level of effort that they apply to selling our products relative to others in their portfolio. The selection, training and compensation of employees of our distributors are within their control rather than our own and may vary significantly in quality from distributor to distributor.

In addition, although our contract terms require our distributors to comply with all applicable laws regarding the sale of our products, including anti-competition, anti-money laundering, sanctions laws and FDA regulations, we may not be able to ensure proper compliance. If our distributors fail to effectively market and sell our products to our expectations or in full compliance with applicable laws, our results of operations and business may suffer.

Our business depends on network and mobile infrastructure and our ability to maintain and scale our technology. Any significant interruptions or delays in service on our apps or websites or any undetected errors

or design faults, including flaws in security design, could result in limited capacity, reduced demand, processing delays and loss of customers.

A key element of our strategy is to generate a significant number of visitors to, and increase their use of, our apps and websites. Our reputation and ability to acquire, retain and serve our customer are dependent upon the reliable performance of our apps and websites and the underlying network infrastructure. As our base of customer and the amount of information shared on our apps and websites continue to grow, we will need an increasing amount of network capacity and computing power. We have spent and expect to continue to spend substantial amounts on computing, including cloud computing and the related infrastructure, to handle the traffic on our apps and websites. The operation of these systems is complex and could result in operational failures. In the event that the traffic of our consumers exceeds the capacity of our current network infrastructure or in the event that our base of consumers or the amount of traffic on our apps and websites grows more quickly than anticipated, we may be required to incur significant additional costs to enhance the underlying network infrastructure. Interruptions or delays in these systems, whether due to system failures, computer viruses, physical or electronic break-ins, undetected errors, design faults or other unexpected events or causes, could affect the security or availability of our apps and websites and prevent our consumers from accessing our apps and websites. If sustained or repeated, these performance issues could reduce the attractiveness of our product and service offerings. In addition, the costs and complexities involved in expanding and upgrading our systems may prevent us from doing so in a timely manner and may prevent us from adequately meeting the demand placed on our systems. Any internet or mobile platform interruption or inadequacy that causes performance issues or interruptions in the availability of our apps or websites could reduce customer satisfaction and result in a reduction in the number of customers using our offerings.

We depend on the development and maintenance of the internet and mobile infrastructure. This includes maintenance of reliable internet and mobile infrastructure with the necessary speed, data capacity and security, as well as timely development of complementary offerings, for providing reliable internet and mobile access. Our business, financial condition and results of operations could be materially and adversely affected if for any reason the reliability of our internet and mobile infrastructure is compromised.

We currently rely upon third-party data storage providers, including cloud storage solution providers, such as Amazon Web Services. Nearly all of our data storage and analytics are conducted on, and the data and content we create associated with sales on our apps and websites are processed through, servers hosted by these providers, particularly Amazon Web Services. We also rely on email service providers, bandwidth providers, internet service providers and mobile networks to deliver email and “push” communications to consumers and to allow consumers to access our websites. If our third-party vendors are unable or unwilling to provide the services necessary to support our business, or if our agreements with such vendors are terminated, our operations could be significantly disrupted. Some of our vendor agreements may be unilaterally terminated by the licensor for convenience, including our agreement with Amazon Web Services, and if such agreements are terminated, we may not be able to enter into similar relationships in the future on reasonable terms or at all.

Any damage to, or failure of, our systems or the systems of our third-party data centers or our other third-party providers could result in interruptions to the availability or functionality of our apps and websites. As a result, we could lose consumer data and miss opportunities to acquire and retain consumers, which could result in decreased revenue. If for any reason our arrangements with our data centers or third-party providers are terminated or interrupted, such termination or interruption could adversely affect our business, financial condition and results of operations. We exercise little control over these providers, which increases our vulnerability to problems with the services they provide. We could experience additional expense in arranging for new facilities, technology, services and support. In addition, the failure of our third-party data centers or any other third-party providers to meet our capacity requirements could result in interruption in the availability or functionality of our apps and websites.

The satisfactory performance, reliability and availability of our apps, websites, transaction processing systems and technology infrastructure are critical to our reputation and our ability to acquire and retain

customers, as well as to maintain adequate customer service levels. If the interface on our app is not considered user friendly by our customers or our app does not function correctly our customers may become frustrated and not order our products. Our revenue depends in part on the number of customers that visit and use our apps and websites in fulfilling their health and wellness needs. Unavailability of our apps or websites could materially and adversely affect consumer perception of our brand.

The occurrence of a natural disaster, power loss, telecommunications failure, data loss, computer virus, an act of terrorism, cyberattack, vandalism or sabotage, act of war or any similar event, or a decision to close our third-party data centers on which we normally operate or the facilities of any other third-party provider without adequate notice or other unanticipated problems at these facilities could result in lengthy interruptions in the availability of our apps and websites. Cloud computing, in particular, is dependent upon having access to an internet connection in order to retrieve data. If a natural disaster, blackout or other unforeseen event were to occur that disrupted the ability to obtain an internet connection, we may experience a slowdown or delay in our operations. While we have disaster recovery arrangements in place, our preparations may not be adequate to account for disasters or similar events that may occur in the future and may not effectively permit us to continue operating in the event of any problems with respect to our systems or those of our third-party data centers or any other third-party facilities. Our disaster recovery and data redundancy plans may be inadequate, and our business interruption insurance may not be sufficient to compensate us for the losses that could occur. If any such event were to occur to our business, our operations could be impaired and our business, financial condition and results of operations may be materially and adversely affected.

Covenants in the loan documents governing our revolving credit facility and our letter of credit facility may restrict our operations, and if we do not effectively manage our business to comply with these covenants, our financial condition could be adversely impacted.

We entered into an uncommitted and revolving credit line agreement (Credit Agreement), with Sumitomo Mitsui Banking Corporation (SMBC) on February 12, 2021, providing for an unsecured revolving credit facility of $20 million. The revolving credit facility is guaranteed by each of Kirin Holdings Company, Limited and Mitsui & Co., Ltd., each a holder of 5% or more of our common stock, for which we pay each guarantor an annual fee equal to $120,000. We are also party to a Reimbursement Agreement with Sumitomo Mitsui Banking Corporation (LC Reimbursement Agreement), under which we may request SMBC to issue up to $4.9 million in letters of credit in the aggregate and we agree to reimburse SMBC for any drawings under such letters of credit. Kirin and Mitsui guarantee our obligations under the LC Reimbursement Agreement in exchange for fees that are more fully described in the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Letter of Credit Reimbursement Agreement”. The Credit Agreement and the LC Reimbursement Agreement contain various restrictive covenants, including, among other things, restrictions on our ability to merge or consolidate with any other entity, dispose of all or substantially all of our assets, dissolve or liquidate and incur liens. These restrictions may restrict our current and future operations, particularly our ability to respond to certain changes in our business or industry or take future actions.

Our ability to meet these restrictive covenants can be impacted by events beyond our control and we may be unable to do so. Our Credit Agreement and LC Reimbursement Agreement provide that our breach or failure to satisfy certain covenants constitutes an event of default. Upon the occurrence of an event of default, our lenders could elect to declare all amounts outstanding under our Credit Agreement and LC Reimbursement Agreement, as applicable, to be immediately due and payable. If the outstanding debt under our Credit Agreement or LC Reimbursement Agreement was to be accelerated, we may not have sufficient cash on hand to repay it, which would have an immediate adverse effect on our business and operating results. This could potentially cause us to cease operations and result in a complete loss of your investment in our common stock.

We are subject to payment processing risk.

Our customers pay for our products and services using a variety of different payment methods, including credit and debit cards, gift cards and online wallets. We rely on internal systems as well as those of third parties to process payment. Acceptance and processing of these payment methods are subject to certain rules and regulations and require payment of interchange and other fees. To the extent there are disruptions in our payment processing systems, increases in payment processing fees, material changes in the payment ecosystem, such as large re-issuances of payment cards, delays in receiving payments from payment processors, or changes to rules or regulations concerning payment processing, our revenue, operating expenses and results of operation could be adversely impacted. Compliance with the Payment Card Industry Data Security Standard and implementing related procedures, technology and information security measures requires significant resources and ongoing attention, and any security incident involving cardholder data could subject us to significant penalties and liability. We leverage our third party payment processors to bill customers on our behalf. If these third parties become unwilling or unable to continue processing payments on our behalf, we would have to find alternative methods of collecting payments, which could adversely impact customer acquisition and retention. In addition, from time to time, we encounter fraudulent use of payment methods, which could impact our results of operations and if not adequately controlled and managed could create negative customer perceptions of our service.

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

As of December 31, 2020, we had U.S. federal net operating loss carryforwards (NOLs) and state NOLs of approximately $50.1 million and $44.6 million, respectively, due to prior period losses that if not utilized will begin to expire for federal and state purposes beginning in 2035. Realization of these NOLs depends on future income, and there is a risk that our existing NOLs could expire unused and be unavailable to offset future income tax liabilities, which could adversely affect our operating results.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended (Code), a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its NOLs to offset future taxable income. We may have undergone an ownership change in connection with our 2018 series E convertible stock financing. In addition, this offering, as well as future changes in our stock ownership, the causes of which may be outside of our control, could result in an additional ownership change under Section 382 of the Code. If we underwent an ownership change in 2018 or if we undergo an ownership change in connection with or after this offering, our NOLs arising before such an ownership change may be subject to one or more Section 382 limitations that materially limit the use of such NOLs to offset our taxable income. While we have not undertaken a Section 382 study to determine whether we have undergone any ownership changes in the past, we expect to complete one following this offering. Our ability to utilize NOLs of companies that we have acquired or may acquire in the future may also be subject to limitations. Further, our NOLs may be impaired under state laws. In addition, under the 2017 Tax Cuts and Jobs Act (Tax Act), as modified by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), NOLs arising in taxable years beginning after December 31, 2020 may not be carried back, and NOLs generated in taxable years beginning after December 31, 2017 may be carried forward indefinitely, but the deductibility of such NOLs generally will be limited in taxable years beginning after December 31, 2020 to 80% of the current year taxable income. This change may require us to pay federal income taxes in future years even if our NOLs were otherwise sufficient to offset our federal taxable income in such years. There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income tax liabilities. For these reasons, we may not be able to realize, in whole or in part, a tax benefit from the use of our NOLs, whether or not we attain profitability.

We may engage in merger and acquisition activities, which could require significant management attention, disrupt our business, dilute stockholder value and adversely affect our operating results.

As part of our business strategy, we may periodically acquire or make investments in companies that we believe will enhance our products, services or technology in the future. We may not be able to find suitable acquisition candidates and we may not be able to complete acquisitions on favorable terms, if at all, in the future. If we do complete acquisitions, we may not ultimately strengthen our competitive position or achieve our goals, and any acquisitions we complete could be viewed negatively by customers or investors. An acquisition, investment or business relationship may result in unforeseen operating difficulties and expenditures, including disrupting our ongoing operations, diverting management from their primary responsibilities, subjecting us to additional liabilities, increasing our expenses and adversely impacting our business, financial condition and operating results. In addition, we may be exposed to unknown liabilities and the anticipated benefits of any acquisition, investment or business relationship may not be realized, if, for example, we fail to successfully integrate such acquisitions, or the technologies associated with such acquisitions, into our company.

To pay for any such acquisitions, we would have to use cash, incur debt, or issue equity securities, each of which may affect our financial condition or the value of our capital stock and could result in dilution to our stockholders. If we incur more debt it would result in increased fixed obligations and could also subject us to covenants or other restrictions that would impede our ability to manage our operations.

Additionally, we may receive indications of interest from other parties interested in acquiring some or all of our business. The time required to evaluate such indications of interest could require significant attention from management, disrupt the ordinary functioning of our business, and could have an adverse effect on our business, financial condition, and operating results.

We have identified material weaknesses in our internal control over financial reporting. If our remediation measures are ineffective, or if we experience additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to report our financial condition or results of operations accurately or on a timely basis, which may adversely affect investor confidence in us and, as a result, the value of our common stock.

To date, we have never conducted a review of our internal control for the purpose of providing the reports required by the Sarbanes-Oxley Act. During our review and testing, we may identify deficiencies and be unable to remediate them before we must provide the required reports. In connection with the audit of our financial statements for the year ended December 31, 2020, we identified material weaknesses in our internal control over financial reporting related to an insufficient complement of personnel possessing the appropriate accounting and financial reporting knowledge and experience and we did not maintain effective controls relating to revenue recognition, accounting for significant and unusual transactions and our financial statement close process, which have not been remediated.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis.

We have begun to take certain actions to address the control deficiencies in our financial reporting, including by hiring additional qualified accounting and financial reporting personnel, and the development and implementation of processes and controls. We have also begun to review and document our accounting and financial processes and internal controls, build out our financial management and reporting systems infrastructure, and further develop and formalize our accounting policies and financial reporting procedures, which includes ongoing senior management review and establishing our audit committee oversight. While we have begun taking measures and plan to continue to take measures to design and implement an effective control environment, we cannot assure you that the measures we have taken to date and other remediation and internal

control measures we implement in the future will be sufficient to remediate our current material weaknesses or prevent future material weaknesses. We may discover additional weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If we are unable to successfully maintain internal control over financial reporting, or identify any additional material weaknesses, the accuracy and timing of our financial reporting may be adversely affected. In addition, if we are unable to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting, when required, investors may lose confidence in the accuracy and completeness of our financial reports, we may face restricted access to the capital markets, and our stock price may be materially adversely affected. Moreover, we could become subject to investigations by regulatory authorities, which could require additional financial and management resources.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, we may not be able to accurately report our financial results in a timely manner or prevent fraud, which would harm our business.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation, could cause us to fail to meet our reporting obligations in a timely manner, or at all. In addition, any testing by us conducted in connection with Section 404(a) of SOX or any subsequent testing by our independent registered public accounting firm in connection with Section 404(b) of SOX, may reveal deficiencies in our internal controls over financial reporting that are deemed to be significant deficiencies or material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. As discussed above, we have identified material weaknesses in the past which we are in the process of remedying. However, our efforts to remediate previous material weaknesses may not be effective or prevent any future deficiency in our internal control over financial reporting. Ineffective internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

We will be required to disclose material changes made in our internal controls over financing reporting and procedures on a quarterly basis and our management will be required to assess the effectiveness of these controls annually. Beginning with our second annual report on Form 10-K after we become a public company, we will be required to make a formal assessment of the effectiveness of our internal control over financial reporting, and once we cease to be an emerging growth company, we will be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, for as long as we are an "emerging growth company" under the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404(b).

To achieve compliance with Section 404(a) within the prescribed period, we will be engaging in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a plan to assess and document the adequacy of our internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are designed and operating effectively and implement a continuous reporting and improvement process for internal control over financial reporting.

We could be an "emerging growth company" for up to five years. An independent assessment of the effectiveness of our internal controls could detect problems that our management's assessment might not identify. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operation could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in our financial statements and accompanying notes. We base our estimates on historical experience and estimates and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. For example, in connection with the implementation of the new revenue accounting standard, management makes judgments and assumptions based on our interpretation of the new standard. The new standard is principle-based and interpretation of those principles may vary from company to company based on their unique circumstances. It is possible that interpretation, industry practice and guidance may evolve as we apply the new standard. If our assumptions underlying our estimates and judgements relating to our critical accounting policies change or if actual circumstances differ from our assumptions, estimates or judgements, our operating results may be adversely affected and could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

Risks Related to Regulation

We are subject to regulation by various federal, state and foreign agencies that require us to comply with a wide variety of regulations, including those regarding the manufacture of products, advertising and product label claims, the distribution of our products and environmental matters. Failure to comply with these regulations could subject us to fines, penalties and additional costs.

Some of our operations are subject to regulation by various United States federal agencies and similar state and international agencies, including the Department of Commerce, the United States Food and Drug Administration (FDA), the Federal Trade Commission (FTC), the Department of Transportation, the U.S. Environmental Protection Agency and the U.S. Department of Agriculture (USDA). These regulations govern a wide variety of product activities, from design and development to labeling, manufacturing, handling, sales and distribution of products. If we fail to comply with any of these regulations, we may be subject to fines or penalties, have to recall products or cease their manufacture and distribution, any of which would increase our costs and reduce our sales.

For example, the FDA may regulate medical or health-related software, including machine learning functionality and predictive algorithms, if such software falls within the definition of a "medical device" under the federal Drug Food and Cosmetic Act (FDCA). However, the FDA exercises enforcement discretion for certain low-risk software, as described in its guidance documents for Mobile Medical Applications, General Wellness: Policy for Low Risk Devices, and Medical Device Data Systems, Medical Image Storage Devices, and Medical Image Communications Devices. In addition, the 21st Century Cures Act includes exemptions for certain medical-related software, including software used for administrative support functions at a healthcare facility, software intended for maintaining or encouraging a healthy lifestyle, EHR software, software for transferring, storing, or displaying medical device data or in vitro diagnostic data, and certain clinical decision support software. The FDA has also issued guidance documents to clarify how it intends to interpret and apply the exemptions under the 21st Century Cures Act. Although we believe that our software products are currently not subject to active FDA regulation, we continue to follow the FDA's developments in this area. There is a risk that the FDA could disagree with our determination or that the FDA could develop new final guidance documents that would subject our products to active FDA oversight. If FDA determines that any of our current or future software products are

regulated as medical devices, we would become subject to various requirements under the FDCA and the FDA's implementing regulations, including the potential for both premarket and post-market requirements, and we would need to bring our software offerings into compliance with such requirements. Depending on the functionality and FDA classification of our software products, we may be required to register and list our products with the FDA and seek marketing authorization from FDA through a 510(k) clearance, De Novo classification, or Premarket Approval application pathway prior to marketing our software.

We are also subject to various federal, state, local and international laws and regulations that govern the handling, transportation, manufacture, use and sale of substances that are or could be classified as toxic or hazardous substances. Some risk of environmental damage is inherent in our operations and the products we manufacture, sell or distribute. Any failure by us to comply with the applicable government regulations could also result in product recalls, market withdrawals or impositions of fines and restrictions on our ability to carry on with or expand in a portion or possibly all of our operations. If we fail to comply with any or all of these regulations, we may be subject to fines or penalties, have to recall or withdraw products or cease their manufacture and distribution, which would increase our costs and reduce our sales.

Changes in the way that the FDA and other agencies regulate the tests and other products and services we offer, or FDA's disagreement as to the regulatory classification of our tests or other products, could result in the delay or additional expense in offering the tests or products, or otherwise impact our business.

Governmental agencies throughout the world, including in the United States, strictly regulate the pharmaceutical, dietary supplement, medical device, food and cosmetic industries. Our business involves manufacturing dietary supplements, developing health and wellness products, and offering testing performed by independent laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) and accredited by the College of American Pathologists (CAP). Changes in regulation or application of regulatory requirements that we have difficulty satisfying or that make our services less competitive, could eliminate or substantially reduce the demand for our tests, products and services or could impact our marketing practices relating to the relevant tests or products, which in turn may have an adverse impact on our business, financial condition and results of operations.

Laboratory-developed tests (LDTs) are in vitro diagnostic tests that are intended for clinical use and are designed, manufactured and used within a single laboratory. Although LDTs are classified as medical devices and the FDA has statutory authority to ensure that medical devices are safe and effective for their intended uses, the FDA has historically exercised enforcement discretion and has not enforced certain applicable FDA requirements, including premarket review, with respect to LDTs. Moreover, in August 2020, the U.S. Department of Health and Human Services (HHS), announced that FDA will not require premarket review of LDTs absent notice-and-comment rulemaking.

Legislative and administrative proposals proposing to amend the FDA's oversight of LDTs have been introduced in recent years and we expect that new legislative and administrative proposals will continue to be introduced from time to time. It is possible that legislation could be enacted into law or regulations or guidance could be issued by the FDA which may result in new or increased regulatory requirements for us to continue to offer our tests or to develop and introduce new tests as LDTs. For example, the FDA could modify its current approach to LDTs in a way that would subject our tests that we market as LDTs to the enforcement of additional regulatory requirements. In recent years, the FDA has stated its intention to modify its enforcement discretion policy with respect to LDTs. Specifically, on July 31, 2014, the FDA notified Congress of its intent to modify, in a risk-based manner, its policy of enforcement discretion with respect to LDTs. On October 3, 2014, the FDA issued two draft guidance documents entitled "Framework for Regulatory Oversight of Laboratory Developed Tests (LDTs)," or the Framework Guidance, and "FDA Notification and Medical Device Reporting for Laboratory Developed Tests (LDTs)," or the Reporting Guidance. The FDA halted finalization of the guidance in November 2016 to allow for further public discussion on an appropriate oversight approach to LDTs and to give congressional authorizing committees the opportunity to develop a legislative solution, and FDA issued a discussion paper on possible approaches to LDT regulation in January 2017.

In addition, the FDA and Congress have considered a number of proposals to end the FDA's enforcement discretion policy for LDTs and subject LDTs to additional regulatory requirements. For example, Congress has recently been working on legislation to create an LDT and in vitro diagnostic regulatory framework for all in vitro clinical tests (IVCTs), that would be separate and distinct from the existing medical device regulatory framework. In March 2020, members of the U.S. House of Representatives formally introduced the Verifying Accurate Leading-edge IVCT Development Act of 2020 (the VALID Act) in the House and an identical version of the bill was introduced in the U.S. Senate. The VALID Act would create a new category of medical products separate from IVCTs, and subject all such products to FDA oversight. As proposed, the bill grandfathers many existing tests from the proposed premarket approval, quality systems, and labeling requirements, but would require such tests to comply with other regulatory requirements (for example, registration and notification, adverse event reporting). The bill also provides for IVCTs introduced before the effective date, drafted to be approximately four years after the enactment date, to be transitional and remain on the market subject to certain conditions. It is unclear whether the VALID Act or any other legislative proposals would be passed by Congress or signed into law by the President. Depending on the approach adopted under any legislation, certain LDTs, likely those of higher risk, could become subject to some form of premarket review, potentially with a transition period for compliance and a grandfathering provision.

Even if the FDA does not modify its policy of enforcement discretion, whether due to changes in FDA policy or legislative action, the FDA may disagree that our tests are properly classified as LDTs within the scope of its policy of enforcement discretion and may impose significant regulatory requirements, including the requirement for premarket review and clearance or approval. We may also be required to conduct clinical studies to support our currently marketed products or planned product launches.

If this were to happen, we or our suppliers may be required to obtain premarket clearance or approval of the tests we offer, or our marketing practices relating to the relevant tests may be impacted. The process of obtaining regulatory clearances or approvals to market a medical device can be costly and time consuming, and our suppliers may not be able to obtain these clearances or approvals on a timely basis, if at all. If we or our suppliers are required to conduct clinical trials, delays in the commencement or completion of clinical testing could significantly increase our test development costs and delay commercialization of any currently-marketed tests that we may be required to cease selling or the commercialization of any future tests that we may develop. Many of the factors that may cause or lead to a delay in the commencement or completion of clinical trials may also ultimately lead to delay or denial of regulatory clearance or approval. The commencement of clinical trials may be delayed due to insufficient patient enrollment, which is a function of many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites and the eligibility criteria for the clinical trial.

Even if regulatory clearance or approval of a product is required and granted, such clearance or approval may be subject to limitations on the intended uses for which the product may be offered and reduce our potential to successfully commercialize and generate revenue from the test results. If the FDA determines that our promotional materials, labeling, training or other marketing or educational activities constitute promotion of an uncleared or unapproved use, it could request that we cease or modify our training or promotional materials or subject us to regulatory enforcement action.

We and our suppliers are also subject to other federal, state, and foreign regulation concerning the manufacture and sale of the tests we offer. Failure to comply with U.S. federal, state and foreign governmental regulations could lead to the issuance of warning letters or untitled letters, the imposition of injunctions, suspensions or loss of regulatory clearance or approvals, product recalls, termination of distribution, product seizures or civil penalties. In the most extreme cases, criminal sanctions or closure of our suppliers' manufacturing facilities are possible. The occurrence of any of these events may have an adverse impact on our business, financial condition and results of operations.

After clearance or approval of any of our products, we are subject to continuing regulation by the FDA, and if we fail to comply with FDA regulations, our business could suffer.

Even after clearance or approval of a product, we are subject to continuing regulation by the FDA, including the requirements that our facility be registered and our devices listed with the agency. We are subject to Medical Device Reporting regulations, which require us to report to the FDA if our products may have caused or contributed to a death or serious injury or malfunction in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur. We must report corrections and removals to the FDA where the correction or removal was initiated to reduce a risk to health posed by the device or to remedy a violation of the Federal Food, Drug, and Cosmetic Act caused by the device that may present a risk to health, and maintain records of other corrections or removals. The FDA closely regulates promotion and advertising and our promotional and advertising activities could come under scrutiny. If the FDA objects to our promotional and advertising activities or finds that we failed to submit reports under the Medical Device Reporting regulations, for example, the FDA may allege our activities resulted in violations.

The FDA and state authorities have broad enforcement powers. Our failure to comply with applicable regulatory requirements could result in enforcement action by the FDA or state agencies, which may include any of the following sanctions:

- untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- repair, replacement, refunds, recall or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for 510(k) clearance or premarket approval of new products or new intended uses;
- withdrawing 510(k) clearance or premarket approvals that have already been granted; and
- criminal prosecution.

If any of these events were to occur, they could harm our business.

If we modify our 510(k)-cleared products without FDA clearance, the FDA could retroactively determine that the modifications were improper and require us to stop marketing and recall the modified products.

Any modifications to a FDA-cleared device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, requires a new 510(k) clearance or a premarket approval. We may be required to submit extensive pre-clinical and clinical data depending on the nature of the changes. We may not be able to obtain additional 510(k) clearances or premarket approvals for modifications to, or additional indications for, our existing products in a timely fashion, or at all. Delays in obtaining future clearances or approvals would adversely affect our ability to introduce new or enhanced products in a timely manner, which in turn would harm our revenue and operating results. If the FDA disagrees with any of our prior determinations that a change to our 510(k)-cleared device did not require new clearances or approvals, we may be required to recall and to stop marketing the modified devices, which could harm our operating results and require us to redesign, among other things, our products.

We and our suppliers are subject to numerous laws and regulations that apply to the manufacture, sale and marketing of nutritional supplements, and compliance with these laws and regulations, as they currently exist or as modified in the future, may increase our costs, limit or eliminate our ability to sell certain products, subject us or our suppliers to the risk of enforcement action, or otherwise adversely affect our business, results of operations and financial condition.

As a manufacturer of nutritional supplements, we are subject to numerous health and safety laws and regulations. Our suppliers are also subject to such laws and regulations. These laws and regulations apply to many aspects of our business, including the manufacturing, packaging, labeling, distribution, advertising, sale,

quality and safety of products we sell, as well as the health and safety of our team members and the protection of the environment. We are subject to regulation by various government agencies, including the FDA, the USDA, the FTC, the Occupational Safety and Health Administration, the Consumer Product Safety Commission and the U.S. Environmental Protection Agency, as well as various state and local agencies. For example, our products are subject to numerous and extensive laws and regulations governing the type of claims we can make regarding our products, the product constituents that can be used to manufacture our products, and whether our product constituents or the products themselves require pre-market review or pre-market notification. Outside the United States, our activities and products are also subject to numerous similar statutes and regulations. Many of these laws and regulations involve a high level of subjectivity, are inherently fact-based and subject to interpretation, and vary significantly from market to market.

Dietary supplements are regulated under the Dietary Supplement Health and Education Act of 1994 (DSHEA), a statute which is administered by the FDA which amended the FDCA. DSHEA expressly permits supplements to bear statements describing how a product affects the structure, function or general well-being of the body. However, no statement may expressly or implicitly represent that a supplement will diagnose, cure, mitigate, treat or prevent a disease. DSHEA has not been materially amended since it was enacted in 1994 but the newly constituted U.S. Congress or executive branch could decide to revisit whether changes are necessary to modernize this legislation.

Our dietary supplement products are required to be manufactured in compliance with current Good Manufacturing Practices (cGMP) requirements. As a result, the facilities used by us or any of our current or future suppliers must be compliant with cGMPs. Our manufacturing facilities are subject to ongoing periodic unannounced inspections by the FDA and corresponding state and international authorities for compliance with cGMPs and similar regulatory requirements. If we or our manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA and any applicable foreign regulatory authority, our products may be deemed noncompliant, and we could face sanctions being imposed on us, including fines, injunctions, civil penalties, delays, operating restrictions, interruptions in supply, recalls, withdrawals, issuance of safety alerts and criminal prosecutions, any of which could have a material adverse impact on our business, financial condition, results of operations and prospects. Finally, we also could experience manufacturing delays if our contractors give greater priority to the manufacture and supply of other products over our products or otherwise do not satisfactorily perform according to the terms of their agreements with us.

The FDA has broad authority to enforce the provisions of the FDCA applicable to the safety, labeling, manufacturing and promotion dietary supplements, including powers to issue a public warning letter to a company, publicize information about illegal products, institute an administrative detention, request or order a recall of illegal products from the market and request the Department of Justice to initiate a seizure action, an injunction action or a criminal prosecution in the U.S. courts. Pursuant to the Food Safety Modernization Act (FSMA), the FDA also has the power to refuse the import of dietary supplement from a foreign supplier that is not appropriately verified as in compliance with all FDA laws and regulations. Moreover, the FDA has the authority to administratively suspend the registration of any facility producing dietary supplements, deemed to present a reasonable probability of causing serious adverse health consequences.

In connection with the marketing and advertisement of products we sell, we could be the target of claims relating to false or deceptive advertising, including under the auspices of the FTC and the consumer protection statutes of some states. Furthermore, in recent years, the FDA has been aggressive in enforcing its regulations with respect to nutrient content claims, unauthorized “health claims,” which are defined as claims that characterize the relationship between a food or food ingredient and a disease or health condition, and other claims that impermissibly suggest therapeutic benefits for certain products including dietary supplements. These events could interrupt the marketing and sales of our products, severely damage our brand reputation and public image, increase the cost of our products, result in product recalls, market withdrawals or litigation and impede our ability to deliver our products, any of which could result in a material adverse effect on our business, financial condition and results of operations.

As is common in our industry, we rely on our suppliers to ensure that the products they manufacture and sell to us comply with all applicable regulatory and legislative requirements. In general, we seek certifications of compliance, representations and warranties, indemnification and insurance from our suppliers. However, even with adequate insurance and indemnification, any claims of non-compliance could significantly damage our reputation and consumer confidence in our products.

We cannot predict the nature of future laws, regulations, interpretations or applications, or determine what effect either additional government regulations or administrative orders, when and if promulgated, or disparate federal, state and local regulatory schemes would have on our business in the future. They could, however, increase our costs or require the reformulation of certain products to meet new standards, the recall or discontinuance of certain products not able to be reformulated, additional recordkeeping, expanded documentation of the properties of certain products, expanded or different labeling or scientific substantiation. Another example is that the FDA could require the production of efficacy data for nutritional supplements. Any or all of such requirements could have a material adverse effect on our business, financial condition and results or operation.

Our use, disclosure, and other processing of personal information, including health information, is subject to the Health Insurance Portability and Accountability Act (HIPAA), and other federal, state, and foreign data privacy and security laws and regulations, and our failure to comply with those laws and regulations or to appropriately secure the information we hold could result in significant liability or reputational harm and, in turn, a material adverse effect on our client base, customer base and revenue.

In the course of offering personalized health and wellness recommendations, we collect a substantial amount of personalized health information. Numerous state and federal laws and regulations govern the collection, dissemination, use, privacy, confidentiality, security, availability, integrity and other processing of protected health information (PHI), and other types of personal information. For example, HIPAA establishes a set of national privacy and security standards for the protection PHI by health plans, healthcare clearinghouses and certain healthcare providers, referred to as covered entities, and the business associates with whom such covered entities contract for services, as well as their covered subcontractors. When we act in the capacity of a business associate under HIPAA, we execute business associate agreements with our clients.

HIPAA requires covered entities and business associates, such as us, to develop and maintain policies and procedures with respect to PHI that is used or disclosed, including the adoption of administrative, physical and technical safeguards to protect such information.

Violations of HIPAA may result in significant civil and criminal penalties. HIPAA also authorizes state attorneys general to file suit on behalf of their residents. Courts may award damages, costs and attorneys' fees related to violations of HIPAA in such cases. While HIPAA does not create a private right of action allowing individuals to sue us in civil court for violations of HIPAA, its standards have been used as the basis for duty of care in state civil suits such as those for negligence or recklessness in the misuse or breach of duties related to PHI.

In addition, HIPAA mandates that the Secretary of HHS conduct periodic compliance audits of HIPAA covered entities and business associates for compliance with the HIPAA privacy and security rules.

HIPAA further requires that patients be notified of any unauthorized acquisition, access, use or disclosure of their unsecured PHI that compromises the privacy or security of such information, with certain exceptions related to unintentional or inadvertent use or disclosure by employees or authorized individuals. HIPAA requires such notifications to be made "without unreasonable delay and in no case later than 60 calendar days after discovery of the breach." If a breach affects 500 patients or more, it must be reported to HHS without unreasonable delay, and HHS will post the name of the breaching entity on its public web site. Breaches affecting 500 patients or more in the same state or jurisdiction must also be reported to the local media. If a breach involves fewer than 500 people, the covered entity must record it in a log and notify HHS at least annually.

In addition to HIPAA, numerous other federal, state, and foreign laws and regulations protect the confidentiality, privacy, availability, integrity and security of health-related and other personal information. These laws and regulations in many cases are more restrictive than, and may not be preempted by, HIPAA and its implementing rules. These laws and regulations are often uncertain, contradictory, and subject to changed or differing interpretations, and we expect new laws, rules and regulations regarding privacy, data protection, and to be proposed and enacted in the future. Further, the and many state attorneys general are interpreting existing federal and state consumer protection laws to impose evolving standards for the online collection, use, dissemination and security of health-related and other personal information. Courts may also adopt the standards for fair information practices promulgated by the FTC, which concern consumer notice, choice, security and access. Consumer protection laws require us to publish statements that describe how we handle personal information and choices individuals may have about the way we handle their personal information. If such information that we publish is considered untrue, we may be subject to government claims of unfair or deceptive trade practices, which could lead to significant liabilities and consequences. Furthermore, according to the FTC, violating consumers' privacy rights or failing to take appropriate steps to keep consumers' personal information secure may constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the FTC Act.

California also has enacted the California Consumer Privacy Act (CCPA), which came into effect on January 1, 2020. Pursuant to the CCPA, certain businesses are required, among other things, to make certain enhanced disclosures related to California residents regarding the use or disclosure of their personal information, allow California residents to opt-out of certain uses and disclosures of their personal information without penalty, provide California residents with other choices related to personal information in our possession, and obtain opt-in consent before engaging in certain uses of personal information relating to California residents under the age of 16. The California Attorney General may seek substantial monetary penalties and injunctive relief in the event of our non-compliance with the CCPA. The CCPA also allows for private lawsuits from Californians in the event of certain data breaches. Moreover, the California Privacy Rights Act (CPRA), was recently passed in California. The CPRA significantly modifies the CCPA, creating additional data protection obligations relating to consumer data on covered businesses, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It will also create a new California data protection agency authorized to issue substantive regulations and could result in increased privacy and information security enforcement. The majority of the provisions will go into effect on January 1, 2023, with enforcement beginning July 1, 2023. Aspects of the CCPA and CPRA remain uncertain, and we may be required to make modifications to our policies or practices in efforts to comply. Other states are considering similar legislation. A broad range of legislative measures also have been introduced at the federal level.

In Europe, the collection, use, disclosure, transfer or other processing of personal data regarding individuals, including personal health data and employee data, is subject to the GDPR, which took effect in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data of individuals within the European Economic Area (EEA), including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. In addition, the GDPR imposes strict rules on the transfer of personal data to countries outside the EEA, including the United States and, as a result, increases the scrutiny that such rules should apply to transfers of personal data from the EEA to the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to the greater of four percent of global revenues or €20 million, and confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that European Union member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric, or health data.

Further, the United Kingdom exited the EU effective January 31, 2020, subject to a transition period that ended December 31, 2020. Brexit has created uncertainty with regard to the regulation of data protection in the United Kingdom. The United Kingdom has implemented legislation that substantially implements the GDPR, with penalties of up to the greater of four percent of global revenues or £17.5 million. Currently there is a four to six-month grace period agreed in the EU and United Kingdom Trade and Cooperation Agreement, ending June 30, 2021, at the latest, whilst the parties discuss an adequacy decision. The European Commission published a draft of adequacy decision on February 19, 2021. If adopted, the decision will enable data transfers from EU member states to the United Kingdom for a four-year period, subject to subsequent extensions.

This complex, dynamic legal landscape regarding privacy, data protection, and information security creates significant compliance issues for us and our clients and potentially exposes us to additional expense, adverse publicity and liability. While we have implemented data privacy and security measures in an effort to comply with applicable laws and regulations relating to privacy, data protection and information security, PHI and other personal information is processed for us or transmitted to us by third parties, who may not implement adequate security and privacy measures, and it is possible that laws, rules or regulations relating to privacy, data protection, or information security may be interpreted and applied in a manner that is inconsistent with our practices or those of third parties who perform services for us or transmit PHI and other personal information to us. Any failure or perceived failure by us or these third parties to comply with laws, regulations, rules or other obligations relating to privacy, data protection or information security, may result in governmental investigations or enforcement actions, litigation, claims and other proceedings, and could result in significant fines, penalties, and other liability. Additionally, defending against any claims, litigation, regulatory proceedings, or other proceedings can be costly, time-consuming and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions or proceedings that may be brought against us, our business may be impaired, and we may suffer reputational and other harm. Further, complying with these various laws, regulations, and other obligations could cause us to incur substantial costs or require us to change our business practices, systems and compliance procedures in a manner adverse to our business.

Furthermore, the costs of compliance with, and other burdens imposed by, the laws, regulations and policies that are applicable to the businesses of our clients may limit the use and adoption of, and reduce the overall demand for, our platform. Even the perception of privacy concerns, whether or not valid, may harm our reputation and inhibit use and adoption of our platform. Further, if any information that we collect from or otherwise process about our customers is used, accessed or disclosed in an unauthorized manner, or if this is reported or perceived to have occurred, customers may not want to provide such information to us, which could prevent us from providing recommendations, subject us to liability or damage our reputation and brand. Any of the foregoing consequences could have a material adverse impact on our business and our financial results.

From time to time, we may be subject to legal proceedings, regulatory disputes, and governmental inquiries that could cause us to incur significant expenses, divert our management's attention, and materially harm our business, financial condition and operating results.

From time to time, we may be subject to claims, lawsuits, government investigations and other proceedings involving products liability, competition and antitrust, intellectual property, privacy, data protection, information security, customer protection, securities, tax, labor and employment, commercial disputes and other matters that could adversely affect our business operations and financial condition. Litigation and regulatory proceedings, and particularly the intellectual property infringement matters that we are currently facing or could face, may be protracted and expensive, and the results are difficult to predict. Certain of these matters include speculative claims for substantial or indeterminate amounts of damages and include claims for injunctive relief. Additionally, our litigation costs could be significant. Adverse outcomes with respect to litigation or any of these legal proceedings may result in significant settlement costs or judgments, penalties and fines, or require us to modify our products or services, make content unavailable, or require us to stop offering certain features, all of which could negatively affect our membership and revenue growth.

We are aware of third-party issued U.S. patents with claims relating to compositions of nicotinamide riboside, a component of some of our products, owned by the Trustees of Dartmouth and licensed to ChromaDex Corporation (ChromaDex). We have filed petitions for inter partes review against these patents at the Patent Trial and Appeal Board to seek to invalidate these patents. In May 2021, the Trustees of Dartmouth and ChromaDex initiated infringement proceedings against us. The complaint seeks to enjoin us from selling our nutritional supplement products that contain nicotinamide riboside, including our NiaCel suite of supplements, and further seeks monetary damages for alleged infringement. The results of litigation, investigations, claims, and regulatory proceedings cannot be predicted with certainty, and determining reserves for pending litigation and other legal and regulatory matters requires significant judgment. There can be no assurance that our expectations will prove correct, and even if these matters are resolved in our favor or without significant cash settlements, these matters, and the time and resources necessary to litigate or resolve them, could harm our business, financial condition, and operating results.

If we fail to comply with governmental regulations, we could face substantial penalties and our business, financial condition and results of operations could be adversely affected.

Although our offerings are not currently covered by any third-party payor, including any commercial payor or government healthcare program, our business activities may nonetheless be subject to regulation and enforcement by the FDA, U.S. Department of Justice, HHS and other federal and state governmental authorities.

Our employees, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements. Federal and state laws and regulations that may affect our ability to conduct business include, without limitation:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order, or arranging for or recommending the purchase, lease or order of, any item or service, for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- the federal civil false claims laws, including without limitation the federal False Claims Act, which can be enforced through "qui tam," or whistleblower actions, by private citizens, on behalf of the federal government, and civil monetary penalties laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, false or fraudulent claims for payment of government funds, or knowingly making or using or causing to be made or used, a false record or statement material to an obligation to pay money to the government or knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the healthcare fraud statutes under HIPAA, which impose criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for healthcare benefits, items or services by a healthcare benefit program, which includes both government and privately funded benefits programs. Similar to the federal Anti-Kickback

Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- the federal Physician Payment Sunshine Act, which require certain manufacturers of drugs, devices, biologicals, and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program to report annually to HHS under the Open Payments Program, information related to payments or other transfers of value made to teaching hospitals, physicians and, effective January 1, 2022, for transfers of value made during the prior year to certain other healthcare practitioners, as well as ownership and investment interests held by such physicians and their immediate family members;

- medical device regulations pursuant to the FDCA, which require, among other things, pre-market clearances, approved labelling, medical device adverse event reporting, and on-going post-market monitoring and quality assurance;

- federal consumer protection and unfair competition laws, which broadly regulate platform activities and activities that potentially harm consumers;

- state law equivalents of each of the above federal laws, such as anti-kickback, self-referral and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers, and self-pay patients; and

- state laws governing the corporate practice of medicine and other healthcare professions and related fee-splitting laws.

Because of the breadth of these laws and the narrowness of available statutory and regulatory exemptions, it is possible that some of our activities, including our arrangements with our network of health professionals who receive a payment for the products their patients purchase from us, could be subject to challenge under one or more of such laws.

We may face claims and proceedings by private parties, and claims, investigations and other proceedings by governmental authorities, relating to allegations that our business practices do not comply with current or future laws or regulations involving applicable fraud and abuse or other healthcare laws and regulations, and it is possible that courts or governmental authorities may conclude that we have not complied with applicable laws, or that we may find it necessary or appropriate to settle any such claims or other proceedings. The growth of our business and sales organization and our future expansion outside of the United States may increase the potential of violating these laws or our internal policies and procedures. The risk of our being found in violation of these or other laws and regulations is further increased by the fact that many have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action brought against us for violation of these or other laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any federal, state or foreign laws described above or other laws and regulations that apply to us, we may be subject to claims and proceedings by private parties, investigations and other proceedings by governmental authorities, as well as penalties, including significant criminal, civil and administrative penalties, damages and fines, disgorgement, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of noncompliance with these laws or regulations, imprisonment for individuals and exclusion from participation in government programs, such as Medicare and Medicaid, as well as contractual damages and reputational harm. We could also be required to curtail or cease our operations. We may be required to undertake additional policies or measures in order to comply with these or other applicable laws. Any of the foregoing could seriously harm our business and our financial results.

We are dependent on our relationships with healthcare professionals to provide healthcare services, and our business would be adversely affected if those relationships were disrupted.

Our contractual relationships with our network of healthcare professionals which provide for consulting and other services may implicate certain state laws in the United States that generally prohibit non-physician entities from practicing medicine, exercising control over physicians or engaging in certain practices such as fee-splitting with physicians. Although we believe that we have structured our arrangements to ensure that the healthcare professionals maintain exclusive authority regarding the delivery of medical care and the ordering of our tests when deemed clinically appropriate, there can be no assurance that these laws will be interpreted in a manner consistent with our practices or that other laws or regulations will not be enacted in the future that could have a material and adverse effect on our business, financial condition and results of operations. Regulatory authorities, state medical boards of medicine, state attorneys general and other parties, including our affiliated healthcare professionals, may assert that we are engaged in the prohibited corporate practice of medicine, or that our arrangements with our network of healthcare professionals constitute unlawful fee-splitting. If a state's prohibition on the corporate practice of medicine or fee-splitting law is interpreted in a manner that is inconsistent with our practices, we would be required to restructure or terminate our relationship with our healthcare professionals to bring our activities into compliance with such laws. A determination of non-compliance, or the termination of or failure to successfully restructure these relationships could result in disciplinary action, penalties, damages, fines, and a loss of revenue, any of which could have a material and adverse effect on our business, financial condition and results of operations. State corporate practice of medicine doctrines and fee-splitting prohibitions also often impose penalties on healthcare professionals for aiding the corporate practice of medicine, which could discourage physicians and other healthcare professionals from participating in our network of providers.

Failure to comply with anti-corruption and anti-money laundering laws, including the FCPA and similar laws associated with our activities outside of the United States, could subject us to penalties and other adverse consequences.

We operate a global business and may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities. We are subject to the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, the U.K. Bribery Act, the Canadian Corruption of Finance Public Officials Act and possibly other anti-corruption and anti-money laundering laws in countries in which we conduct activities. The FCPA prohibits providing, offering, promising, or authorizing, directly or indirectly, anything of value to government officials, political parties, or political candidates for the purposes of obtaining or retaining business or securing any improper business advantage. The provisions of the U.K. Bribery Act extend beyond bribery of government officials and create offenses in relation to commercial bribery including private sector recipients. The provisions of the U.K. Bribery Act also create offenses for accepting bribes in addition to bribing another person. In addition, U.S. public companies are required to maintain records that accurately and fairly represent their transactions and have an adequate system of internal accounting controls. In many foreign countries, including countries in which we may conduct business, it may be a local custom that businesses engage in practices that are prohibited by the FCPA, U.K. Bribery Act, or other applicable laws and regulations. We face significant risks if we or any of our directors, officers, employees, contractors, agents or other partners or representatives fail to comply with these laws and governmental authorities in the United States, U.K. and elsewhere could seek to impose substantial civil and/or criminal fines and penalties which could have a material adverse effect on our business, reputation, operating results, prospects and financial condition.

We have begun to implement an anti-corruption compliance program and policies, procedures and training designed to foster compliance with these laws, including the FCPA, the U.K. Bribery Act, the Canadian Corruption of Finance Public Officials Act, and others. However, our directors, officers, employees, contractors, agents, and other partners to which we outsource certain of our business operations, may take actions in violation of our policies or applicable law. Any such violation could have an adverse effect on our reputation, business, operating results, prospects and financial conditions.

Any violation of the FCPA, U.K. Bribery Act, the Canadian Corruption of Finance Public Officials Act other applicable anti-corruption laws, or anti-money laundering laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, severe criminal or civil sanctions and, in the case of the FCPA, suspension or debarment from U.S. government contracts, any of which could have a materially adverse effect on our reputation, business, operating results, prospects and financial condition. In addition, responding to any enforcement action or internal investigation related to alleged misconduct may result in a significant diversion of management's attention and resources and significant defense costs and other professional fees.

The applicability of sales, use and other tax laws or regulations on our business is uncertain. Adverse tax laws or regulations could be enacted or existing laws could be applied to us or our clients, which could subject us to additional tax liability and related interest and penalties, increase the costs of our solution and adversely impact our business.

The application of tax laws to e-commerce services is evolving. New income, sales, use, value-added or other tax laws, statutes, rules, regulations, or ordinances could be enacted at any time, possibly with retroactive effect, and could be applied solely or disproportionately to services provided over the internet or could otherwise materially affect our financial position and results of operations.

In addition, state, local and foreign tax jurisdictions have differing rules and regulations governing sales, use, value-added and other taxes, and these rules and regulations can be complex and are subject to varying interpretations that may change over time. Existing tax laws, statutes, rules, regulations, or ordinances could be interpreted, changed, modified, or applied adversely to us, possibly with retroactive effect. One or more states may seek to impose incremental or new sales, use, value added or other tax collection obligations on us, including for past sales by us or our resellers and other partners. A successful assertion by a state, country or other jurisdiction that we should have been or should be collecting additional sales, use, value added or other taxes on our solutions could, among other things, result in substantial tax liabilities for past sales, create significant administrative burdens for us, discourage users from utilizing our solutions or otherwise harm our business, results of operations and financial condition. Our resellers are responsible for collecting and paying the taxes on sales of our products to end-users. We are responsible for collecting and paying taxes on product sales made directly to end users. If it is determined that we have not collected and remitted the appropriate amount of taxes to governmental authorities we could be subject to potential sales tax liabilities including interest and penalties, which could have an adverse impact on our results of operations and our cash balance.

Risks Related to our Intellectual Property

Litigation or other proceedings or third-party claims of intellectual property infringement, misappropriation or other violations may require us to spend significant time and money to defend ourselves, and could in the future require us to pay substantial damages or prevent us from selling our products or services or impact our stock price, any of which could have a material adverse effect.

Our commercial success will depend in part on our avoiding infringement of patents and infringement, misappropriation or other violations of other proprietary rights of third parties, including, for example, the intellectual property rights, such as trademarks, trade dress and name and likeness, of competitors, marketing partners and other third parties. The personalized health and wellness industries are in a crowded patent space, and there are numerous U.S. and foreign issued patents and pending patent applications owned by third parties that exist in the fields in which we operate. It may not be clear to us whether our products or methods of manufacturing, or other processes that we use may infringe the patents of third parties. Identification of third-party patent rights that may be relevant to our products and operations can be difficult because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We also may not have the resources to perform extensive analysis of potentially relevant third party patents, especially given the wide range of our product offerings. Furthermore, there is extensive and frequent

intellectual property litigation in the personalized health and wellness products industry. Our activities may be subject to claims that we infringe or otherwise violate patents owned or controlled by third parties. We cannot assure you that our operations do not, or will not in the future, infringe existing or future patents.

For example, we are aware of third-party issued U.S. patents with claims relating to compositions of nicotinamide riboside, a component of some of our products, owned by the Trustees of Dartmouth and licensed to ChromaDex. We have filed petitions for inter partes review against these patents at the Patent Trial and Appeal Board to seek to invalidate the patents, but the outcome of such proceedings is uncertain. In May 2021, the Trustees of Dartmouth and ChromaDex initiated infringement proceedings against us. The complaint seeks to enjoin us from selling our nutritional supplement products that contain nicotinamide riboside, including our NiaCel suite of supplements, and further seeks monetary damages for alleged infringement. If we are unsuccessful in our challenge of the validity of the patent related to compositions of nicotinamide riboside, we could be required to pay damages and ongoing royalty payments or alternatively we may need to delay the sale of certain nutritional supplement products in the U.S. until 2026, when such patents will expire.

There may also be patent applications owned by third parties that, if issued as patents, could be asserted against us. Patent applications in the United States and elsewhere are typically published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Certain U.S. patent applications that will not be filed outside the United States can remain confidential until patents issue. Therefore, patent applications covering our products and services could have been filed by third parties without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our products and services, and their use. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history and can involve other factors such as expert opinion. Our interpretation of the relevance or the scope of claims in a patent or a pending application may be incorrect, which may negatively impact our ability to market our products and services. Further, we may incorrectly determine that our products or services are not covered by a third-party patent or may incorrectly predict whether a third party's pending patent application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our products or services. Third-party intellectual property right holders may also actively bring infringement or other intellectual property-related claims against us, even if we have received patent protection for our products and services.

With respect to non-patent intellectual property rights of third parties, such as trademarks, names and likeness, we are at risk of claims by third parties of infringing or misappropriating such intellectual property rights. For example, we tout our relationships with many third parties, including social influencers, marketing partners, customers, athletes, sports teams, sports leagues, research institutions, universities, consumer products companies, pharmaceutical companies and collaborators to market and promote our products and services, including on our website and in our marketing literature. We do not have formal engagement or agreement with many of these third parties that we characterize as our partners or collaborators, nor do we have agreements with them regarding to the terms or conditions under which we may use their trademarks, name and likeness to market and promote our products and services. These third parties may claim that we infringed their trademarks, or that we misappropriated their name and likeness and mischaracterized our relationships with them. For third parties with whom we have current agreements concerning our rights to use their name and likeness for marketing and promotional purposes, there are restrictions on how we may characterize our relationships with them and other terms and conditions under which we may disclose our relationships with them, such as, for example, their right to pre-approve instances of our use of their names in our promotional and marketing materials. These third parties may claim that we are in violation of our agreements with them and may seek damages or terminate their relationship with us. We could be found liable for significant monetary damages, including potential treble damages, disgorgement of profits, and attorneys' fees, if we are found to have willfully infringed a trademark or other intellectual property rights of third parties.

Regardless of the merit of third parties claims against us for infringement, misappropriation or violations of their intellectual property rights, such third parties may seek and obtain injunctive or other equitable relief, which could effectively block our ability to sell our products or services or perform our tests. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay our development or sales or other activities that are the subject of such suit. Defense of these claims, even if such claims are resolved in our favor, could cause us to incur substantial expenses and be a substantial diversion of our employee resources even if we are ultimately successful. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the market price of our common stock. Any adverse ruling or perception of an adverse ruling in defending ourselves could have a material adverse impact on our cash position and stock price. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios.

As we continue to commercialize our products in their current or an updated form, launch new products and services and enter new markets, other competitors might claim that our products or services infringe, misappropriate or violate their intellectual property rights as part of business strategies designed to impede our successful commercialization and entry into new markets. If such a suit were brought, regardless of merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability or priority. Even if we are successful in defending against such suit, we could incur substantial costs and diversion of the attention of our management and technical personnel in defending ourselves against such claims. A court of competent jurisdiction could hold that third-party patents asserted against us are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any products or services we may develop and any other technologies covered by the asserted third-party patents and any adverse ruling or perception of an adverse ruling in defending ourselves could have a material adverse impact on our cash position and stock price. If we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, and we are unsuccessful in demonstrating that such rights are invalid or unenforceable, we may be required to pay substantial damages, including treble damages and attorneys' fees for willful infringement; obtain one or more licenses from third parties in order to continue developing and marketing our products and services, which may not be available on commercially reasonable terms, if at all, or may be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us; pay substantial royalties and other fees; and redesign any infringing tests or other activities, which may be impossible or require substantial time and monetary expenditure, or be prohibited from commercializing certain tests, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may be subject to claims that we have wrongfully hired an employee from a competitor or that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

As is common in the personalized health and wellness products industries, in addition to our employees, we engage the services of consultants, outside scientific collaborators, third-party manufacturers, advisors, potential partners, and other third parties to assist us in the development of our products. We have entered into and may enter in the future into non-disclosure and confidentiality agreements to protect the proprietary positions of these third parties. Many of these third party individuals, and many of our employees, were previously employed at, or may have previously provided or may be currently providing consulting services or other services to, other nutritional supplements companies including our competitors or potential competitors. We could in the future be subject to claims that we or our employees or third parties that we hire to provide consulting or other services have inadvertently or otherwise used or disclosed alleged trade secrets or other

confidential information of former employers or competitors. Although we try to ensure that our employees and contractors do not use the intellectual property, proprietary information, know-how or trade secrets of others in their work for us, we may become subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement, that we wrongfully hired an employee from a competitor, or that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

While we may litigate to defend ourselves against these claims, even if we are successful, litigation could result in substantial costs and could be a distraction to management. If our defenses to these claims fail, in addition to requiring us to pay monetary damages, a court could prohibit us from using technologies or features that are essential to our products, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. Parties making claims against us may be able to sustain the costs of complex litigation more effectively than we can because they have substantially greater resources. Moreover, any such litigation or the threat thereof may adversely affect our reputation, our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, any of which would have an adverse effect on our business, results of operations, financial condition and prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

If we are unable to protect the confidentiality of our trade secrets and know-how, our business and competitive position may be harmed.

Our ability to compete effectively will depend, in part, on our ability to maintain the proprietary nature of our products, manufacturing processes and services. We rely on manufacturing and other know-how, trade secrets, license agreements and contractual provisions to establish our intellectual property rights and protect our products, manufacturing processes and services. If our efforts to protect our intellectual property rights are not sufficient or effective, or if our licenses are terminated and any of our intellectual property rights are challenged, this could result in those rights being narrowed in scope, terminated or declared invalid or unenforceable and sales of our products or services may suffer as a result and our ability to generate revenue could be severely impacted.

We rely upon unpatented trade secret protection, unpatented or unpatentable know-how and continuing technological innovation to develop and maintain our competitive position. Trade secrets, including unpatented know-know, and other proprietary information, can be difficult to trace, protect and enforce. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our vendors, employees, consultants and others who may have access to proprietary information. We may not be able to prevent the unauthorized disclosure or use of information which we consider to be confidential, our technical know-how or other trade secrets by the parties to these agreements, however, despite the existence generally of confidentiality agreements and other contractual restrictions. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. If any of the vendors, employees, consultants and others who are parties to these agreements breaches or violates the terms of any of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets as a result. If one of our employees publicly discloses information

that we believe to be confidential or a trade secret we may be unable to protect it in the future. Any disclosure, either intentional or unintentional, by our employees, the employees of third parties with whom we share our facilities or outside scientific collaborators, suppliers, third-party manufacturers, consultants, advisors, and vendors that we engage to perform research or manufacturing activities, or misappropriation by third parties, such as through a cybersecurity breach, of our trade secrets or proprietary information could enable competitors to duplicate or surpass our technological achievements, thus eroding our competitive positions in our market. Even where remedies are available, enforcing a claim that a party illegally disclosed or misappropriated our trade secrets, like patent litigation, is expensive and time consuming, and the outcome is unpredictable.

We also try to protect the confidential nature of our trade secrets and other proprietary information by using reasonable physical and technological security measures. Such security measures may not provide adequate protection for our proprietary information. Our security measures may not prevent an employee, outside scientific collaborator, contract research organization, third-party manufacturer, consultant, advisor, potential partner, and other third party from misappropriating our trade secrets and providing them to a competitor.

We may need to share our proprietary information, including trade secrets, with our current and future business partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors, and those affiliated with or controlled by state actors. If any of these events occurs or if we otherwise lose protection for our trade secrets, the value of this information may be greatly reduced, and our competitive position would be harmed. In addition, the criteria for protection of trade secrets can vary among different jurisdictions and courts outside the United States are sometimes less willing to protect trade secrets. Trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. Trade secrets will over time be disseminated within the industry through independent development, the publication of journal articles, and the movement of personnel skilled in the art from company to company or academic to industry scientific positions. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. Though our agreements with third parties typically restrict the ability of our employees, outside scientific collaborators, suppliers, third-party manufacturers, consultants, advisors, potential partners, and other third parties, to publish data potentially relating to our trade secrets, our agreements may contain certain limited publication rights that may allow disclosure of our trade secrets.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We rely on trademarks and tradenames to build brand recognition and to promote and market our products. Our current or future trademarks or trade names may be challenged, opposed, infringed, circumvented or declared generic or descriptive, determined to be not entitled to registration, or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in other foreign jurisdictions. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively, and our business may be adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Although these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, and service marks may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our financial condition or results of operations.

Trademark litigation can be expensive and the outcome can be highly uncertain. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. 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.

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

The laws of some foreign countries do not protect intellectual property rights in the same manner and to the same extent as laws in the United States. Consequently, competitors may use our technologies in jurisdictions where we have no meaningful intellectual property protection to develop their own products. These products may compete with our products in these jurisdictions. 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, trade secrets, trademarks, and other intellectual property protection, particularly those relating to nutritional supplement products, which could make it difficult for us to enforce our proprietary rights generally. Proceedings to enforce our trade secret rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, or 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. 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 develop or license.

In the future, we may need to obtain licenses of third-party technology that may not be available to us or are available only on commercially unreasonable terms, and which may cause us to operate our business in a more costly or otherwise adverse manner that was not anticipated.

From time to time, we may be required to license technologies or trademarks relating to our promotional and collaborative programs from third parties to further develop or commercialize our products. Should we be required to obtain licenses to any third-party technology or trademarks, including any patents required to manufacture, use or sell our products, such licenses may not be available to us on commercially reasonable terms, or at all. The inability to obtain any third-party license required to develop or commercialize any of our products could cause us to abandon any related efforts, which could seriously harm our business and operations.

Because of the expense and uncertainty of litigation, we may not be in a position to enforce our intellectual property rights against third parties.

Because of the expense and uncertainty of litigation, we may not be in a position to enforce our intellectual property rights against third parties and we may conclude that even if a third party is infringing our intellectual property, the risk-adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. Our competitors or other third parties may be able to sustain the costs of complex patent litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. In addition, the uncertainties associated with litigation could compromise our ability to raise the funds necessary to continue our internal research programs, in-license needed technology or other products, or enter into development partnerships that would help us bring our product to market. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution.

We may not be able to partner with others for technological capabilities and new products and services.

Our ability to remain competitive may depend, in part, on our ability to seek partners that can offer technological improvements and improve existing products and services offered to our customers. We are committed to attempting to keep pace with changes in the nutritional supplement and health and wellness industries, and to stay abreast of technology changes and to look for partners that will develop new products and services for our customer base. We cannot assure prospective investors that we will be successful in finding partners or be able to continue to incorporate new developments in technology, to improve existing products and services, or to develop successful new products and services. We also cannot be certain that newly-developed products and services will perform satisfactorily or be widely accepted in the marketplace or that the costs involved in these efforts will not be substantial.

Our use of "open source" software could subject our proprietary software to general release, adversely affect our ability to sell our products, and subject us to possible litigation.

A portion of our proprietary software that we use to perform services as part of our product offering incorporate so-called "open source" software and we may incorporate open source software into other products or technologies in the future. Such open source software is generally licensed by its authors or other third parties under open source licenses. Some open source licenses contain requirements that we disclose source code for modifications we make to the open source software and that we license such modifications to third parties at no cost. In some circumstances, distribution of our software in connection with open source software could require that we disclose and license some or all of our proprietary code in that software as well as distribute our products that use particular open source software at no cost to the user. We monitor our use of open source software in an effort to avoid uses in a manner that would require us to disclose or grant licenses under our proprietary source code, however, there can be no assurance that such efforts will be successful. Open source license terms are often ambiguous and such use could inadvertently occur. There is little legal precedent governing the interpretation of many of the terms of certain of these licenses, and the potential impact of these terms on our business may result in unanticipated obligations regarding our products and technologies. Companies that incorporate open source software into their products have, in the past, faced claims seeking enforcement of open source license provisions and claims asserting ownership of open source software incorporated into their product. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of an open source license, we could incur significant legal costs defending ourselves against such allegations. In the event such claims were successful, we could be subject to significant damages or be enjoined from the distribution of our products. In addition, if we combine our proprietary software with open source software in certain ways, under some open source licenses we could be required to release the source code of our proprietary software, which could substantially help our competitors develop products that are similar to or better than ours and otherwise have a material adverse effect on our business.

Risks Related to This Offering

Prior to this offering, there has been no public market for shares of our common stock and an active trading market for our common stock may never develop or be sustained.

Prior to this offering, there has been no public market for shares of our common stock. We have applied to list our common stock with the Nasdaq Global Select Market (Nasdaq), under the symbol "THRN." However, we cannot assure you that an active trading market for our common stock will develop on that exchange or elsewhere or, if developed, that any market will be sustained. Accordingly, we cannot assure you that an active trading market for our common stock will develop or be maintained, the liquidity of any trading market, your ability to sell your shares of our common stock when desired, or the prices that you may obtain for your shares of our common stock.

The market price of our common stock may be volatile, and you could lose all or part of your investment.

The initial public offering price of our common stock will be determined through negotiation among us and the underwriters. This price does not necessarily reflect the price at which investors in the market will be willing to buy and sell shares of our common stock following this offering. In addition, the market price of our common stock following this offering is likely to be volatile and could be subject to fluctuations in response to various factors, some of which are beyond our control. These fluctuations could cause you to lose all or part of your investment in our common stock since you might be unable to sell your shares at or above the price you paid in this offering. Factors that could cause fluctuations in the market price of our common stock include the following:

- price and volume fluctuations in the overall stock market from time to time;
- volatility in the market prices and trading volumes of health and wellness stocks;
- changes in operating performance and stock market valuations of other health and wellness companies generally, or those in our industry in particular;
- sales of shares of our common stock by us or our stockholders, as well as the anticipation of lock-up releases;
- failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in those projections, or our failure to meet those projections;
- announcements by us or our competitors of new products or services;
- the public's reaction to our press releases, other public announcements, and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- short selling of our common stock or related derivative securities;
- actual or anticipated changes in our results of operations or fluctuations in our results of operations;
- actual or anticipated developments in our business, our competitors' businesses or the competitive landscape generally;
- announced or completed acquisitions of businesses, offerings or technologies by us or our competitors;
- developments or disputes concerning our intellectual property or other proprietary rights;
- litigation involving us, our industry, or both, or investigations by regulators into our operations or those of our competitors;
- actual or perceived incidents relating to privacy, data protection or information security;
- new laws or regulations, or new interpretations of existing laws or regulations applicable to our business;

- changes in accounting standards, policies, guidelines, interpretations or principles;
- any significant change in our management;
- the COVID-19 pandemic, natural disasters or major catastrophic events; and
- general economic conditions and slow or negative growth of our markets.

In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities action litigation has often been instituted against these companies. This litigation, if instituted against us, would result in substantial costs and a diversion of our management's attention and resources.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about us, our business, or our market, or if they change their recommendations regarding our common stock adversely, the market price and trading volume of our common stock could decline.

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us, our business, our market or our competitors. The analyst estimates are based upon their own opinions and are often different from our estimates or expectations. If any of the analysts who cover us change their recommendation regarding our common stock adversely, provide more favorable relative recommendations about our competitors, or publish inaccurate or unfavorable research about our business, the price of our securities would likely decline. If few securities analysts commence coverage of us, or if one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets and demand for our securities could decrease, which could cause the price and trading volume of our common stock to decline.

We will incur increased costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could adversely affect our business, results of operations, and financial condition.

As a public company, we will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (Exchange Act), the listing standards of Nasdaq, and other applicable securities rules and regulations. We expect that the requirements of these rules and regulations will continue to increase our legal, accounting and financial compliance costs, make some activities more difficult, time-consuming and costly, and place significant strain on our personnel, systems and resources. For example, the Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and results of operations. As a result of the complexity involved in complying with the rules and regulations applicable to public companies, our management's attention may be diverted from other business concerns, which could harm our business, results of operations and financial condition. We may need to hire more personnel in the future or engage outside consultants, which will increase our operating expenses, to assist us in complying with these requirements.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time-consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest substantial resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from business operations to compliance activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us, and our business may be harmed.

We also expect that being a public company and these new rules and regulations will make it more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

As a result of disclosure of information in this prospectus and in filings required of a public company, our business and financial condition will become more visible, which may result in an increased risk of threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and results of operations could be harmed, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and harm our business, results of operations, and financial condition.

We have broad discretion over the use of the net proceeds from this offering and we may not use them effectively.

We cannot specify with any certainty the particular uses of the net proceeds that we will receive from this offering. Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section titled "Use of Proceeds," and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these proceeds effectively could adversely affect our business, financial condition and results of operations. Pending their use, we may invest our proceeds in a manner that does not produce income or that loses value. Our investments may not yield a favorable return to our investors and may negatively impact the price of our common stock.

Upon completion of this offering, our executive officers, directors, and holders of 5% or more of our common stock will collectively beneficially own approximately 85.0% of the outstanding shares of our common stock and continue to have substantial control over us, which will limit your ability to influence the outcome of important transactions, including a change in control.

Upon completion of this offering, our executive officers, directors and each of our stockholders who own 5% or more of our outstanding common stock and their affiliates, in the aggregate, will beneficially own approximately 85.0% of the outstanding shares of our common stock, based on the number of shares outstanding as of June 30, 2021, assuming an initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and an offering size of 7,000,000 shares. As a result, these stockholders, if acting together, will be able to influence or control matters requiring approval by our stockholders, including the election of directors and the approval of mergers, acquisitions or other extraordinary transactions. They may also have interests that differ from yours and may vote in a way with which you disagree and which may be adverse to your interests. This concentration of ownership may have the effect of delaying, preventing or deterring a change in control of our company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock.

The issuance of additional stock in connection with financings, acquisitions, investments, our equity incentive plans, or otherwise will dilute all other stockholders.

Our amended and restated certificate of incorporation that will be in effect upon completion of this offering authorizes us to issue up to 200,000,000 shares of common stock and up to 10,000,000 shares of preferred stock with such rights and preferences as may be determined by our board of directors. Subject to compliance with applicable rules and regulations, we may issue shares of common stock or securities convertible into shares of our common stock from time to time in connection with a financing, acquisition, investment, our equity incentive plans, or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the market price of our common stock to decline.

Sales, directly or indirectly, of a substantial amount of our common stock in the public markets by our existing security holders may cause the price of our common stock to decline.

Sales of a substantial number of shares of our common stock into the public market, particularly sales by our directors, executive officers, and principal stockholders, or the perception that these sales might occur, could cause the market price of our common stock to decline and could impair our ability to raise capital through the sale of additional equity securities. Many of our existing security holders have substantial unrecognized gains on the value of the equity they hold, and may take, or attempt to take, steps to sell, directly or indirectly, their shares or otherwise secure, or limit the risk to, the value of their unrecognized gains on those shares.

All of the shares of common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act except that any shares held by our affiliates, as defined in Rule 144 under the Securities Act, would only be able to be sold in compliance with Rule 144 and any applicable lock-up agreements described below. Approximately 45,514,600 shares of common stock, assuming no exercise of outstanding options, are subject to the lock-up agreement or market standoff agreements described below.

In connection with this offering, subject to certain customary exceptions, we, all of our directors and executive officers, and substantially all of the holders of our common stock, or securities exercisable for or convertible into our common stock outstanding immediately prior to this offering, have entered into market standoff agreements with us or lock-up agreements with the underwriters that prohibit them from selling, contracting to sell, granting any option for the sale of, transferring, or otherwise disposing of any shares of common stock, stock options, or any security or instrument related to common stock permission of BofA Securities, Inc., Cowen and Company, LLC and Evercore Group L.L.C. on behalf of the underwriters for a period of 180 days from the date of this prospectus, subject to early termination as described below.

When the applicable lock-up and market standoff periods described above expire, we and our security holders subject to a lock-up agreement or market standoff agreement will be able to sell our shares in the public market. In addition, BofA Securities, Inc., Cowen and Company, LLC and Evercore Group L.L.C., on behalf of the underwriters, may, in their sole discretion, release all or some portion of the shares subject to lock-up agreements prior to the expiration of the lock-up period. Sales of a substantial number of such shares upon expiration of the lock-up and market standoff agreements, or the perception that such sales may occur, or early release of these agreements, could cause our market price to fall or make it more difficult for you to sell your common stock at a time and price that you deem appropriate.

In addition, as of June 30, 2021, we had stock options outstanding that, if fully exercised, would result in the issuance of 9,771,310 shares of common stock. All of the shares of common stock issuable upon the exercise of stock options, and the shares reserved for future issuance under our equity incentive plans, will be registered for public resale under the Securities Act of 1933, as amended (the Securities Act). Accordingly, these shares will be able to be freely sold in the public market upon issuance subject to existing lock-up or market standoff agreements and applicable vesting requirements.

Immediately following this offering, the holders of 42,045,380 shares of our common stock will have rights, subject to some conditions, to require us to file registration statements for the public resale of the common stock issuable upon conversion of such shares or to include such shares in registration statements that we may file for us or other stockholders.

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

Our amended and restated bylaws designate a state or federal court located within the State of Delaware as the exclusive forum for substantially all disputes between us and our stockholders, and also provide that the federal district courts will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended, each of which could limit our stockholders' ability to choose the judicial forum for disputes with us or our directors, officers, stockholders, or employees.

Our amended and restated certificate of incorporation specifies that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (a) any derivative action or proceeding brought on our behalf, (b) any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, stockholders, officers, or other employees to us or our stockholders, (c) any action or proceeding asserting a claim arising pursuant to, or seeking to enforce any right, obligation or remedy under, any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws, (d) any action or proceeding as to which the Delaware General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware, or (e) any action or proceeding asserting a claim that is governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware, or, if the Court of Chancery does not have jurisdiction, another state court in Delaware or, if no state court in Delaware has jurisdiction, the federal district court for the District of Delaware, and any appellate court therefrom, in all cases subject to the court having jurisdiction over the claims at issue and the indispensable parties; provided that the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act.

Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated bylaws also provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

Any person or entity purchasing or otherwise acquiring or holding or owning, or continuing to hold or own, any interest in any of our securities shall be deemed to have notice of and consented to the foregoing bylaw provisions. Although we believe these exclusive forum provisions benefit us by providing increased consistency in the application of Delaware law and federal securities laws in the types of lawsuits to which each applies, the exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum of its choosing for disputes with us or any of our directors, officers, stockholders, or other employees, which may discourage lawsuits with respect to such claims against us and our current and former directors, officers, stockholders, or other employees. Our stockholders will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder as a result of our exclusive forum provisions. Further, in the event a court finds either exclusive forum provision contained in our amended and restated bylaws to be unenforceable or inapplicable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our results of operations.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Our status as a Delaware corporation and the anti-takeover provisions of the Delaware General Corporation Law may discourage, delay or prevent a change in control by prohibiting us from engaging in a business combination with an interested stockholder for a period of three years after the person becomes an interested stockholder, even if a change of control would be beneficial to our existing stockholders. In addition, our restated certificate of incorporation and restated bylaws contain provisions that may make the acquisition of our company more difficult, including the following:

- our board of directors is classified into three classes of directors with staggered three-year terms and directors will only be able to be removed from office for cause by the affirmative vote of holders of at least two-thirds of the voting power of our then outstanding capital stock;
- certain amendments to our amended and restated certificate of incorporation require the approval of stockholders holding two-thirds of the voting power of our then outstanding capital stock;
- any stockholder-proposed amendment to our amended and restated bylaws require the approval of stockholders holding two-thirds of the voting power of our then outstanding capital stock;
- our stockholders may only be able to take action at a meeting of stockholders and may not be able to take action by written consent for any matter;
- our stockholders are be able to act by written consent only if the action is first recommended or approved by the board of directors;
- vacancies on our board of directors may be filled only by our board of directors and not by stockholders;
- only the chair of the board of directors, chief executive officer or a majority of the board of directors are authorized to call a special meeting of stockholders;
- certain litigation against us can only be brought in Delaware;
- our restated certificate of incorporation authorizes undesignated preferred stock, the terms of which may be established and shares of which may be issued, without the approval of the holders of our capital stock; and
- advance notice procedures apply for stockholders to nominate candidates for election as directors or to bring matters before an annual meeting of stockholders.

These anti-takeover defenses could discourage, delay or prevent a transaction involving a change in control of our company. These provisions could also discourage proxy contests and make it more difficult for stockholders to elect directors of their choosing and to cause us to take other corporate actions they desire, any of which, under certain circumstances, could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock and could also affect the price that some investors are willing to pay for our common stock.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution as a result of this offering.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution of $8.73 per share, representing the difference between the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and our pro forma net tangible book value per share after giving effect to (i) the filing and effectiveness of our amended and restated certificate of incorporation, (ii) the automatic conversion of all shares of our convertible preferred stock outstanding as of June 30, 2021 into 27,011,500 shares of common stock and (iii) the issuance and sale of 7,000,000 shares of common stock by us in this offering. As of June 30, 2021, there were 9,771,310 shares of our common stock subject to outstanding stock options with a weighted-average exercise price of $5.26 per share. To the extent that these outstanding stock options and warrants are ultimately exercised or the underwriters exercise their option to purchase additional shares of our common stock, you will incur further dilution. See the section titled “Dilution” for more information.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. Additionally, our ability to pay dividends on our common stock is limited by the restrictions under the terms of our loan and security agreement. We anticipate that for the foreseeable future we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

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

We are an "emerging growth company," as defined in the JOBS Act. For so long as we remain an emerging growth company, we are permitted by SEC rules and plan to rely on exemptions from certain disclosure requirements that are applicable to other SEC registered public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the SOX, not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. As a result, the information we provide stockholders will be different than the information that is available with respect to other public companies. In this prospectus, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. To the extent that we continue to qualify as a "smaller reporting company," as such term is defined in Rule 12b-2 under the Securities Exchange Act of 1934, after we cease to qualify as an emerging growth company, we will continue to be permitted to make certain reduced disclosures in our periodic reports and other documents that we file with the SEC. We cannot predict whether investors will find our common stock less attractive if we rely 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 our stock price may be more volatile.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which would allow us to continue to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely 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 our stock price may be more volatile.

General Risks

Our business is subject to the risk of hurricanes, earthquakes, fire, power outages, floods, and other catastrophic events, and to interruption by manmade problems such as terrorism.

Our business is vulnerable to damage or interruption from hurricanes, earthquakes, fires, floods, power losses, telecommunications failures, terrorist attacks, acts of war, human errors, break-ins, and similar events. The third-party systems and operations and manufacturers we rely on are subject to similar risks. For example, a significant natural disaster, such as a hurricane affecting our South Carolina facilities, an earthquake affecting our California facilities, or a fire, or flood, could have an adverse effect on our business, financial condition and operating results, and our insurance coverage may be insufficient to compensate us for losses that may occur. Acts of terrorism, which may be targeted at metropolitan areas that have higher population density than rural areas, such as New York City where our corporate headquarters is located, could also cause disruptions in our business or the economy as a whole. We may not have sufficient protection or recovery plans in some circumstances, such as natural disasters affecting locations that store significant inventory of our products, that house our servers, or from which we generate content. As we rely heavily on our computer and communications systems, and the internet to conduct our business and provide high-quality customer service, these disruptions could negatively impact our ability to run our business and either directly or indirectly disrupt suppliers' and manufacturers' businesses, which could have an adverse effect on our business, financial condition, and operating results. In addition, the COVID-19 pandemic and widespread shelter-in-place and other governmental restrictions have caused most of our employees to work remotely. Given these widespread remote work arrangements, if a natural disaster, power outage, connectivity issue, or other event occurs that impacts our employees' ability to work remotely, it may be difficult or, in certain cases, impossible, for us to continue our business and provide high-quality customer service for a substantial period of time.

Cybersecurity risks could adversely affect our business and disrupt our operations.

We rely, or will rely, on information technology systems to keep financial records and other sensitive business, information, including personal information about our employees, customers and other third parties, facilitate our research and development initiatives, manage our manufacturing operations, maintain quality control, communicate with customers, fulfill customer orders, maintain corporate records, communicate with staff and external parties and operate other critical functions. While we take measures to safeguard and protect this information, including using methods such as multi-layer firewalls, intrusion detection systems, content filtering, endpoint security, centralized logging and alerting, email security mechanisms, and access control mechanisms, threats to network and data security are increasingly diverse and sophisticated. We also continue to pursue independent third-party assessments and validations of our security and compliance capabilities, including through obtaining industry-standard certification like SOC 2. Despite our efforts and processes to prevent security breaches and incidents, our products and services, as well as our servers, computer systems, and those of third parties that we use in our operations are vulnerable to cybersecurity risks, including cyberattacks such as viruses and worms, phishing attacks and other forms of social engineering, denial-of-service attacks, ransomware attacks, physical or electronic break-ins, third-party or employee theft or misuse, and other negligent actions, errors or malfeasance by employees or other third parties, and similar disruptions from unauthorized tampering with our servers and computer systems or those of third parties that we use in our operations, which could lead to interruptions, delays, loss or corruption of critical data, unauthorized access to or acquisition of health-related and other personal information and loss of customer confidence. In addition, we may be the target of email scams and other social engineering attacks that attempt to acquire personal information or company assets or access to our systems. Despite our efforts to create security barriers to such threats, we may not be able to entirely mitigate these risks. Our third-party service providers face similar risks. Any cyberattack that attempts to obtain our or our customers' data or assets, disrupt our service, or otherwise access our systems, or those of third parties we use, or any other security breach or incident, could adversely affect our business, and financial condition and operating results, be expensive to remedy, and damage our reputation. We and our third-party service providers may face difficulties or delays in identifying or otherwise responding to any attacks or actual or potential security breaches

or security incidents. We may incur significant costs and operational consequences of investigating, remediating, eliminating and putting in place additional tools and devices designed to prevent actual or perceived security breaches and other security incidents, including in response to any actual or perceived incident we may suffer, and substantial costs to comply with any notification or other legal obligations resulting from any security breaches or other security incidents. In addition, any such breaches or incidents, or the perception that they have occurred, may result in negative publicity, and adversely affect our brand and market perception of our platform and our company, impacting demand for our products and services, and could have an adverse effect on our business, financial condition and operating results.

Although we maintain insurance coverage that may cover certain liabilities in connection with security breaches and other security incidents, we cannot be certain our insurance coverage will be adequate for liabilities actually incurred, that insurance will continue to be available to us on commercially reasonable terms, if at all, or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, or denials of coverage, could have a material adverse effect on our business, including our financial condition, results of operations and reputation.

We rely heavily on third parties for most of our computing, storage, processing, and similar services. Any disruption of or interference with our use of these third-party services could have an adverse effect on our business, financial condition, and operating results.

We have outsourced our cloud infrastructure to third-party providers, and we currently use these providers to host and stream our customer-facing services and content. We are therefore vulnerable to service interruptions experienced by these providers and we expect to experience interruptions, delays or outages in service availability in the future due to a variety of factors, including infrastructure changes, human, hardware or software errors, hosting disruptions and capacity constraints. Outages and capacity constraints could arise from a number of causes such as technical failures, natural disasters, fraud or security attacks. The level of service provided by these providers, or regular or prolonged interruptions in that service, could also affect the use of, and our customers' satisfaction with, our products and services and could harm our business and reputation. In addition, hosting costs will increase as our customer base grows, which could harm our business if we are unable to grow our revenue faster than the cost of using these services or the services of similar providers.

Furthermore, our providers have broad discretion to change and interpret the terms of service and other policies with respect to us, and those actions may be unfavorable to our business operations. Our providers may also take actions beyond our control that could seriously harm our business, including discontinuing or limiting our access to one or more services, increasing pricing terms, terminating or seeking to terminate our contractual relationship altogether, or altering how we are able to analyze data in a way that is unfavorable or costly to us. Although we expect that we could obtain similar services from other third parties, if our arrangements with our current providers were terminated, we could experience interruptions of our services, as well as delays and additional expenses in arranging for alternative cloud infrastructure services. Any of these factors could further reduce our revenue, subject us to liability, and cause a loss of customers, any of which could have an adverse effect on our business, financial condition, and operating results.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management. All statements other than statements of historical facts contained in this prospectus, including, without limitation, statements regarding the conditions of our industry, our future results of operations and financial position, business strategy, development plans, expected research and development costs, regulatory strategy, product and service development, sales and marketing activities, international expansion efforts, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "would," "expect," "plan," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- our business, business strategy, products and services we may offer in the future;
- our ability to increase brand awareness, attract and retain customers and sell additional products and services to new and existing customers;
- our ability to convert customers into recurring subscribers;
- our ability to develop new products and services or improve existing products and services;
- our future financial performance, including trends in revenue, costs of revenue, gross profit, operating expenses and free cash flow;
- expectations about industry trends, such as a shift towards personalized healthcare and increasing demand for convenience;
- our ability to efficiently spend on advertising and marketing;
- our ability to maintain profitability;
- our ability to compete successfully in competitive markets and expand internationally;
- our ability to maintain relationships with key distributors, ingredient suppliers, influencers and research institutions;
- our ability to respond to rapid technological changes;
- our expectations and management of future growth;
- expectations about legal and regulatory changes;
- our ability to attract and retain key personnel and highly qualified personnel;
- our ability to protect our brand and maintain our NPS score;
- our ability to maintain key certifications, such as our NSF Certified Facility;
- our ability to maintain, protect and enhance our intellectual property, including our multi-omics database and trade secrets;

- restrictions and penalties as a result of privacy and data protection laws;
- our ability to successfully identify, acquire and integrate companies, technologies and assets;
- the increased expenses associated with being a public company;
- the outcome and impact of litigation, including litigation associated with the filings of IPRs;
- the timing and results of future regulatory filings;
- our anticipated use of our existing resources and the proceeds from this offering; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described in the section titled "Risk Factors" and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

MARKET, INDUSTRY AND OTHER DATA

This prospectus contains estimates, projections and other information concerning our industry, our business and the markets for our products and services, including data regarding the estimated size of such markets. We obtained the industry, market and similar data set forth in this prospectus from our internal estimates and research and from academic and industry research, publications, surveys and studies conducted by third parties, including governmental agencies. In some cases, we do not expressly refer to the sources from which this data is derived. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. While we believe that the data we use from third parties are reliable, we have not separately verified this data. Any industry forecasts are based on data, including third-party data, models and experience of various professionals and are based on various assumptions, all of which are subject to change without notice. Further, while we believe our internal research is reliable, such research has not been verified by any third party. While we are not aware of any misstatements regarding the market data presented herein, industry forecasts and projections involve risks and uncertainties are subject to change based on various factors, including those discussed under the heading “Risk Factors.”

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the shares of our common stock in this offering will be approximately $63.0 million, or approximately $73.3 million if the underwriters exercise their option to purchase additional shares in full, based upon the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $6.5 million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $9.8 million, assuming the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to obtain additional capital to support our operations, establish a public market for our common stock and facilitate our future access to the public capital markets.

We currently intend to use the net proceeds from this offering, together with our existing cash, as follows:

- approximately $10.0 million to $20.0 million to fund additional nutritional supplement product and test development activities, including investment in our Onegevity platform;
- approximately $20.0 million to $30.0 million to fund expansion of our sales and marketing activities including expansion into additional international markets and costs associated with additional warehousing space;
- approximately $20.0 million to repay all outstanding indebtedness under our Credit and Security Agreement with Sumitomo Mitsui Banking Corporation, which matures in February 2022 and accrues interest on the principal amount outstanding at rate of 0.71% and release the guarantees from two shareholders for which we currently pay an annual fee equal to 1.2%; and
- the remaining amounts to fund working capital, other general corporate purposes.

We may use a portion of the net proceeds to repay debt or acquire complimentary products, technologies, intellectual property or businesses; however, we currently do not have any agreements or commitments to complete any such transactions and are not involved in negotiations regarding such transactions.

Based on our current operating plan, we believe that the net proceeds from this offering, together with our existing cash as of the date of this prospectus, will be sufficient to fund our operating expenses and capital expenditures for at least the next 12 months.

Our expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. We cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above and we may require additional funds in order to fully accomplish the specified uses listed above. As a result, our management will have broad discretion over the use of the net proceeds from this offering.

Pending their use, we intend to invest the net proceeds of this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government, subject to applicable regulatory restrictions. We cannot predict whether the proceeds invested will yield a favorable return.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions and other factors that our board of directors may deem relevant, including restrictions in our current and future debt instruments, our future earnings, capital requirements, financial condition, prospects, and applicable Delaware law, which provides that dividends are only payable out of surplus or current net profits.

CAPITALIZATION

The following table sets forth our cash and capitalization as of June 30, 2021:

- on an actual basis;
- on a pro forma basis, giving effect to (1) the automatic conversion of all outstanding shares of our convertible preferred stock on a one-to-one basis into an aggregate of 27,011,500 shares of common stock immediately prior to the completion of this offering and (2) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to reflect (1) the pro forma adjustments set forth above, (2) our issuance and sale of 7,000,000 shares of common stock in this offering at the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us and (3) our repayment of $20.0 million of outstanding indebtedness under our Credit and Security Agreement with Sumitomo Mitsui Banking Corporation.

The pro forma as adjusted information set forth below is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our financial statements and the related notes appearing elsewhere in this prospectus, as well as the sections titled "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	As of June 30, 2021		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands except per share amounts)		
Cash	$ 9,720	$ 9,720	$ 52,769
Debt	$ 21,814	$ 21,814	$ 1,814
Convertible preferred stock, $0.01 par value per share: 27,011,500 shares authorized, 27,011,500 issued and outstanding, actual; no shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted…	133,485	—	—
Stockholders' (deficit) equity			
Preferred stock, par value $0.01 per share: no shares authorized, issued or outstanding, actual; 10,000,000 shares authorized and no shares issued and outstanding, pro forma and pro forma as adjusted…	—	—	—
Class A common stock, par value $0.01 per share: 63,190,000 shares authorized, 12,323,830 issued and outstanding, actual; 200,000,000 shares authorized, 45,514,600 issued and outstanding, pro forma; and 200,000,000 shares authorized, 54,514,600 shares issued and outstanding, pro forma as adjusted	123	455	525
Class B common stock, no par value per share: 8,900,000 shares authorized, 6,179,270 issued and outstanding, actual; no shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted…	—	—	—
Additional paid-in capital…	52,986	186,139	249,118
Accumulated deficit…	(134,793)	(134,793)	(134,793)
Total stockholders' (deficit) equity - Thorne HealthTech, Inc…	(81,684)	51,801	114,850
Total capitalization	$ 73,615	$ 73,615	$ 116,664

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, each of our pro forma as adjusted cash,

additional paid-in capital, total stockholders' (deficit) equity and total capitalization by approximately $6.5 million, assuming that the number of shares of common stock offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares in the number of shares of common stock offered by us would increase or decrease, as applicable, each of our pro forma as adjusted cash, additional paid-in capital, total stockholders' (deficit) equity and total capitalization by approximately $9.8 million, assuming the assumed initial public offering price of $10.50 per share, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares in full, our pro forma as adjusted cash, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization as of June 30, 2021, would be $63.0 million, $259.4 million, $125.1 million, and $126.9 million, respectively.

The number of shares of our common stock issued and outstanding, pro forma and pro forma as adjusted in the table above is based on 45,514,600 shares of our common stock outstanding as of June 30, 2021 (including our convertible preferred stock on an as-converted basis), and excludes:

- 9,771,310 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2021, with a weighted-average exercise price of $5.26 per share;
- 875,760 shares of common stock issuable upon the vesting of RSUs granted after June 30, 2021;
- 3,098,535 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2021;
- 933,610 shares of common stock available for future issuance under the 2010 Plan, as of June 30, 2021, which shares will no longer be available for issuance upon the termination of the 2010 Plan and effectiveness of the 2021 Plan;
- 4,243,075 shares of common stock reserved for future issuance under our Onegevity Plan, which shares will no longer be available for issuance upon the termination of the Onegevity Plan and effectiveness of the 2021 Plan;
- 3,480,510 shares of common stock reserved for future issuance under our 2021 Plan, which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and
- 696,102 shares of common stock reserved for future issuance under our ESPP, which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

On September 10, 2021, we approved and effected a 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the stock split. All share and per share have been retroactively adjusted in our financial statements and the related notes appearing elsewhere in this prospectus for all periods presented to reflect the 445-for-1 forward stock split. Further, other related information, including the shares of common stock underlying the Company's warrants, stock options and restricted stock units and their respective exercise prices have been retroactively adjusted for all periods presented to reflect the 445-for-1 stock split.

DILUTION

Investors purchasing our common stock in this offering will experience immediate and substantial dilution in the pro forma as adjusted net tangible book value of their shares of common stock. Dilution in pro forma as adjusted net tangible book value represents the difference between the initial public offering price of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after the offering.

Our historical net tangible book deficit as of June 30, 2021, was $(103.5) million, or $(5.59) per share of our common stock. Our historical net tangible book deficit is the amount of our total tangible assets less our total liabilities and convertible preferred stock, which is not included within our stockholders' (deficit) equity. Historical net tangible book value (deficit) per share represents historical net tangible book value (deficit) divided by the number of shares of our common stock outstanding as of June 30, 2021.

Our pro forma net tangible book value as of June 30, 2021, was $30.0 million, or $0.66 per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of June 30, 2021, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock as of June 30, 2021 on a one-to-one basis into an aggregate of 27,011,500 shares of our common stock immediately prior to the completion of this offering as if such conversion had occurred on June 30, 2021.

After giving further effect to our sale of 7,000,000 shares of common stock in this offering at the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2021, would have been approximately $93.0 million, or approximately $1.77 per share. This represents an immediate increase in pro forma net tangible book value per share of approximately $1.11 to our existing stockholders and an immediate dilution in pro forma net tangible book value per share of approximately $8.73 to investors purchasing shares of common stock in this offering.

The following table illustrates this dilution on a per share basis to new investors (without giving effect to any exercise by the underwriters of their option to purchase additional shares):

Assumed initial public offering price per share		$10.50
Pro forma net tangible book value per share as of June 30, 2021	$0.66	
Increase in pro forma net tangible book value per share attributable to investors purchasing shares of common stock in this offering	$1.11	
Pro forma as adjusted net tangible book value per share		$ 1.77
Dilution per share to investors participating in this offering		$ 8.73

Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted net tangible book value per share after this offering by approximately $0.12 per share and the dilution to investors purchasing shares of common stock in this offering by approximately $0.12 per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase of 1.0 million shares in the number of shares offered by us would increase the pro forma as adjusted net tangible book value per share after this offering by approximately $0.15 and decrease the dilution per share to investors purchasing shares of common stock in this

offering by approximately $0.15, assuming no change in the assumed initial public offering price and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each decrease of 1.0 million shares in the number of shares offered by us would decrease the pro forma as adjusted net tangible book value per share after this offering by approximately $0.16 and increase the dilution per share to investors purchasing shares of common stock in this offering by approximately $0.16, assuming no change in the assumed initial public offering price and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase 1,050,000 additional shares of common stock in full at the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus and assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, the pro forma as adjusted net tangible book value per share after this offering would be approximately $1.93 per share, and the dilution per share to investors purchasing shares of common stock in this offering would be approximately $8.57 per share.

The following table summarizes, on the pro forma as adjusted basis described above, as of June 30, 2021, the number of shares of common stock purchased from us, the total consideration paid, or to be paid, and the weighted-average price per share paid, or to be paid, by existing stockholders and by investors purchasing shares in this offering at the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares purchased		Total consideration		Weighted average price per sale
(dollar in thousands, except per share amounts)	Number	Percent	Amount	Percent	
Existing stockholders before this offering	45,514,600	86.7%	$ 186,594,296	71.7%	$ 4.10
Investors purchasing shares in this offering	7,000,000	13.3%	73,500,000	28.3%	$ 10.50
Total	52,514,600	100.0%	$ 260,094,296	100.0%	

The table above assumes no exercise of the underwriters' option to purchase 1,050,000 additional shares in this offering. If the underwriters' exercise their option to purchase additional shares in full, the number of shares of our common stock held by existing stockholders would be reduced to 85.0% of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by investors purchasing shares of common stock in the offering would be increased to 15.0 % of the total number of shares outstanding after this offering.

Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the total consideration paid by investors purchasing shares in this offering by approximately $6.5 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Similarly, each increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the total consideration paid by investors purchasing shares in this offering by approximately $9.8 million, assuming no change in the assumed initial public offering price.

The foregoing tables and calculations (other than the historical net tangible book value calculation) are based on the 45,514,600 shares of our common stock outstanding as of June 30, 2021 (including our convertible preferred stock on an as-converted basis), and excludes:

- 9,771,310 shares of common stock issuable upon the exercise of options outstanding as of June 30, 2021, with a weighted-average exercise price of $5.26 per share;
- 875,760 shares of common stock issuable upon the vesting of RSUs granted after June 30, 2021;

- 3,098,535 shares of common stock issuable upon the exercise of warrants outstanding as of June 30, 2021;
- 933,610 shares of common stock for future issuance under our 2010 Plan as of June 30, 2021, which shares will no longer be available for issuance upon the termination of the 2010 Plan and effectiveness of the 2021 Plan;
- 4,243,075 shares of common stock reserved for future issuance under our Onegevity Plan as of June 30, 2021, which shares will no longer be available for issuance upon the termination of the Onegevity Plan and effectiveness of the 2021 Plan;
- 3,480,510 shares of common stock reserved for future issuance under our 2021 Plan, which will become effective in connection with this offering as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and
- 696,102 shares of common stock reserved for future issuance under our ESPP, which will become effective in connection with this offering as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

To the extent that any outstanding options are exercised or new options are issued under our equity benefit plans, or we issue additional shares of common stock or other securities convertible into or exercisable or exchangeable for shares of our capital stock in the future, there will be further dilution to investors purchasing shares of common stock in this offering.

On September 10, 2021, we approved and effected a 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the forward stock split. All related share and per share amounts have been retroactively adjusted in our financial statements and the related notes appearing elsewhere in this prospectus for all periods presented to reflect the 445-for-1 forward stock split. Further, other related information, including the shares of common stock underlying warrants, stock options and restricted stock units and their respective exercise prices have been retroactively adjusted for all periods presented to reflect the 445-for-1 forward stock split.

SELECTED CONSOLIDATED FINANCIAL DATA

The following tables summarize our selected consolidated financial data for the periods and as of the dates indicated. We derived the following summary statements of our operations data for the six months ended June 30, 2020 and 2021, and our summary balance sheet data as of June 30, 2021 from our unaudited consolidated financial statements and related notes included elsewhere in this prospectus. Our interim unaudited financial statements have been prepared in accordance with GAAP on the same basis as the annual audited financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal recurring adjustments, necessary for the fair statement of our financial position as of June 30, 2021, and our results of our operations for the six months ended June 30, 2020 and 2021. We also have derived our selected statements of operations data for the years ended December 31, 2019 and 2020, from our audited financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results are not necessarily indicative of our results for the full fiscal year. You should read the following selected consolidated financial data together with our financial statements and the related notes appearing elsewhere in this prospectus and the information in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Years Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(dollars in thousands, except per share amounts)		(unaudited)	
Net Sales	$ 102,532	$ 138,455	$ 63,504	$ 87,374
Cost of sales	57,789	73,667	35,456	41,241
Gross profit	44,743	64,788	28,048	46,133
	43.6%	46.8%	44.2%	52.8%
Operating expenses:				
Research and development	3,899	4,225	2,572	2,043
Write off of acquired Drawbridge in-process research and development[1]	—	—	—	1,563
Selling, general, and administrative	54,751	59,548	29,525	32,856
Income (loss) from operations	(13,907)	1,015	(4,049)	9,671
Other expense (income):				
Interest expense, net	406	1,125	862	364
Guarantee fees	298	243	172	279
Change in fair value of warrant liability	1,992	1,912	718	1,310
Loss on Drawbridge transaction[1]	—	—	—	166
Other expense (income), net	(44)	2	—	(38)
Total other (income) expense, net	2,652	3,282	1,752	2,081
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	(16,559)	(2,267)	(5,801)	7,590
Income tax expense	33	177	80	44
Net income (loss) before loss from equity interest in unconsolidated affiliates	(16,592)	(2,444)	(5,881)	7,546
Loss from equity interest in unconsolidated affiliates[2]	(1,625)	(1,510)	(444)	(3,173)
Net income (loss)	(18,217)	(3,954)	(6,325)	4,373
Net loss - non-controlling interest[3]	(1,492)	(596)	(687)	(245)
Net income (loss) attributable to Thorne HealthTech, Inc.	(16,725)	(3,358)	(5,638)	4,618
Deemed Dividends	(4,813)	—	—	—
Undistributed earnings attributable to Series E convertible preferred stockholders	—	—	—	(4,618)
Net income (loss) attributable to common stock	$ (21,538)	$ (3,358)	$ (5,638)	$ —
Earnings (loss) per share:[4][5]				
Basic	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Diluted	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Weighted average common shares outstanding:				
Basic	7,848,910	9,985,800	7,949,925	17,650,035
Diluted	7,848,910	9,985,800	7,949,925	17,650,035
Unaudited pro forma information:				
Pro forma net income (loss) attributable to Thorne HealthTech, Inc.[6][7]		(2,898)		4,964
Pro forma earnings (loss) per share:[8]				
Pro forma basic		$ (0.08)		$ 0.11
Pro forma diluted		$ (0.08)		$ 0.10
Pro forma weighted average common shares outstanding:				
Pro forma basic[9]		36,425,871		44,090,106
Pro forma diluted[10]		36,425,871		51,213,807

(1) See Notes to our unaudited consolidated financial statements appearing at the end of this prospectus for the Drawbridge Transaction.
(2) Represents our proportionate loss arising from our equity interest in Drawbridge before the acquisition and Tecton. For the six months ended June 30, 2021, our portion of Drawbridge's loss was $0.2 million plus an additional $3.0 million impairment of our investment and for Tecton it was $0. For the six months ended June 30, 2020, our portion of Drawbridge's loss was $0.4 million and for Tecton was $0. For 2020, our portion of Drawbridge's loss was $0.9 million and for Tecton was $0.5 million. For 2019, our portion of Drawbridge's loss was $1.2 million and for Tecton was $0.8 million.
(3) Represents the net loss attributable to the minority shareholders of Onegevity and Drawbridge for the six months ended June 30, 2021, and to the minority shareholders of Onegevity and Health Elements for the six months ended June 30, 2020 and for the twelve months ended December 2020 and 2019.
(4) See Note 20 to our consolidated financial statements appearing at the end of this prospectus for details on the calculation of basic and diluted net loss per share and Note 15 to our unaudited consolidated financial statements.
(5) On September 10, 2021, we approved and effected a 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the forward stock split. All related share and per share amounts have been retroactively adjusted for all periods presented to reflect the 445-for-1 forward stock split. See Note 21 to our consolidated financial statements appearing at the end of this prospectus for details on the forward stock split and Note 18 to our unaudited consolidated financial statements.
(6) Pro forma net income (loss) per share reflects the repayment of the $20.0 million loan from Sumitomo Mitsui Banking Corporation and the guarantee fees paid to Kirin Holdings Company Limited and Mitsui & Co. Ltd. described in the "Use of Proceeds" section of this prospectus and the automatic conversion of our Series E convertible preferred stock into shares of common stock as if they occurred on January 1, 2019. This pro forma data is presented for informational purposes only and does not purport to represent what our net income (loss) or earnings (loss) per share would have been had the offering and use of proceeds therefrom occurred on January 1, 2019 or to project our net income (loss) or earnings (loss) per share for any future period.
(7) Pro forma net income (loss) attributable to Thorne HealthTech, Inc. is calculated by adding back the interest expense associated with the $20.0 million loan from Sumitonom Mitsui Banking Corporation and the guarantee fees paid to Kirin Holdings Company Limited and Mitsui & Co., Ltd.
(8) Pro forma earnings (loss) per share is calculated by dividing the pro forma net income (loss) attributable to Thorne HealthTech, Inc. by the pro forma weighted average common shares outstanding.
(9) Pro forma basic weighted average common shares outstanding include the historical weighted average common shares as reported above plus 27,011,500 shares of common stock as a result of the automatic conversion of Series E convertible preferred stock to shares of common stock plus 1,904,762 new shares of common stock being issued in this offering and used to pay the $20.0 million loan discussed in footnote (6).
(10) Pro forma diluted common shares include the pro forma basic weighted average common shares outstanding described in footnote (9) plus the impact of dilutive securities such as stock options and equity-classified warrants under the treasury stock method.

	As of June 30, 2021 (unaudited)		
Consolidated Balance Sheet Data	**Actual**	**Pro Forma(1)**	**Pro forma As Adjusted(2)(3)**
		(in thousands)	
Cash	$ 9,720	$ 9,720	$ 52,769
Working capital(4)	15,080	15,080	78,129
Total assets	130,591	130,591	173,640
Total debt	21,814	21,814	1,814
Total liabilities	78,825	78,825	58,825
Series E convertible preferred stock	133,485	—	—
Total stockholders' (deficit) equity	$ (81,719)	$ 51,766	$ 114,815

(1) The pro forma balance sheet data gives effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 27,011,500 shares of our common stock which will occur immediately prior to the completion of this offering, resulting in an aggregate of 45,514,600 outstanding shares of our common stock.
(2) The pro forma as adjusted column in the balance sheet data gives effect to (i) the pro forma adjustments described in footnote (1) above, (ii) the issuance and sale of 7,000,000 shares of common stock in this offering at the initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us and (iii) the repayment of $20.0 million of outstanding indebtedness under our Credit and Security Agreement with Sumitomo Mitsui Banking Corporation.
(3) Each $1.00 increase or decrease in the assumed initial public offering price of $10.50 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash, working capital, total assets and stockholders' equity by $6.5 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares in the number of shares offered by us at the assumed initial public offering price would increase or decrease, as applicable, each of our cash, working capital, total assets,

and stockholders' equity by $9.8 million. The pro forma as adjusted information set forth above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

(4) Working capital is defined as current assets less current liabilities. See our financial statements appearing elsewhere in this prospectus for further details regarding our current assets and current liabilities.

	Twelve Months Ended December 31,		Six Months Ended June 30, (unaudited)	
	2019	2020	2020	2021
	(dollars in thousands)			
Net income (loss)	$(18,216)	$ (3,954)	$(6,325)	$ 4,373
Adjusted EBITDA (unaudited)	8,167	15,346	6,247	14,069
Adjusted EBITDA margin (unaudited)	8.0%	11.1%	9.8%	16.1%
Net cash provided by (used in) operating activities	(7,621)	17,107	5,925	886
Free cash flow (unaudited)	(10,526)	14,784	4,847	(814)

See subsection "Key Financial and Operating Data" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" for further details.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes appearing elsewhere in this prospectus and in the section titled "Selected Consolidated Financial Data." Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, includes forward-looking statements that involve risks, uncertainties and assumptions. As a result of many factors, including those factors set forth in the section titled "Risk Factors," our actual results could differ materially from the results described in or implied by these forward-looking statements. You should carefully read the section titled "Risk Factors" to gain an understanding of the factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section titled "Special Note Regarding Forward-Looking Statements."

Overview

We are a science-driven wellness company pioneering innovative solutions and personalized approaches to health and well-being. We are building a new health category to deliver better health outcomes through a proactive, empowered approach. Our unique, vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health over their lifetime. By combining our proprietary multi-omics database, artificial intelligence (AI) and digital health content with our science-backed nutritional supplements, we deliver a total system for wellness. We believe our integrated solution will redefine the expectations for good health and peak performance.

Founded in 1984, Thorne Research was a small company dedicated to being a "thorn" in the side of the traditional supplement industry by making the purest and highest quality nutritional supplements to sell to health professionals. With a vision for an unparalleled health ecosystem fueled by innovation and technology, our current Chief Executive Officer, Paul Jacobson, and his management team, acquired Thorne Research in 2010 and co-founded Onegevity. We completed our acquisition of Onegevity and combined these two complementary companies in early 2021. During the past ten years, we have evolved to become a transformative consumer brand, trusted by more than 3,000,000 customers, 42,000 healthcare professionals, thousands of professional athletes, more than 100 professional sports teams and 11 U.S. Olympic teams.

Key milestones in our growth history include:

- 2011: Strategic ingredient and botanical agreement with Indena, a company dedicated to the identification, development and production of high-quality active principles derived from plants, for use in the pharmaceutical and health-food industries;
- 2014: Clinical Study Agreement with Mayo Clinic to design and conduct clinical trials of our dietary supplements;
- 2017: Launch of NSF Certified for Sport product line;
- 2018: Onegevity founded; we expanded capacity by moving to a new, state-of-the-art 272,000 square foot facility in South Carolina;
- 2019-2020: Sponsorships of the U.S. Army World Class Athlete Program, UFC, USA Rugby, and Penske Racing; and
- 2020-2021: Thorne HealthTech, Inc. facilitated the merger of Thorne and Onegevity.

Our revenue is generated primarily from the sale of our supplements and health tests. We have experienced significant sales growth of our supplements and health tests through the acquisition of new customers and strong customer retention.

For the six months ended June 30, 2020 and 2021:

- we generated net sales of $63.5 million and $87.4 million, respectively, representing 37.6% growth from the same period in 2020;
- we generated gross profit of $28.0 million and $46.1 million, respectively, representing 44.2% and 52.8% of net sales, respectively;
- our net loss was $6.3 million for the six months ended June 30, 2020, and our net income was $4.4 million for the six months ended June 30, 2021; and
- our Adjusted EBITDA was $6.2 million and $14.1 million, respectively.

For the twelve months ended December 31, 2019 and 2020:

- we generated net sales of $102.5 million and $138.5 million, respectively, representing 23.0% and 35.0% year-over-year growth, respectively;
- we generated gross profit of $44.7 million and $64.8 million, respectively, representing 43.6% and 46.8% of net sales, respectively;
- our net loss was $18.2 million and $4.0 million, respectively; and
- our Adjusted EBITDA was $8.2 million and $15.3 million, respectively.

Our management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States (GAAP). In this prospectus, we have used certain non-GAAP financial measures, including Adjusted EBITDA, Adjusted EBITDA Margin and free cash flow. These measures are derived on the basis of methodologies other than in accordance with GAAP. The SEC has adopted rules to regulate the use of "non-GAAP financial measures" in filings with the SEC and in other public disclosures. Non-GAAP financial measures used by us may be calculated differently from, and therefore may not be comparable to, similarly titled measures used by other companies. We have provided a reconciliation of each non-GAAP financial measure used in this prospectus to the most directly comparable GAAP financial measure. These non-GAAP financial measures should be considered along with, but not as alternatives to, the operating performance measure as prescribed by GAAP.

Key Financial and Operating Data

Our financial profile is characterized by high growth, recurring revenue, improving gross margins, efficient customer acquisition, and free cash flow.

We measure our business using both financial and operational data and use the following metrics to assess the near-term and long-term performance of our brands and business. These metrics serve as guidance for identifying trends, formulating financial projections, making strategic decisions, assessing operational efficiencies, and monitoring our business.

Net Sales

We define net sales as sales of our goods and services and related shipping fees less discounts and returns following the accounting guidelines in accordance with Financial Accounting Standards Board (FASB),

Topic 606, "Revenue from Contracts with Customers," (ASC 606). Our net sales consist of sales of our nutritional supplements, health tests and sales associated with our services leveraging our AI and multi-omics databases, such as product development services. We recognize revenues when control of the promised goods or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled in exchange for those goods or services or when a service contract's term is ended. We consider several factors in determining that control transfers to the customer upon shipment, or upon delivery for certain customers. These factors include when legal title transfers to the customer, if we have a present right to payment and whether the customer has assumed the risks and rewards of ownership at the time of shipment. Shipping and handling costs are considered a fulfillment activity and are expensed as incurred. We view net sales as a key indicator of demand for our products and services.

Gross Profit

We define gross profit as net sales less cost of sales. Cost of sales consists of depreciation and amortization, product and packaging costs, including manufacturing costs, inventory freight, testing costs of all raw materials and finished goods, inventory shrinkage costs and inventory valuation adjustments, offset by reductions for promotions and percentage or volume rebates offered by our vendors.

Adjusted EBITDA and Adjusted EBITDA Margin

We calculate Adjusted EBITDA as net income (loss) adjusted to exclude: interest income (expense), net; guarantee fees; other income (expense), net; provision for income taxes; depreciation and amortization expense; stock-based compensation expense; change in fair value of warrant liability; write-off of acquired Drawbridge in-process research and development; loss on the Drawbridge Transaction; loss from equity interest in unconsolidated affiliates; and the costs of relocating our production facility from Idaho to South Carolina and the associated start-up costs of the new facility. Adjusted EBITDA Margin is calculated by dividing Adjusted EBITDA by total revenue.

We use Adjusted EBITDA and Adjusted EBITDA Margin as measures of operating performance and the operating leverage in our business. We believe that these non-GAAP financial measures are useful to investors for period-to-period comparisons of our business and in understanding and evaluating our operating results for the following reasons:

- Adjusted EBITDA and Adjusted EBITDA Margin are widely used by investors and securities analysts to measure a company's operating performance without regard to items such as stock-based compensation expense, depreciation and amortization expense, interest expense, net, other (income) expense, net, loss from non-controlling interest and provision for income taxes, each of which can vary substantially from company to company depending upon their financing, capital structures and the method by which assets are acquired;

- our management uses Adjusted EBITDA and Adjusted EBITDA Margin in conjunction with financial measures prepared in accordance with GAAP for planning purposes, including the preparation of our annual operating budget, as a measure of our core operating results and the effectiveness of our business strategy, and in evaluating our financial performance; and

- Adjusted EBITDA and Adjusted EBITDA Margin provide consistency and comparability with our past financial performance, facilitate period-to-period comparisons of our core operating results, and also facilitate comparisons with other peer companies, many of which use similar non-GAAP financial measures to supplement their GAAP results.

Our use of Adjusted EBITDA and Adjusted EBITDA Margin have limitations as analytical tools, and you should not consider these measures in isolation or as substitutes for analysis of our financial results as reported under GAAP. Some of these limitations are, or may in the future be, as follows:

- although depreciation and amortization expense are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and Adjusted EBITDA and Adjusted EBITDA

Margin do not reflect cash capital expenditure requirements for such replacements or for new capital expenditure requirements;

- Adjusted EBITDA and Adjusted EBITDA Margin exclude stock-based compensation expense, which is a recurring expense for our business and an important part of our compensation strategy;

- Adjusted EBITDA and Adjusted EBITDA Margin do not reflect: (1) changes in, or cash requirements for, our working capital needs; (2) interest expense, or the cash requirements necessary to service interest or principal payments on our debt, which reduces cash available to us; (3) tax payments that may represent a reduction in cash available to us; or (4) the use of net operating loss (NOL) carryforwards and the full valuation reserve against deferred tax assets and liabilities are non-cash items that can have an impact on GAAP performance, but may not reflect the continuing operating results of our business;

- Adjusted EBITDA and Adjusted EBITDA Margin do not reflect certain one-time relocation costs from Idaho to South Carolina where significant cash was expended to relocate personnel, relocate equipment, purchase new equipment and start up a newly built facility that has never operated previously; and

- the expenses and other items that we exclude in our calculation of Adjusted EBITDA and Adjusted EBITDA Margin may differ from the expenses and other items, if any, that other companies may exclude from Adjusted EBITDA when they report their operating results and we may, in the future, exclude other significant, unusual or non-recurring expenses or other items from these financial measures.

Because of these limitations, Adjusted EBITDA and Adjusted EBITDA Margin should be considered along with other operating and financial performance measures presented in accordance with GAAP.

The following table presents a reconciliation of Adjusted EBITDA to net loss, the most directly comparable financial measure prepared in accordance with GAAP, for each of the periods indicated (in thousands except margin figures):

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
			(unaudited)	
EBITDA Calculation and reconciliation				
Net income (loss)	$(18,216)	$ (3,954)	$(6,325)	$ 4,373
Depreciation and amortization	4,598	4,296	1,894	2,262
Interest expense, net	406	1,125	862	364
Income tax expense	33	177	81	44
EBITDA	$(13,179)	$ 1,644	$(3,488)	$ 7,043
EBITDA margin	(12.9)%	1.2%	(5.5)%	8.1%
Adjustments:				
Stock-based compensation	12,226	10,037	8,401	535
Change in fair value of warrant liability	1,992	1,912	718	1,310
Plant start up costs	5,044	—	—	—
Write off of acquired Drawbridge in-process research and development	—	—	—	1,563
Loss on Drawbridge transaction	—	—	—	166
Guarantee fees	298	243	172	279
Loss from equity interest in unconsolidated affiliates	1,625	1,510	444	3,173
Relocation expenses	161	—	—	—
Adjusted EBITDA	$ 8,167	$15,346	$ 6,247	$14,069
Adjusted EBITDA margin	8.0%	11.1%	9.8%	16.1%

Free Cash Flow

We define free cash flow as net cash provided by (used in) operating activities less capital expenditures, which consist of purchases of property and equipment as well as purchase of licensing agreements. Accordingly, we believe that free cash flow provides useful information to investors and others in understanding and evaluating our operating results in the same manner as our management and board of directors. Free cash flow may be affected in the near-to medium-term by the timing of capital investments, such as purchases of machinery, information technology and other equipment, the launch of new fulfillment centers, customer service centers and new products, fluctuations in our growth and the effect of such fluctuations on working capital and changes in our cash conversion cycle due to increases or decreases of customer and vendor payment terms as well as inventory turnover. We expect free cash flow to increase over the long term as investments made in prior years drive increased profitability. If we experience an unforeseen increase in demand, we may need to make additional capital investments in manufacturing facility expansion.

The following table presents a reconciliation of free cash flow to net cash, the most directly comparable financial measure prepared in accordance with GAAP, for each of the periods indicated (in thousands):

	Year Ended December 31,		Six Months Ended June 30,	
Free Cash flow Calculation	**2019**	**2020**	**2020**	**2021**
			(unaudited)	
Net cash provided by (used in) operating activities	$ (7,621)	$17,107	$5,925	$ 886
Purchase of equipment	(1,655)	(1,194)	(878)	(1,137)
Purchase of licensing agreements	(1,250)	(1,129)	(200)	(563)
Free cash flow	$(10,526)	$14,784	$4,847	$ (814)

Number of Subscriptions

We define subscriptions as orders resulting from direct-to-consumer (DTC) customers opting into automatic refills or orders that are recurring on Thorne.com and Amazon. Our subscription programs on both platforms offer automatic ordering, payment and delivery of our products to a customer's doorstep.

Subscription Sales as a Percentage of Net DTC Sales

We define subscription sales as sales generated from retail subscription orders on Thorne.com and Amazon within a given period. Subscription sales are taken as a percentage of net sales from all DTC orders in that same period. We view subscription sales as a percentage of net DTC sales as a key indicator of our recurring sales and customer retention.

Annual LTV to CAC

We define annual life-time value (LTV) to customer acquisition costs (CAC) as LTV from a specific calendar year divided by the CAC of that same year. Annual LTV is defined as the average gross contribution per purchasing DTC customer within a particular calendar year divided by one less the customer retention rate (Churn Rate) during the same period. Average gross contribution is defined as the cumulative revenue from our DTC customers during a calendar year less the cost of goods divided by the number of purchasing DTC customers in the same period. To arrive at the annual LTV for a particular calendar year, we divide the average gross contribution by that year's Churn Rate. Annual CAC is defined as the total advertising and marketing expenses, less headcount expenses and associated benefit expenses, in a particular calendar year divided by the number of customers who placed their first order during that same year. We view the annual LTV to CAC ratio as a key indicator for marketing efficiency.

Orders per Customer per Year

We define orders per customers per year as the total number of sales orders placed by our DTC customers in a given year divided by the total number of DTC customers who purchased within that same period. We view orders per customer per year as a key indicator of our customers' purchasing patterns, including their initial and repeat purchase behavior, and as an indication of the desirability of our products to our customers. We expect orders per customer per year to remain steady or increase modestly over the long term as we continue to grow and acquire new customers and as our customers continue to demand our high-quality products.

Factors Affecting Our Performance

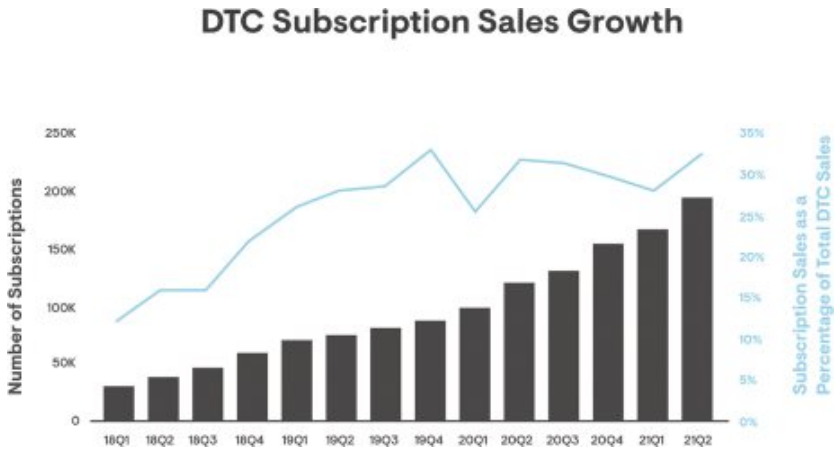
Ability to Increase Brand Awareness and Attract New Customers

Our long-term growth will depend on our continued ability to attract new customers. Our historical growth was largely driven by organic customer acquisition. We are still in the early stages of our growth and believe we can significantly expand our customer base as we increase brand awareness. Growing brand awareness through efficient, impactful communications and through building brand equity and loyalty is central to our marketing and growth strategy. We believe optimizing the message of our brand as one that defies expectations of good health differentiates us and is key to our ability to attract customers and retain them within our ecosystem. As our brand awareness grows, we intend to strengthen our reach across demographics and markets.

Growth in Our Subscriptions

We offer our customers the ability to opt into recurring automatic refills on both our website and Amazon. On both platforms, a customer can cancel or modify a subscription at any time at no cost to the customer. On our website, we allow customers to subscribe monthly, every 45 days, every two months, every three months, or every four months. For all these frequencies, we offer a 10% discount on retail refill orders. On Amazon, the discount ranges from 5% to 10% depending on the number of products to which a customer is subscribed, with an average discount of approximately 8%.

We view our growing subscription business on Thorne.com and Amazon as a key driver of profitable future sales growth. The chart below shows active subscription numbers and subscription sales as a percentage of net DTC sales by quarter from 2018 to June 30, 2021.



Our total number of subscriptions grew from 61,135 at the end of 2018, to 89,178 at the end of 2019 and to 155,305 at the end of 2020, representing a compounded annual growth rate of 59.4%. Our total number of subscriptions as of June 30, 2020 was 122,501 and as of June 30, 2021 was 194,778, representing 59.0% year-over-year growth. We expect subscription sales to continue to grow as we continue to invest in brand awareness, innovate new products and market the convenience and savings of our nutritional supplements and tests.

Efficiency of Spending on Advertising and Marketing

We are disciplined in measuring and managing CAC and LTV of our customers. We are consistently looking for new ways to acquire customers more efficiently, grow revenue per customers, and retain our customers for longer periods of time.

Five years ago, we opened our website to consumers to allow them to purchase products directly from us rather than exclusively through health professionals. The years immediately following this shift were marked by significant organic customer acquisition. More recently, to accelerate new DTC customer growth from 18.4% year-over-year in 2017 to 55.3% year-over-year in 2020, we increased our advertising and marketing budget from 1.9% of total sales in 2016, to 9.5% in 2019 and to 8.0% in 2020, directing a significant portion of the spend to direct response and customer acquisition efforts. Since a significant portion of our spending on advertising and marketing is on digital platforms, we are able to manage and track the effectiveness of our spending. In the second half of 2019 and in the second half of 2020, we invested more heavily than prior years in brand response and brand awareness efforts. Although brand awareness spending may result in higher CAC costs during a period, the long-term impact on customer acquisition and net sales is shown in our attractive LTV to CAC ratio. For example, in the second half of 2019 we launched our “Frontier Within” brand campaign, which increased our brand marketing spend and included deploying campaign assets across connected TV, YouTube, influencers, search, and social platforms as well as an experiential live event in New York City. Despite the campaign’s orientation toward longer-term brand objectives, the DTC sales acceleration was evident on our website with a 24.8% increase in average daily consumer sales during the 22-week campaign compared to the prior period.

We experience high retention, repeat purchases and low CAC as seen by our 2019 and 2020 LTV to CAC ratios of 4.5x and 7.6x, respectively, and by our LTV to CAC ratios of 6.6x and 5.2x for the six months ended June 30, 2020 and 2021, respectively. This annual LTV is calculated by taking the average gross contribution per purchasing DTC customer in a rolling twelve-month period and dividing it by the same period’s Churn Rate. Our retention rate is calculated by taking the number of customers at the end of the period minus the number of new customers during the period divided by the number of customers at the beginning of the time period. We calculated our 2020 retention rate as the number of total customers at the end of 2020 less the number of customers acquired during the year divided by the number of customers at the end of 2019. We calculated our retention rate for the three months ended June 30, 2021 as the number of total customers at June 30, 2021 less the number of customers acquired during the prior twelve-month period divided by the number of customers at June 30, 2020. Average gross profit contribution is defined as cumulative sales from DTC customers during a twelve-month period less cost of goods divided by the number of purchasing DTC customers in the same period. CAC is calculated as total advertising and marketing expenses less advertising and marketing payroll and associated benefit expenses in a period divided by the total number of customers during that same period. For 2019 and 2020 CAC, we calculated it on a calendar year basis, and for the CAC for the six months ended June 30, 2021, we calculated it using the same method for the period January 1, 2021 to June 30, 2021. To arrive at the LTV to CAC ratio, we divide LTV by CAC.

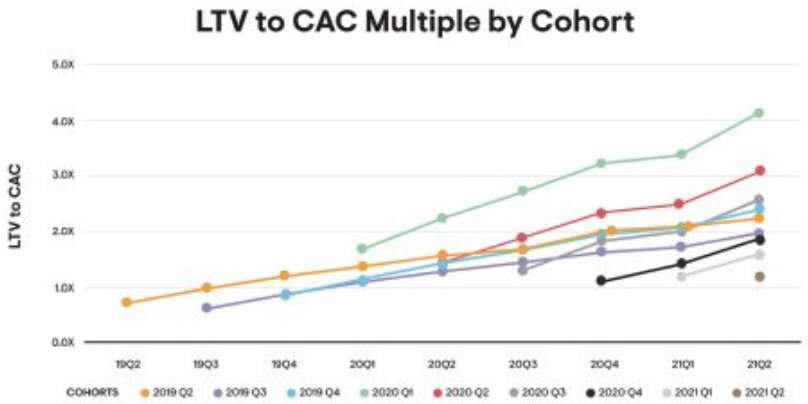
To illustrate our successful customer acquisition strategy, we have included charts below that compare the LTV to CAC ratio of the quarterly cohorts we acquired and tracked from January 1, 2019 to June 30, 2021. A cohort refers to the DTC customers grouped in the quarter in which they first placed an order. This cohort analysis tracks those groups by examining their spend in the first quarter they were acquired and their cumulative gross contribution in each calendar quarter thereafter. Each cohort’s spend is multiplied

by the gross margins to arrive at the gross contribution of that cohort. This gross contribution is divided by the cohort size LTV which is then divided by the CAC in the respective quarter to arrive at the ratios below.

LTV to CAC by COHORT

	19Q1	19Q2	19Q3	19Q4	20Q1	20Q2	20Q3	20Q4	21Q1	21Q2
19Q1 COHORT	2.2X	3.1X	3.8X	4.4X	5.0X	5.5X	6.0X	6.5X	7.1X	7.6X
19Q2 COHORT		0.7X	1.0X	1.2X	1.4X	1.6X	1.7X	1.9X	2.0X	2.2X
19Q3 COHORT			0.6X	0.9X	1.1X	1.3X	1.4X	1.6X	1.7X	2.0X
19Q4 COHORT				0.8X	1.2X	1.4X	1.7X	1.9X	2.0X	2.4X
20Q1 COHORT					1.7X	2.2X	2.7X	3.2X	3.4X	4.1X
20Q2 COHORT						1.4X	1.9X	2.3X	2.5X	3.1X
20Q3 COHORT							1.3X	1.8X	2.0X	2.6X
20Q4 COHORT								1.1X	1.4X	1.9X
21Q1 COHORT									1.1X	1.6X
21Q2 COHORT										1.1x

As shown in the table above, for all quarters across the 2020 and 2021 cohorts, our LTV to CAC ratio is greater than one, making us first quarter profitable on new customer acquisitions. Our more recent cohorts have similar behavior in spending to our prior cohorts. In each cohort, our LTV to CAC consistently grew as our newly acquired customers continued to purchase from us, growing the LTV of our customers. From January 1, 2019 to June 30, 2021, our CAC has fluctuated from quarter-to-quarter based on the timing of our brand campaigns; however, despite fluctuations, our CAC has remained consistently efficient.



The graph above demonstrates that we have highly efficient customer acquisition with strong, compelling LTV to CAC ratios over time. Our LTV to CAC ratios are a testament to our ability to acquire and retain customers efficiently and profitably. Maintaining our efficient acquisition and strong customer value will be critical to our profitable growth in the future.

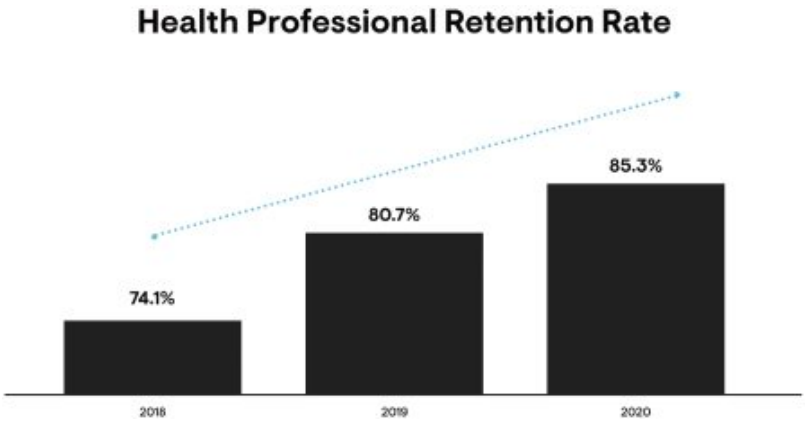
Ability to Engage and Retain Our Existing Customers

Our success is impacted not only by efficient and profitable customer acquisition, but also by our ability to retain customers and encourage repeat purchases. In 2020, 45.6% of our DTC sales were generated from new,

first-time purchasers versus 54.4% from existing customers. We deepen our relationships with our customers and drive retention by engaging them with digital health content and educational resources. Usage of our products and engaging with our content has resulted in our strong annual DTC retention rate of 68% in 2020. We calculate annual retention rate by subtracting the number of customers acquired during the period from the number of purchasing customers at the end of the period and dividing that number by the number of customers at the start of the period. Out of our total 2020 DTC sales, nearly one-third were recurring subscription sales. We expect the growth in net sales in each year to continue as we generate and grow sales from existing customers and from newly acquired customers.

Health Professionals

Our network of 42,000 health professionals helps serve two key purposes. First, it allows us to distinguish our brand by offering both credibility and validation to patients at times when the industry has struggled with trust. Secondly, health professionals carry, promote and distribute our products to consumers. Based on a 2018 survey conducted with 1,188 consumers, primary care physicians were identified as the most common entry point for supplement category consumers with nearly 60% of patients looking to their primary care providers when considering which supplements to buy. Therefore, retention and expansion of our professional network is important to our strategy.



As seen in the chart above, in 2020, our annual retention rate of health professionals was 85.3%, up from 74.1% in 2018.

Ability to Invest

We expect to continue to make investments across our business to drive growth and therefore we expect expenses to increase. We plan to continue to invest in sales and marketing to drive demand for our products and services. We expect to continue to invest in research and development to enhance our platform, develop new nutritional supplements, expand our testing portfolio, grow our multi-omics database and AI capabilities and improve our brand ecosystem's infrastructure.

Ability to Grow in New Geographies

Entering new geographic markets requires us to invest in distribution and marketing, infrastructure and personnel. Our international growth will depend on our ability to sell in international markets. In 2020, we shipped to 37 countries. We believe capital investment coupled with our regulatory expertise will lead to promising results. However, international sales are dependent upon local regulations and custom practices, which both change continuously.

Components of our Operating Results

Net Sales

Our net sales consist of sales of our nutritional supplements, health tests and sales associated with our services leveraging our AI and multi-omics databases, such as product development services. We recognize net sales when control over the product has transferred to customers in accordance with our revenue recognition policy.

Cost of Sales

Cost of sales consists of depreciation and amortization, product and packaging costs, including manufacturing costs, inventory freight, testing costs of all raw materials and finished goods, inventory shrinkage costs and inventory valuation adjustments, offset by reductions for promotions and percentage or volume rebates offered by our vendors, which may depend on reaching minimum purchase thresholds. We expect cost of sales to increase on an absolute dollar basis and improve as a percentage of net sales over the long term.

Operating Expenses

Selling, general and administrative expenses consist of

- sales and marketing;
- research and development;
- payroll and related expenses for employees involved in general corporate functions, including accounting, finance, tax, legal and human resources;
- costs associated with use by these functions, such as depreciation expense and rent relating to facilities and equipment;
- professional fees and other general corporate costs;
- stock-based compensation; and
- fulfillment costs.

Marketing expenses consist of performance marketing media spend, asset creation, and other brand creation, as well as sales and marketing personnel-related expenses. We intend to continue to invest in our sales and marketing capabilities in the future and expect this increase in absolute dollars in future periods as we release new products and expand internationally. Sales and marketing expense as a percentage of net sales may fluctuate from period to period based on net sales and the timing of our investments in our sales and marketing functions as these investments may vary in scope and scale over future periods.

Our research and development expenses support our efforts to add new features to our existing solutions and to ensure the reliability and scalability of our product development and testing. Research and development expenses consist of personnel expenses, including salaries, bonuses, stock-based compensation expense and benefits for employees and contractors for our engineering, product, and design teams and allocated overhead costs. We have expensed our research and development costs as they were incurred, except those costs that have been capitalized as software development costs.

We plan to hire employees for our science and engineering team to support our research and development efforts. We expect that research and development expenses will increase on an absolute dollar basis in the foreseeable future as we continue to increase investments in our technology platform. However, our research and development expenses may fluctuate as a percentage of revenue from period to period due to the timing and amount of these expenses.

Fulfillment costs represent costs incurred in operating, manufacturing, staffing order fulfillment and customer service teams, including costs attributable to buying, receiving, inspecting and warehousing inventories, picking, packaging and preparing customer orders for shipment, payment processing and related transaction costs and responding to inquiries from customers. Included within fulfillment costs are merchant processing fees charged by third parties that provide merchant processing services for credit cards.

We expect to incur additional expenses as a result of operating as a public company, including expenses to comply with the rules and regulations applicable to companies listed on the Nasdaq, expenses related to compliance and reporting obligations pursuant to the rules and regulations of the SEC, as well as higher expenses for general and director and officer insurance, investor relations and professional services. We also anticipate that fulfillment costs will fluctuate as a percentage of net sales over the long term. Overall, as we continue to grow as a company, we expect that our selling, general and administrative costs will increase on an absolute dollar basis but decrease as a percentage of net sales over the long term.

Interest expense, net

Interest expense, net consists primarily of interest earned on cash we hold. We expect interest expense, net to increase in the future in connection with any borrowings under the new revolving credit facility.

Income Tax Provision

Our income tax provision consists of an estimate of federal and state income taxes based on enacted federal and state tax rates, as adjusted for allowable credits, deductions and uncertain tax positions. Because we have experienced net losses we have fully reserved for all deferred tax assets and liabilities. Our income tax provision consists of cash taxes paid during the year in review.

Results of Operations

The following table summarizes our results of operations for each of the periods indicated:

	Years Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(dollars in thousands, except per share amounts)		(unaudited)	
Net Sales.	$102,532	$138,455	$63,504	$87,374
Cost of sales	57,789	73,667	35,456	41,241
Gross profit	44,743	64,788	28,048	46,133
	43.6%	46.8%	44.2%	52.8%
Operating expenses:				
Research and development.	3,899	4,225	2,572	2,043
Write off of acquired Drawbridge in-process research and development	—	—	—	1,563
Selling, general and administrative.	54,751	59,548	29,525	32,856
Income (loss) from operations.	(13,907)	1,015	(4,049)	9,671
Other expense (income):				
Interest expense, net	406	1,125	862	364
Guarantee fees	298	243	172	279
Change in fair value of warrant liability.	1,992	1,912	718	1,310
Loss on Drawbridge transaction.	—	—	—	166
Other expense (income), net	(44)	2	—	(38)
Total other (income) expense, net.	2,652	3,282	1,752	2,081

	Years Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(dollars in thousands, except per share amounts)		(unaudited)	
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	(16,559)	(2,267)	(5,801)	7,590
Income tax expense.	33	177	80	44
Net income (loss) before loss from equity interest in unconsolidated affiliates	(16,592)	(2,444)	(5,881)	7,546
Loss from equity interest in unconsolidated affiliates	(1,625)	(1,510)	(444)	(3,173)
Net income (loss).	(18,217)	(3,954)	(6,325)	4,373
Net loss - non-controlling interest.	(1,492)	(596)	(687)	(245)
Net income (loss) attributable to Thorne HealthTech, Inc	(16,725)	(3,358)	(5,638)	4,618
Deemed Dividends.	—	—	—	—
Undistributed earnings attributable to Series E convertible preferred stockholders.	(4,813)	—	—	(4,618)
Net income (loss) attributable to common stock	$ (21,538)	$ (3,358)	$ (5,638)	$ —
Earnings (loss) per share:				
Basic.	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Diluted.	$ (2.74)	$ (0.34)	$ (0.71)	$ —
Weighted average common shares outstanding:				
Basic.	7,848,910	9,985,800	7,949,925	17,650,035
Diluted.	7,848,910	9,985,800	7,949,925	17,650,035
Unaudited pro forma information:				
Pro forma net income (loss) attributable to Thorne HealthTech, Inc.		(2,898)		4,964
Pro forma earnings (loss) per share:				
Pro forma basic		$ (0.08)		$ 0.11
Pro forma diluted		$ (0.08)		$ 0.10
Pro forma weighted average common shares outstanding:				
Pro forma basic		36,425,871		44,090,106
Pro forma diluted		36,425,871		51,213,807

Net sales

Net sales for the six months ended June 30, 2021 increased by $23.9 million, or 37.6%, to $87.4 million compared to $63.5 million for the same period in 2020. This growth was largely driven by an increase in our DTC customers. The introduction of new innovative products along with a continued increase in demand for our immune suite products helped drive sales and new customers, while the expansion of our health evaluations with quizzes and tests increased the conversion of those participants to new customers.

Net sales for the twelve months ended December 31, 2020 increased by $35.9 million, or 35.0%, to $138.5 million compared to $102.5 million in the twelve months ended December 31, 2019. This growth was largely driven by growth in our DTC customers. Our DTC sales were $53.7 million in the twelve months ended December 31, 2020 compared to $34.9 million for the twelve months ended December 31, 2019, which represents 53.9% year-over-year growth. The introduction of new innovative products along with an increase in demand for our immune suite products helped drive sales and new customers, while the expansion of our health evaluations with quizzes and tests increased the conversion of those new customers.

Cost of Sales and Gross Profit

The following table summarizes our cost of goods sold and gross profit for the periods indicated (in thousands except percentage figures):

	Years Ended December 31,				Six Months Ended June 30,			
	2019	2020	Change	Percent Change	2020	2021	Change	Percent Change
					(unaudited)			
Net Sales	$102,532	$138,455	$35,923	35.0%	$63,504	$87,374	$23,870	37.6%
Cost of sales	57,789	73,667	15,879	27.5%	35,456	41,241	5,785	16.3%
Percent of net sales	56.4%	53.2%	(3.2)%	(5.6)%	55.8%	47.2%	(8.6)%	(15.5)%
Gross profit	$ 44,743	$ 64,788	$20,044	44.8%	$28,048	$46,133	$18,085	64.5%
Percent of net sales	43.6%	46.8%	3.2%	7.2%	44.2%	52.8%	8.6%	19.5%

Cost of sales for the six months ended June 30, 2021 increased by $5.8 million, or 16.3%, to $41.2 million compared to $35.5 million for the same period in 2020. This increase in cost of sales was primarily due to a 37.6% increase in net sales and associated product costs, partially offset by additional efficiencies in our manufacturing processes, including increased capacity, increased batch sizes and improved fixed cost leverage. The increase in cost of sales was lower than the increase in revenues on a percentage basis, primarily due to lower production costs.

Gross profit for the six months ended June 30, 2021 increased by $18.1 million, or 64.5%, to $46.1 million compared to $28.0 million for the same period in 2020. This increase was primarily due to the increase in net sales described above and additional efficiencies in our manufacturing processes, including increased capacity, increased batch sizes and improved fixed cost leverage. Gross profit as a percentage of sales for the first six months of 2021 increased by 19.5% compared to the same period of 2020.

Cost of sales for the twelve months ended December 31, 2020 increased by $15.9 million, or 27.5%, to $73.7 million compared to $57.8 million in the twelve months ended December 31, 2019. This increase in cost of sales was primarily due to a 35.0% increase in net sales and associated product costs, partially offset by a reduction of our cost to manufacture our products. The increase in cost of sales was lower than the increase in revenues on a percentage basis, primarily due to lower production costs.

Gross profit for the twelve months ended December 31, 2020 increased by $20.0 million, or 44.8%, to $64.8 million compared to $44.7 million in the twelve months ended December 31, 2019. This increase was primarily due to an increase in net sales as described above as well as obtaining efficiencies operating, including increased capacity and increased batch sizes. Gross profit as a percentage of sales for the twelve months ended December 31, 2020 increased by 7.2% compared to the twelve months ended December 31, 2019.

Selling, General and Administrative Expenses

The following table summarizes our selling, general and administrative expenses for periods indicated: (in thousands except percentage figures):

	Years Ended December 31,				Six Months Ended June 30,			
	2019	2020	Change	Percent Change	2020	2021	Change	Percent Change
					(unaudited)			
Net sales	$102,532	$138,455			$63,504	$87,374		
Total operating expenses	$ 58,650	$ 63,773	$5,123	8.7%	$32,097	$36,462	$ 4,365	13.6%
Percent of net sales	57.2%	46.1%	(11.1)%	(19.5)%	50.5%	41.7%	(8.8)%	(17.4)%
Marketing	$ 9,792	$ 11,151	$1,359	13.9%	$ 3,708	$ 9,285	$ 5,577	150.4%
Percent of net sales	9.6%	8.1%	(1.5)%	(15.7)%	5.8%	10.6%	4.8%	82.0%
Write off of acquired Drawbridge in-process research and development	—	—	$ —	—	$ —	$ 1,563	$ 1,563	—
Percent of net sales	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	1.8%	0.0%
Research and development	$ 3,899	$ 4,225	$ 326	8.4%	$ 2,572	$ 2,043	$ (529)	(20.6)%
Percent of net sales	3.8%	3.1%	(0.8)%	(19.8)%	4.1%	2.3%	(1.7)%	(42.3)%
Other operating expenses	44,959	48,397	3,438	7.6%	25,817	23,571	(2,246)	(8.7)%
Percent of net sales	43.8%	35.0%	(8.9)%	(20.3)%	40.7%	27.0%	(13.7)%	(33.6)%

Total selling, general and administrative expenses for the six months ended June 30, 2021 increased by $4.4 million, or 13.6%, to $36.5 million compared to $32.1 million for the same period in 2020. This increase was primarily due to an increase in marketing expenses and the write-off of acquired Drawbridge in-process research and development of $1.6 million. Marketing expenses for the quarter ended June 30, 2021 increased by $5.6 million, or 150.4%, to $9.3 million, compared to $3.7 million for the same period in 2020. The increase was primarily due to our investment in paid, working media. The increased investment in our paid media efforts is part of our mission to increase brand awareness and spread our message to reach and acquire more consumers, particularly to the Thorne website. Research and development expense for the six months ended June 30, 2021 decreased by $0.6 million, or 20.6%, to $2.0 million compared to $2.6 million for the same period in 2020. The decrease was primarily due to the timing associated with spending on new product development and clinical trial investments.

Total selling, general and administrative expenses for the twelve months ended December 31, 2020 increased by $5.1 million, or 8.7%, to $63.8 million compared to $58.6 million in the twelve months ended December 31, 2019. This increase was primarily due to an increase in marketing expenses, research and development and headcount focused on research and medical support. Marketing expense for the twelve months ended December 31, 2020 increased by $1.4 million, or 13.9%, to $11.2 million, compared to $9.8 million in the twelve months ended December 31, 2019. The increase was primarily due to our investment in paid, working media year-over-year. The increased investment in our paid media efforts is part of our mission to increase the brand awareness and spread our message to reach more and acquire more consumers. Research and development expense for the twelve months ended December 31, 2020 increased by $0.3 million, or 8.4%, to $4.2 million compared to $3.9 million in the twelve months ended December 31, 2019. The increase was primarily due to an increase in new product development and clinical trial investments.

Interest Expense, Net

The following table summarizes our interest expense, net for the periods indicated: (in thousands except percentage figures):

	Twelve Months Ended December 31,				Six Months Ended June 30,			
	2019	2020	Change	Percent Change	2020	2021	Change	Percent Change
					(unaudited)			
Interest expense, net	$406	$1,125	$ 719	177.1%	$862	$364	$ (498)	(57.8)%
Percent of net sales	0.4%	0.8%	0.4%	105.2%	1.4%	0.4%	(1.0)%	(69.3)%

Interest expense, net for the six months ended June 30, 2021 decreased by $0.5 million, or 57.8%, to $0.4 million compared to $0.9 million for the same period in 2020. This decrease was primarily due to the lower interest rate associated with a $20.0 million loan obtained beginning in February 2020 and repayment of our existing loan.

Interest expense, net for the twelve months ended December 31, 2020 increased by $0.7 million, or 175.0%, to $1.1 million compared to $0.4 in the twelve months ended December 31, 2019. This increase was primarily due to additional borrowing from banks that increased from $11.2 million to $20.0 million beginning in February 2020.

Quarterly Results of Operations and Key Metrics

Unaudited Quarterly Results of Operations

The following tables set forth our historical quarterly results of operations for each of the last six fiscal quarters. This unaudited quarterly information, other than Adjusted EBITDA, has been prepared on the same basis as our annual audited financial statements appearing elsewhere in this prospectus, and includes all adjustments, consisting only of normal recurring adjustments, that we consider necessary to fairly state the financial information for the fiscal quarters presented. This information should be read in conjunction with the audited consolidated financial statements and related notes thereto included elsewhere in this prospectus.

	For the Three Months Ended					
(in thousands of dollars except percentages)	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021	June 30, 2021
			(unaudited)			
Net Sales	$ 33,144	$30,360	$ 38,774	$ 36,177	$ 44,484	$42,890
Cost of sales	17,964	17,491	19,445	18,767	21,247	19,994
Gross profit	15,180	12,869	19,329	17,410	23,237	22,896
Percent of net sales	46%	42%	50%	48%	52%	53%
Operating expenses:						
Research and development	990	1,582	552	1,101	907	1,136
Write off of acquired Drawbridge in-process research and development						1,563
Marketing	1,551	2,157	2,442	5,001	4,239	5,075
Selling, general, and administrative	12,430	13,387	11,034	11,546	11,237	12,305
Income (loss) from operations	209	(4,257)	5,301	(238)	6,854	2,817
Operating Margin	1%	(14)%	14%	(1)%	15%	7%

(in thousands of dollars except percentages)	For the Three Months Ended March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021	June 30, 2021
	(unaudited)					
Other expense (income):						
Interest expense, net	618	245	(153)	415	283	81
Guarantee fees	86	86	202	(131)	139	140
Change in fair value of warrant liability	478	240	420	774	1,628	(318)
Loss on Drawbridge transaction						166
Other expense (income), net	—	—	2	—	—	(38)
Total other (income) expense, net	1,182	571	471	1,058	2,050	31
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	(973)	(4,828)	4,830	(1,296)	4,804	2,786
Income tax expense	1	80	48	48	41	3
Net Income (loss) before loss from equity interest in unconsolidated affiliates	(974)	(4,908)	4,782	(1,344)	4,763	2,783
Loss from equity interest in unconsolidated affiliates	(203)	(241)	(620)	(446)	(57)	(3,116)
Net income (loss)	(1,177)	(5,149)	4,162	(1,790)	4,706	(333)
Net loss - noncontrolling interest	(489)	(198)	584	(493)	—	(245)
Net Income (loss) attributable to Thorne HealthTech, Inc.	(688)	(4,951)	3,578	(1,297)	4,706	(88)
Undistributed earnings attributable to Series E convertible preferred stockholders	—	—	(3,578)	—	(4,706)	88
Net Income (loss) attributable to common stockholders	$ (688)	$(4,951)	$ —	$ (1,297)	$ —	$ —

The following table sets forth a reconciliation of net (loss) income to Adjusted EBITDA for each period included herein:

(in thousands of dollars except percentages)	For the Three Months Ended March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021	June 30, 2021
	(unaudited)					
EBITDA Calculation						
Net income (loss)	$ (1,177)	$(5,149)	$ 4,162	$ (1,790)	$ 4,706	$ (333)
Depreciation and amortization	947	947	958	1,444	985	1,277
Interest expense, net	618	245	(153)	415	283	81
Income tax expense	1	80	48	48	41	3
EBITDA	$ 389	$(3,877)	$ 5,015	$ 117	$ 6,015	$ 1,028
EBITDA margin	1%	(13)%	13%	0%	14%	2%

(in thousands of dollars except percentages)	For the Three Months Ended					
	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021	June 30, 2021
	(unaudited)					
Adjustments:						
Stock-based compensation	$ 3,073	$5,328	$ 1,396	$ 241	$ 511	$ 24
Change in fair value of warrant liability	478	240	420	774	1,628	(318)
Loss on Drawbridge transaction	—	—	—	—	—	166
Write off of acquired Drawbridge in-process research and development	—	—	—	—	—	1563
Guarantee fees	86	86	202	(131)	139	140
Loss from equity interest in unconsolidated affiliates	203	241	620	446	57	3,116
Adjusted EBITDA	$ 4,229	$2,018	$ 7,652	$ 1,447	$ 8,350	$ 5,719
EBITDA margin	13%	7%	20%	4%	19%	13%

Since we moved into our new facility and moved nearly all production in-house which, did not fully occur until the first three months of 2020, our financial results have been consistently improving with significant positive growth in earnings, free cash flow and sales. We believe that our 2020 results more accurately reflect our business on a go forward basis now that we are in control of manufacturing, which allows us to focus spending on marketing, new product development and growth opportunities.

Our 2019 financial performance was significantly impacted by the continued efforts dedicated to the move of our manufacturing and distribution facility from Idaho to South Carolina. This move was necessary to meet the significant increase in demand of products. In 2019, the move had a negative impact of $5.2 million on earnings. In connection with the move, we also incurred retention costs and additional expenses with hiring and training. Moving facilities required that we outsource production for up to 30% of our products, which increased our variable cost of sales by $5.0 million in 2019. Due to outsourcing, we spread our fixed production costs across a lower production volume, further impacting margins.

Net Sales

Our revenue is generally not materially impacted by seasonal fluctuations. Our first three months are typically strong because our customers implement New Year's resolutions. In addition, sales from health professionals tend to slow in the summer months as they go on vacation. Subscription revenue increased in each of the quarters presented above primarily due to new DTC customer growth and high retention rates.

Cost of Sales

Our cost of sales has fluctuated in line with our revenue for all periods presented due primarily to costs associated with sales of our products.

Selling, General and Administrative Expenses

Selling, general and administrative expenses is relatively stable and tends to increase based on marketing and research and development expenditures. Research and development expense increased primarily due to new product development and clinical trials. We have focused our research and development efforts on fewer products that will have a larger positive impact on net sales, and help maintain manufacturing efficiencies. Sales and marketing expense fluctuate quarterly based on the timing of brand marketing campaign investments; however, generally marketing as a percentage of sales remains relatively constant over time. Variations in quarter-to-quarter expenses are driven by fluctuations in paid media spend. In addition, we incurred in-process research and development costs associated with the asset acquisition of Drawbridge.

Liquidity and Capital Resources

Revolving Credit Line.

On February 14, 2020, we entered into an Uncommitted and Revolving Credit Line Agreement, by and among us as the borrower and Sumitomo Mitsui Banking Corporation (SMBC) as the lender (2020 Credit Agreement). Under the 2020 Credit Agreement, we borrowed $20.0 million in loans, the maximum amount available. We used the proceeds of these loans to pay the Series D dividend discussed below, plus accrued interest, totaling approximately $3.3 million, to repay our outstanding $3.1 million loan from Kirin and we used the balance of the proceeds, totaling approximately $13.6 million, to repay the principal and accrued interest on our loan with SunTrust Bank.

Our obligations under the 2020 Credit Agreement were guaranteed by Kirin Holdings Company, Limited (Kirin) and Mitsui & Co., Ltd. (Mitsui). We paid each guarantor an annual fee equal to two percent of $10 million for such guarantees annually and upon the occurrence of any change of control in respect of our company. Under the Fee Letter dated February 14, 2020 between us and Mitsui (2020 Mitsui Fee Letter), we also agreed to reimburse Mitsui in cash for any amounts that Mitsui paid under its guarantee of the 2020 Credit Agreement. However, if we were not able to wholly or partially reimburse such amounts to Mitsui, then we and Mitsui agreed to deem such unreimbursed amount to have been made for the benefit of our company in consideration for our debt or equity securities on terms reasonably satisfactory to Mitsui and us. We paid the Series D dividend plus accrued interest for a total of $3.3 million in February 2020.

Under the Fee Letter dated February 14, 2020 between us and Kirin (2020 Kirin Fee Letter), we agreed to reimburse Kirin in cash for any amounts that Kirin paid under its guarantee of the 2020 Credit Agreement. If we were not able to wholly or partially reimburse such amounts to Kirin, however, then we and Kirin agreed to deem such unreimbursed amount to have been made for our benefit in consideration for our debt or equity securities on terms reasonably satisfactory to Kirin and us.

In February 2021, we replaced and refinanced the 2020 Credit Agreement and all loans outstanding thereunder with a new uncommitted revolving credit line from SMBC having substantially similar terms, as further described below and under Note 21 to our consolidated financial statements.

On February 12, 2021, we entered into an Uncommitted and Revolving Credit Line Agreement, by and among us as the borrower and SMBC as the lender (2021 Credit Agreement), to refinance and replace the 2020 Credit Agreement. The terms of the 2021 Credit Agreement are substantially similar to the terms of the 2020 Credit Agreement. Under the 2021 Credit Agreement, SMBC may in its sole discretion elect to make unsecured loans to us until February 11, 2022, in an aggregate principal amount up to but not exceeding $20.0 million at any time. Each loan made under the 2021 Credit Agreement may have a maturity date that is not less than one day and not more than twelve months after the date that such loan is disbursed, as we and SMBC may mutually agree. SMBC may, in its sole discretion at any time, terminate in whole or partially reduce the unused portion of the credit line under the 2021 Credit Agreement. SMBC is not obligated to make any loan under the 2021 Credit Agreement.

We may prepay any outstanding loans under the 2021 Credit Agreement in whole or in part at any time without penalty, other than customary breakfunding or additional costs as determined by SMBC. As of February 12, 2021, we have fully drawn down $20.0 million under the 2021 Credit Agreement to refinance our outstanding loans under the 2020 Credit Agreement. As a result, under the $20.0 million maximum credit line, no additional amount is available to be borrowed.

A loan under the 2021 Credit Agreement bears interest at a per annum rate quoted by SMBC and agreed to by us when such loan is made. Interest on a loan is payable in arrears on the maturity date of such loan. Principal of a loan is due on such loan’s maturity date. We are also obligated to pay other expenses and indemnities customary for a credit facility of this size and type.

Our obligations under the 2021 Credit Agreement are guaranteed by Kirin and Mitsui. We pay each guarantor an annual fee equal to 1.20% of each of their $10 million guarantees annually and upon the occurrence of any change of control in respect of the Company. Under the Fee Letter dated February 12, 2021 between us and Mitsui (2021 Mitsui Fee Letter), we also agree to reimburse Mitsui in cash for any amounts that Mitsui pays under its guarantee of the 2021 Credit Agreement. However, if we are not able to wholly or partially reimburse such amounts to Mitsui, then we and Mitsui may agree to deem such unreimbursed amount to be made for our benefit in consideration for our debt or equity securities on terms reasonably satisfactory to Mitsui and us.

Under the Fee Letter dated February 12, 2021 between us and Kirin (2021 Kirin Fee Letter), we agreed to reimburse Kirin in cash for any amounts that Kirin pays under its guarantee of the 2021 Credit Agreement. If we are not able to wholly or partially reimburse such amounts to Kirin, however, then we and Kirin may agree to deem such unreimbursed amount to be made for our benefit in consideration for our debt or equity securities on terms reasonably satisfactory to Kirin and us. After the closing of this offering, we intend to negotiate with SMBC to pay off our existing debt under the 2021 Credit Agreement. If we pay off our existing debt under the 2021 Credit Agreement, then the related Mitsui and Kirin guarantees may also be released and terminated. There is no guarantee, however, that our negotiations will be successful.

The 2021 Credit Agreement contains customary affirmative covenants, including covenants regarding the payment of taxes and other obligations, maintenance of insurance, reporting requirements and compliance with applicable laws and regulations, and customary negative covenants limiting our ability, among other things, to merge or consolidate, dispose of all or substantially all of its assets, liquidate or dissolve, and grant liens, subject to certain exceptions. Upon the occurrence and during the continuance of an event of default, SMBC may declare all outstanding principal of, and accrued and unpaid interest on, loans made under the 2021 Credit Agreement immediately due and payable and may exercise the other rights and remedies provided for under the 2021 Credit Agreement and related loan documents. The events of default under the 2021 Credit Agreement include, subject to grace periods in certain instances, payment defaults, cross defaults with certain other material indebtedness, certain material judgments, breaches of covenants or representations and warranties, change in control of our company, a material adverse change as defined in the 2021 Credit Agreement, and certain bankruptcy and insolvency events.

On June 2, 2020, we entered into an Unconditional Guaranty (the Truist Guaranty), pursuant to which we guaranteed the obligations of our subsidiary, Thorne Research, Inc., owing to Truist Bank. In 2020, this Truist Guaranty was terminated.

The foregoing description of the 2021 and 2020 Credit Agreements, the 2021 and 2020 Mitsui Fee Letters, and 2021 Kirin Fee Letters and Truist Guaranty does not purport to be complete and is qualified in its entirety by reference to the 2021 and 2020 Credit Agreements, the 2021 and 2020 Mitsui Fee Letters and 2021 Kirin Fee Letters attached hereto as exhibits.

Letter of Credit Reimbursement Agreement.

On October 31, 2018, we entered into a Reimbursement Agreement with SMBC (LC Reimbursement Agreement), under which we may request SMBC to issue up to $4.9 million in letters of credit in the aggregate and we agree to reimburse SMBC for any drawings under such letters of credit. Our obligations under the LC Reimbursement Agreement are guaranteed by Kirin and Mitsui. We pay each guarantor an annual fee equal to twelve-month LIBOR plus 3.0% of $2,450,000 for such guarantees annually and upon the occurrence of any change of control in respect of our company. In light of the future cessation of LIBOR interest rates, we are discussing with Kirin and Mitsui shifting to a SOFR based rate on terms yet to be negotiated. The twelve-month LIBOR rate was last set on February 12, 2021. Under the Fee Letter dated November 30, 2018 between us and Mitsui (2018 Mitsui Fee Letter), amounts paid by Mitsui under its guarantee shall be deemed made for our benefit in consideration for our debt or equity securities on terms reasonably satisfactory to Mitsui and us. Under the Fee Letter dated November 30, 2018 between us and Kirin

(2018 Kirin Fee Letter), amounts paid by Kirin under its guarantee shall be deemed made for our benefit in consideration for our debt or equity securities on terms reasonably satisfactory to Kirin and us.

The LC Reimbursement Agreement contains customary affirmative covenants, including covenants regarding the payment of taxes and other obligations, reporting requirements and compliance with applicable laws and regulations, and customary negative covenants limiting our ability, among other things, to merge or consolidate, dispose of all or substantially all of its assets, liquidate or dissolve. Upon the occurrence and during the continuance of an event of default, SMBC may declare all outstanding obligations owing under the LC Reimbursement Agreement immediately due and payable and may exercise the other rights and remedies provided for under the LC Reimbursement Agreement and related documents. The events of default under the LC Reimbursement Agreement include, subject to grace periods in certain instances, payment defaults, cross defaults with other indebtedness, certain material judgments, breaches of covenants or representations and warranties, a material adverse effect as defined in the LC Reimbursement Agreement and certain bankruptcy and insolvency events.

To support the obligation of our subsidiary, Thorne Research, Inc., to make a security deposit under its lease in Summerville, South Carolina, SMBC has issued an irrevocable standby letter of credit pursuant to the LC Reimbursement Agreement in the amount of $4.9 million with an original expiration date of December 3, 2019 and automatic renewals until October 31, 2037. This letter of credit has an annual fee of $19,946. The guarantee fee expense for this letter of credit under the 2018 Mitsui Fee Letter and the 2018 Kirin Fee Letter for the years ended December 31, 2020 and 2019 were $236,913 and $297,920, respectively. All of these guarantee fees are included in the financial expenses in the consolidated statements of operations. After the closing of this offering, we intend to negotiate with the applicable landlord to attempt to remove the requirement for such letter of credit. If we succeed in negotiating such removal or a replacement credit support, then the related supporting Mitsui and Kirin guarantees may also not be required. There is no guarantee, however, that the applicable landlord will agree to remove the letter of credit or to accept an alternative, replacement credit support.

Copies of the LC Reimbursement Agreement, 2018 Mitsui Fee Letter and 2018 Kirin Fee Letter are attached hereto as exhibits. The foregoing description of the LC Reimbursement Agreement, 2018 Mitsui Fee Letter and 2018 Kirin Fee Letter does not purport to be complete and is qualified in its entirety by reference to the LC Reimbursement Agreement, 2018 Mitsui Fee Letter and 2018 Kirin Fee Letter.

Cash Flows

Operating Activities

Cash provided by operating activities consisted of net loss adjusted for non-cash items, including depreciation and amortization, stock-based compensation, change in fair value of warrant liability and certain other non-cash items, as well as the effect of changes in working capital and other activities.

For the six months ended June 30, 2021, net cash provided by operating activities was $0.9 million, primarily consisting of net income of $4.4 million plus depreciation and amortization expense of $2.3 million, $0.5 million of stock-based compensation expense, non-cash expenses associated with the Drawbridge Transaction, including a $1.6 million write-off of acquired in-process research and development and the loss from equity interest in unconsolidated affiliates, and a $1.3 million change in fair value of warrant liability. Working capital decreased by $15.4 million primary due to a decrease in inventory of $11.4 million and a decrease in accounts receivable of $3.6 million, offset by a decrease in accounts payable of $3.7 million.

For the six months ended June 30, 2020, net cash provided by operating activities was $5.9 million, primarily consisting of a net loss of $6.3 million, depreciation and amortization expense of $1.9 million, $8.4 million of stock-based compensation expense and a $0.7 million change in fair value of warrant liability. Working capital decreased by $1.5 million primarily due to a decrease in inventory of $2.5 million, offset by a decrease in accounts payable of $3.1 million.

Net cash provided by operating activities was $17.1 million for 2020, primarily consisting of $4.0 million of net loss adjusted for certain non-cash items, which primarily included depreciation and amortization expense of $4.3 million and $10.0 million of stock-based compensation expense, non-cash lease expense of $5.3 million, change in fair value of warrant liability of $1.9 million as well as a $2.3 million decrease in cash provided by a reduction in working capital primarily driven by a decrease in our operating lease liabilities and accounts receivable and increase in accounts payable.

Net cash used in operating activities was $7.6 million for 2019, primarily consisting of $18.2 million of net loss, adjusted for certain non-cash items, which primarily included depreciation and amortization expense of $4.6 million and $12.2 million of stock-based compensation expense, as well as a $12.5 million decrease in cash consumed by working capital primarily driven by an increase in our inventory, accounts receivable and payable.

Investing Activities

Our primary investing activities consisted of purchases of property and equipment, mainly to increase our manufacturing and fulfillment capabilities to support our growth, as well as leasehold improvements. Use of cash for investing activities also includes payments to support agreements with non-consolidated subsidiaries and the purchase and use of certain license and research agreements.

Net cash used in investing activities was $3.1 million for the six months ended June 30, 2021, primarily consisting of investing in the acquisition of Drawbridge of $1.4 million, capital spending to support our growth of $1.1 million and the entry into certain licensing and research agreements with Mayo Clinic of $0.6 million.

Net cash used in investing activities was $4.2 million for the six months ended June 30, 2020, primarily consisting of repayment of short term advance to a related party of $3.1 million, $0.9 million of capital expenditures to support our growth, and the purchase of certain licensing and research agreements with Mayo Clinic of $0.2 million.

Net cash used in investing activities was $3.7 million for 2020, primarily consisting of investing in unconsolidated subsidiary and equity method investments of $1.4 million, capital spending to support our growth of $1.2 million and the entry into certain licensing and research agreements with Mayo Clinic of $1.1 million.

Net cash used in investing activities was $4.2 million for fiscal year 2019, primarily consisting of $1.7 million of capital expenditures to support our growth, investment in unconsolidated subsidiaries of $1.3 million and the purchase of certain licensing and research agreements with Mayo Clinic of $1.3 million.

Financing Activities

Net cash used in financing activities was $3.3 million for the six months ended June 30, 2021, primarily consisting of payment of deferred offering costs related to our registration statement of $3.0 million and payments on our debt and leases of $0.3 million.

Net cash provided by financing activities was $3.9 million for the six months ended June 30, 2020, primarily consisting of borrowing $20.0 million revolving line of credit from SMBC, offset by $12.6 million of principal repayments to SunTrust Bank, and the payment of a one-time deal flow dividend of $3.3 million to Mitsui, who is a current stockholder.

Net cash provided by financing activities was $1.4 million for 2020, primarily consisting of a $20.0 million revolving line of credit from SMBC and the exercise of certain warrants by our stockholders, offset by $11.2 million of principal repayments to SunTrust Bank, the exercise of certain stock options that were set to expire, the repurchase of common stock from management, payment of a one-time deal flow dividend of $3.3 million to Mitsui, and a one-time loan from Kirin during plant construction of $3.0 million, both of which are current stockholders.

Net cash provided by financing activities was $11.7 million for 2019, primarily consisting of borrowing $8.8 million on our line of credit and a one-time loan from Kirin of $3.0 million.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations as of June 30, 2021 (in thousands):

	Payments Due by Period				
	Total	<1 Year	1-3 Years	3-5 Years	>5 Years
As of June 30, 2021					
Operating Lease Obligations	$58,246	$ 3,347	$ 12,308	$ 6,886	$35,705
Finance Lease Obligations	1,069	220	793	56	—
Line of Credit	20,000	20,000	—	—	—
Notes Payable	1,821	480	1,214	127	—
Total	$81,136	$24,047	$ 14,315	$ 7,069	$35,705

We lease all of our manufacturing and distribution facilities, corporate offices and certain equipment under non-cancelable operating and finance leases. These leases expire at various dates through 2047.

Off Balance Sheet Arrangements

We currently do not have, and did not have during the periods presented, any off-balance sheet arrangements.

Quantitative and Qualitative Disclosures about Market Risk

Market Risk Disclosure

We do not hold market risk-sensitive trading instruments, nor do we use financial instruments for trading purposes. All sales, operating items and balance sheet data are denominated in U.S. dollars; therefore, we have no significant foreign currency exchange rate risk.

We use many different commodities such as Vitamin C and Vitamin D. Commodities are subject to price volatility caused by commodity market fluctuations, supply and demand and currency fluctuations. Commodity price increases will result in increases in raw material costs and operating costs.

In the ordinary course of our business, we enter into commitments to purchase raw materials over a period of time, generally six months or less at contracted prices. At December 31, 2020, these future commitments were not at prices in excess of current market, or in quantities in excess of normal requirements. We do not utilize derivative contracts either to hedge existing risks or for speculative purposes.

Interest Rate Risk

We invest excess cash in variable income investments consisting of cash equivalents. The magnitude of the interest income generated by these cash equivalents is affected by market interest rates. We do not use marketable securities or derivative financial instruments in our investment portfolio.

The interest payable on our bank line of credit is based on variable interest rates and therefore is affected by changes in market interest rates.

Currency Risk

For the six months ended June 30, 2021 and for the twelve months end December 31, 2020, we did not sell any product or services for payment in currency other than U.S. dollars.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States (GAAP). The preparation of our consolidated financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, costs and expenses, and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements appearing at the end of this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

On January 1, 2019 we adopted ASC 606 using the modified retrospective method for all contracts not completed as of the date of adoption. Revenues for 2019 and going forward are presented under ASC 606.

Under ASC 606, we account for revenue using the following steps:

- identify the contract, or contracts with a customer;
- identify the performance obligations in the contract;
- determine the transaction price;
- allocate the transaction price to the identified performance obligations; and
- recognize revenue when, or as, we satisfy the performance obligations.

We recognize revenues when control of the promised goods or services is transferred to its customers in an amount that reflects the consideration we expect to be entitled in exchange for those goods or services. We consider several factors in determining that control transfers to the customer upon shipment. These factors include that legal title transfers to the customer, we have a present right to payment, and the customer has assumed the risks and rewards of ownership at the time of shipment. Shipping and handling costs are considered a fulfillment activity and are expensed as incurred. Our standard business practice is to collect upfront payment for its products for direct to consumer sales and to recognize a receivable for sales to distributors when the performance obligation is satisfied.

Certain distributors resell our products in online marketplaces, however no inventories are held on consignment; revenue is recognized when control of the goods is transferred to these customers which is typically at the time of shipment. The terms of payment over the recognized receivables from distributors are less than one year and therefore these sales do not have any significant financing components. We use standard business practices and standard price lists in determining the transaction price. Any discounts stated or implied are allocated entirely to the sole performance obligation. We primarily sell to customers throughout the United States but also sell to international markets. Regardless of customer location, all customer payments are required to be made in U.S. dollars. Given the inherent nature of selling to international markets, there is a risk of higher volatility pertaining to collecting payment on account; however, we review each customer account for collectability and provides for probable uncollectible amounts through a charge to earnings and a credit to a valuation allowance based on its assessment. This process of assessing for collectability is performed for all on account customers, both international and domestic.

We have elected to exclude sales tax for non-exempt customers from the transaction price and is therefore excluded from revenue. For certain sales, we incur incremental costs of obtaining the contract through the form of sales commissions. The sales commissions incurred are directly correlated to the sales generated and are therefore expensed as incurred as the amortization period of the asset that otherwise would have been recognized is one year or less.

We also have a variable consideration element related to most of our contracts in the form of product return rights. If a customer is not satisfied for any reason with a product purchased, the customer can return it to the place of purchase to receive a refund, a credit or a replacement product. If the customer purchased the product on Amazon, the product must be returned to Amazon and if purchased through our website, returned to us. The request must be submitted within 60 days of the date of purchase. We analyze all returns and, as of the balance sheet date, and record a sales return accrual within accrued liabilities for the amount we expect to credit back to our customers based on our analysis.

With regard to our subscription offering, we offer our customers the ability to opt into recurring automatic refills on both Thorne.com and Amazon.com. We recognize revenue under our subscription program when product is shipped to the consumer. No funds are collected at the time a consumer signs up for a subscription and the customer can cancel or modify a subscription at any time and no cost. The discount offered under the subscription plan reduces revenue at the time the product ships to the customer. On our website, we allow customers to subscribe monthly, every 45 days, every two months, every three months, or every four months. For all these frequencies, we offer a 10% discount on retail refill orders. On Amazon, the discount ranges from 5% to 10% depending on the number of products to which a customer is subscribed; the average discount on Amazon for our subscriptions is approximately 8%.

There are no material differences in our revenue recognition policy between the DTC subscription program and the DTC transaction program.

Stock-Based Compensation

We measure the cost of employee services received in exchange for an award of stock-based compensation based on the grant-date calculated value of the award. We use historical volatility based on an industry sector index as an input in the Black-Scholes option pricing model. No compensation cost is recognized for awards that are forfeited prior to vesting. Compensation expense is recognized on a straight-line basis over the total requisite service period of each award or as performance conditions are met. We did not make any option grants in 2019 or 2020 or in the first six months of 2021.

As recorded in our stock-based compensation expense in our consolidated financial statements, certain members of management entered into an agreement with us whereby certain members of management received a put right from us, in which management could receive cash from the Company for the fair value of 2,538,280 common stock options, with an exercise price of $0.85 per share. Per the terms of this agreement, the fair value to be paid in cash equaled the fair value of the underlying common stock less the exercise price of the stock options. These put rights expired in 2020.

Warrant Liability

We determine the accounting classification of a warrant, as either liability or equity, by first assessing whether the warrant meets liability classification in accordance with ASC 480, *Distinguishing Liabilities from Equity* (ASC 480), and then in accordance with ASC 815-40, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock* (ASC 815-40). If the warrant does not meet liability classification under ASC 480, we assess the requirements under ASC 815-40, including whether the warrant is indexed to our common stock and whether the warrant meets the other requirements to be classified as equity under ASC 815-40. After all relevant assessments are made, we conclude whether the warrant should be classified as liability or equity.

We have warrants that are classified as a liability on our consolidated balance sheet. The warrants classified as a liability are measured at fair value using the Black-Scholes pricing model which takes into account, as of the valuation date, factors including the current exercise price, the contractual life of the warrant, the current fair value of the underlying stock, its expected volatility, and the risk-free interest rate for the term of the warrant. The warrant liability is revalued at each reporting period and changes in fair value are recognized in the consolidated statements of operations. The selection of the appropriate valuation model and the inputs and assumptions that are required to determine the valuation requires significant judgment and requires management to make estimates and assumptions that affect the reported amount of the related liability and reported amounts of the change in fair value. Actual results could differ from those estimates, and changes in these estimates are recorded when known. As the warrant liability is required to be measured at fair value at each reporting date, it is reasonably possible that these estimates and assumptions could change in the near term.

Equity-Classified Warrants

We have common stock warrants that are equity-classified on our consolidated balance sheet. We concluded that these warrants do not meet the requirements to be accounted for as liability under ASC 480 as they are for a fixed number of shares and do not contain provisions that require us to cash-settle the warrants. Additionally, we determined that these warrants are indexed to our stock as they do not contain exercise contingencies or adjustments to exercise price that are not an input to a fixed-for-fixed model. The warrants also meet the other equity-classification criteria under ASC 815-40. Equity classified warrants are accounted for at fair value on the issuance date and are not remeasured every reporting period.

Common Stock Valuations

The fair value of our equity instruments has historically been determined based on information available at the time of granting. Given the absence of a public trading market for our equity, and in accordance with the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately Held Company Equity Securities Issued as Compensation, our management has exercised reasonable judgment and considered numerous objective and subjective factors to determine the best estimate of the fair value of our equity instruments at each grant date.

These factors included:

- our operating and financial performance;
- current business conditions and projections;
- the lack of marketability of our shares;
- using third party experts to support the valuation of the shares; and
- the market performance of comparable publicly traded companies.

In valuing our equity instruments, we determined the equity value of our business using a weighted blend of the income and market approaches. The income approach estimates the fair value of a company based on the present value of such company’s future estimated cash flows and the residual value of such company beyond the forecast period. These future values are discounted to their present values to reflect the risks inherent in such company achieving these estimated cash flows.

Significant inputs of the income approach, in addition to our estimated future cash flows themselves, include the long-term growth rate assumed in the residual value, discount rate and normalized long-term operating margin. The terminal value was calculated to estimate our value beyond the forecast period by applying valuation metrics to the final year of our forecasted net sales and discounting that value to the present value using the same weighted average cost of capital applied to the forecasted periods.

Application of these approaches involves the use of estimates, judgment and assumptions that are highly complex and subjective, such as those regarding our expected future revenue, expenses and future cash flows, discount

rates, market multiples, the selection of comparable companies and the probability of possible future events. Changes in any or all of these estimates and assumptions or the relationships between those assumptions impact our valuations as of each valuation date and may have a material impact on the valuation of our common stock.

Income Taxes

Income taxes are accounted for using an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date. A valuation allowance is provided when it is more likely than not that some portion or all of the net deferred tax assets will not be realized. We recognize the tax benefit from uncertain tax positions if it is more likely than not the tax positions will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. We recognize interest and penalties related to income tax matters in income tax expense. Health Elements, LLC made a previous election to be taxed as a Subchapter C corporation. As such, a provision for income taxes has been made for our investment in this entity and is included in the accompanying consolidated financial statements.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended (Code), a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its NOLs to offset future taxable income. We may have undergone an ownership change in connection with our 2018 series E convertible stock financing. If we underwent an ownership change in 2018 or if we undergo an ownership change in connection with or after this offering, our NOLs arising before such an ownership change may be subject to one or more Section 382 limitations that materially limit the use of such NOLs to offset our taxable income. While we have not undertaken a Section 382 study to determine whether we have undergone any ownership changes in the past, we expect to complete one following this offering.

As of December 31, 2020, we had U.S. federal net operating loss carryforwards (NOLs) and state NOLs of approximately $50.1 million and $51.3 million, respectively, due to prior period losses that if not utilized will begin to expire for federal and state purposes beginning in 2035. Realization of these NOLs depends on future income, and there is a risk that our existing NOLs could expire unused and be unavailable to offset future income tax liabilities, which could adversely affect our operating results.

In general, under Section 382 of the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its NOLs to offset future taxable income. We may have undergone an ownership change in connection with our 2018 series E convertible stock financing. In addition, this offering, as well as future changes in our stock ownership, the causes of which may be outside of our control, could result in an additional ownership change under Section 382 of the Code. If we underwent an ownership change in 2018 or if we undergo an ownership change in connection with or after this offering, our NOLs arising before such an ownership change may be subject to one or more Section 382 limitations that materially limit the use of such NOLs to offset our taxable income. While we have not undertaken a Section 382 study to determine whether we have undergone any ownership changes in the past, we expect to complete one following this offering. Our ability to utilize NOLs of companies that we have acquired or may acquire in the future may also be subject to limitations. Further, our NOLs may be impaired under state laws. In addition, under the 2017 Tax Cuts and Jobs Act (Tax Act), as modified by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), NOLs arising in taxable years beginning after December 31, 2020 may not be carried back, and NOLs generated in taxable years beginning after December 31, 2017 may be carried forward indefinitely, but the deductibility of such NOLs generally will be limited in taxable years beginning after December 31, 2020 to 80% of the current year taxable income. This change may require us to pay federal income taxes in future years even if our NOLs were otherwise sufficient to offset our federal taxable income in such years. There is also a risk that due to

regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income tax liabilities. For these reasons, we may not be able to realize, in whole or in part, a tax benefit from the use of our NOLs, whether or not we attain profitability.

Recent Accounting Pronouncements

Recently issued accounting pronouncements that we have adopted or are currently evaluating are included in Note 2, Recent Accounting Pronouncements, of the notes to our consolidated financial statements included elsewhere in this prospectus.

COVID-19 Pandemic

On January 30, 2020, the World Health Organization (WHO) announced a global health emergency because of a new strain of coronavirus (COVID-19) and the risks to the international community as the virus spreads globally. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic.

We are a manufacturer of nutritional supplement products, a category of food that is regulated by the U.S. Food and Drug Administration. Based on guidance issued by the U.S. Department of Homeland Security and the Cybersecurity and Infrastructure Security Agency, and in particular, specific guidance therein regarding the food and agriculture industries, our manufacturing facility has been designated as “Essential Critical Infrastructure Workers” and would therefore be exempt from any “shelter in place” restrictions that might be imposed by the State of South Carolina.

The full impact of the COVID-19 outbreak continues to evolve as of the date of this report. As such, it is uncertain as to the impact this pandemic on the Company’s financial condition. Management is actively monitoring the impact of this virus on its financial condition, liquidity, operations, suppliers, customers and workforce.

Our consolidated financial statements presented herein reflect the latest estimates and assumptions made by management that affect the reported amounts of assets and liabilities and related disclosures as of the date of the consolidated financial statements and reported amounts of revenue and expenses during the reporting periods presented.

Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP. As a result of becoming a public company, we will be required, pursuant to Section 404 of the Sarbanes-Oxley Act, as amended, to furnish a report by our management on, among other things, the effectiveness of our internal control over financial reporting for the first fiscal year beginning after the effective date of the registration statement of which this prospectus is a part or the date we are no longer an “emerging growth company” (EGC) as defined in the Jumpstart Our Business Startups Act of 2012 (JOBS Act), if we take advantage (as we expect to do) of the exemptions for EGCs contained in the JOBS Act. This assessment will need to include disclosures of any material weaknesses identified by our management in our internal control over financial reporting.

In connection with the audits of our financial statements included elsewhere in this prospectus, we identified material weaknesses related to:

- an insufficient complement of personnel possessing the appropriate accounting and financial reporting knowledge and experience; and
- we did not maintain effective controls relating to revenue recognition, accounting for significant and unusual transactions and our financial statement close process, which have not been remediated.

Under standards established by the Public Company Accounting Oversight Board, a material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected and corrected on a timely basis.

We are working to remediate the material weaknesses and are taking steps to strengthen our internal control over financial reporting through the hiring of additional finance and accounting personnel. With the additional personnel, we intend to take appropriate and reasonable steps to remediate these material weaknesses through the implementation of appropriate segregation of duties, formalization of accounting policies and controls and retention of appropriate expertise for complex accounting transactions. However, we cannot assure you that these measures will significantly improve or remediate the material weaknesses described above. As of June 30, 2021, the material weaknesses have not been remediated.

The actions that we are taking are subject to ongoing executive management review, and will also be subject to audit committee oversight. If we are unable to successfully remediate the material weakness, or if in the future, we identify further material weaknesses in our internal control over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated.

Emerging Growth Company and Smaller Reporting Company Status

We are an "emerging growth company," as defined in the JOBS Act. We will remain an emerging growth company until the earlier of (i) December 31, 2026 (the last day of the fiscal year following the fifth anniversary of our initial public offering), (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (iii) the last day of the fiscal year in which we are deemed to be a "large accelerated filer," as defined in the rules under the Exchange Act, and (iv) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in this prospectus and may elect to take advantage of other reduced reporting requirements in our future filings with the SEC. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests. In particular, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this extended transition period and, as a result, we will not adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies until required by private company accounting standards.

We are also a "smaller reporting company" meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation and other matters.

BUSINESS

Our Purpose

We believe that a personalized and scientific approach to wellness can lead to happier and healthier lives. Our goal is to transform the consumer's approach to health and wellness and empower our customers to live healthier longer, which we refer to as increased health span, through testing, teaching and proactive measures that help our customers avoid chronic health conditions before they occur and achieve peak performance.

Who We Are

We are a science-driven wellness company pioneering innovative solutions and personalized approaches to health and well-being. We are building a new health category to deliver better health outcomes through a proactive, empowered approach. Our unique, vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health over their lifetime. By combining our proprietary multi-omics database, artificial intelligence (AI) and digital health content with our science-backed nutritional supplements, we deliver a total system for wellness. We believe our integrated solution will redefine the expectations for good health and peak performance.

Founded in 1984, Thorne Research was a small company dedicated to being a "thorn" in the side of the traditional supplement industry by making the purest and highest quality nutritional supplements to sell to health professionals. With a vision for an unparalleled health ecosystem fueled by innovation and technology, our current Chief Executive Officer, Paul Jacobson, and his management team, acquired Thorne Research in 2010 and co-founded Onegevity. In early 2021, we completed our acquisition of Onegevity and combined these two complementary companies. During the past ten years, we have evolved to become a transformative consumer brand, trusted by more than 3,000,000 customers, 42,000 healthcare professionals, thousands of professional athletes, more than 100 professional sports teams and 11 U.S. Olympic teams.

We utilize testing and data to create improved product quality and deliver personalized solutions to consumers, health professionals and professional sports teams. We also help pharmaceutical and biotechnology companies repurpose existing drugs and compounds, improve existing medications and develop new products. Today, consumers are faced with a healthcare system that is focused on the treatment of disease rather than a proactive approach to health and wellness. The supplement market is crowded with confusing products that lack clinical validation or brand equity. We have positioned our brands as a paradigm shift from a focus on the treatment of disease to a proactive approach to health and wellness. The benefits of focusing on health can include enhanced performance in daily life, longer health spans, younger biological ages and reduced reliance on the healthcare system and its associated costs. We have developed a subscription platform that seamlessly combines convenient and comprehensive testing methods, proprietary data, personalized wellness education and premium nutritional solutions to focus on the human body and its unique needs. Through our platform of innovative health solutions and proprietary technology, we are building a new category within the health and wellness market. Our total addressable market consists of the $167.8 billion global nutritional supplement market (as of 2019 and projected to have a CAGR of 9.0% through 2026, according to FNF Research), the $84.1 billion global digital health market (as of 2019 and projected to have a CAGR of 14.8% through 2026, according to FNF Research), the $69.8 billion drug discovery technology and service market (as of 2020 and projected to have a CAGR of 9.6% through 2025, according to BCC Research) and the $29.5 billion global clinical testing market (as of 2020 and projected to have a CAGR of 11.4% through 2025, according to TechSci Research).

Our novel approach seeks to resolve key pain points in the consumer health journey. Our model of test, teach, transform and iterate ensures that consumers are not only active participants in their healthcare, but also educated and empowered to navigate an overwhelming nutritional supplement marketplace. We are able to

personalize nutritional supplement recommendations and protocols because we understand there is no one-size-fits-all solution. Our relentless focus on building a new model of health has resulted in a robust portfolio of science-driven products and high customer satisfaction, as demonstrated by our favorable Net Promoter Score (NPS) of 74 during the first six months of 2021. Our success is not limited to the U.S. market; our Thorne brand was sold in 37 countries in 2020, and we expect to continue to expand internationally.

Our unique go-to-market strategy combines our direct-to-consumer (DTC) and subscription model with an ecosystem of health professionals. We provide customers with direct access to our brand through our mobile, web and Amazon channels. In addition to the DTC channel, our broad range of connected health professionals provides another channel for our products to be marketed and distributed to consumers. We have built our active and growing network to more than 42,000 health professionals, which includes medical doctors, naturopathic doctors, registered dieticians, pharmacists, chiropractors, nutritionists, trainers, acupuncturists and other accredited health professionals.

Thorne: Thorne provides health tests, education, and products that support the optimization of health. We offer health tests to generate comprehensive, personalized molecular portraits for our customers. Our proprietary multi-omic platform, Onegevity, uses the results of these tests to create personalized recommendations, which we believe provide individuals greater conviction about what actions they need to take, such as consulting with their physician or nutritionist, making a lifestyle change, or using nutritional supplements. All of our tests are performed by reputable third-party clinical laboratories, and the test results and Onegevity-powered AI actionable insights are reviewed by board-certified physicians prior to being delivered to the customer through our website and app.

We have also developed premium, high-quality nutritional supplements through our trusted brand, Thorne. We believe that we have established industry leading sourcing, production and testing standards, which are designed to meet or exceed U.S. and international current Good Manufacturing Practice requirements (cGMPs), all of which are subject to third-party certification and audit. We manage nearly all product formulations, ingredients, production processes, documentation, testing and product activities at our facility in Summerville, South Carolina. Our distinguished science and medical teams are advancing an innovative pipeline of products, including a series of next-generation products with nicotinamide riboside (NR), a compound involved in cellular metabolism, which we believe contains properties that support healthy aging at the cellular level.

Onegevity: Onegevity is AI for health. Onegevity combines AI with professional human assistance to map, integrate and understand the billions of dynamic biological features that illustrate the state of an individual's health. Onegevity's platform and technology are used by customers to manage their own health, and by practitioners and professionals to support patient health and advance their scope of practice.

Onegevity's proprietary engine also allows us to offer a business-to-business (B2B) solution that combines our AI models with our multi-omics database to create a platform to be used for both the pharmaceutical and nutritional supplement industries to develop new products at faster speeds and with higher efficiency, repurpose existing drugs and compounds for new and innovative uses and improve existing medications.

These breakthroughs in health and wellness have the potential to translate to better products for our customers, for example:

- a top-tier global pharmaceutical company used our AI platform service to repurpose a drug that had failed clinical trials for a new potential indication;

- a premier global CPG company that is utilizing our services to develop a personalized skin-care testing platform. Upon completion, the platform would provide advanced detection and location prediction of acne breakouts and offer personalized cosmetics; and

- we have contracted with Indena S.p.A., an Italian pharmaceutical company, to screen their comprehensive botanical libraries for compounds that could lead to new natural products.

Finally, in the future we plan to offer Onegevity's insights as a service to physicians and other health professionals in our network to enhance routine in-person clinical evaluations of their patients. We believe that Onegevity can help create a "clinic of the future" and provide a personalized clinical experience to deliver a 360-degree snapshot of personal health in-office.

We have developed an innovative, proprietary platform that provides our customers with a differentiated and personalized journey to better health through our integrated platform of nutritional products and AI-driven services. Our model of test, teach, transform and iterate ensures that consumers are not only active participants in their healthcare, but are also educated and empowered to navigate the crowded and confusing supplement market. We believe our customers can apply our philosophy of continuous improvement to their health by contributing to and benefitting from our multi-omics databases while leveraging our premium products and network of professionals to focus on prevention and wellness.

We are a fast-growing and scaling wellness platform and have experienced significant recent growth. Our compelling financial profile is characterized by accelerated year-over-year growth, improving gross margin, strong customer retention and efficient customer acquisition.

For the six months ended June 30, 2020 and 2021:

- we generated net sales of $63.5 million and $87.4 million, respectively, representing 37.6% growth from the same period in 2020;
- we generated gross profit of $28.0 million and $46.1 million, respectively, representing 44.2% and 53.8% of net sales, respectively;
- our net loss was $6.3 million for the six months ended June 30, 2020, and our net income was $4.4 million for the six months ended June 30, 2021; and
- our Adjusted EBITDA was $6.2 million and $14.1 million, respectively.

For the twelve months ended December 31, 2019 and 2020:

- We generated net sales of $102.5 million and $138.5 million, respectively, representing 23.0% and 35.0% year-over-year growth, respectively;
- We generated gross profit of $44.7 million and $64.8 million, respectively, representing 43.6% and 46.8% of net sales respectively;
- Our net loss was $18.2 million and $4.0 million, respectively; and
- Our Adjusted EBITDA was $8.2 million and $15.3 million, respectively.

See the section titled "Selected Consolidated Financial and Other Data—Adjusted EBITDA and Adjusted EBITDA Margin" for information regarding our use of Adjusted EBITDA and a reconciliation of net loss to Adjusted EBITDA.

The recent key customer metrics of our business included:

- customer acquisition costs (CAC) of $30 and life-time value (LTV) of $136 with 4.5x LTV to CAC In the twelve months ended December 31, 2019, a CAC of $22 and LTV of $170 with 7.6x LTV to

CAC in the twelve months ended December 31, 2020, a CAC of $19 and LTV of $126 with 6.6x LTV to CAC in the six months ended June 30, 2020, a CAC of $29 and LTV of $150 with 5.2x LTV to CAC in the six months ended June 30, 2021;

- active subscriptions of 122,501 and 194,778, as of June 30, 2020 and 2021, respectively; and
- orders per customer per year of 2.6 and 2.7, in the twelve months ended December 31, 2019 and 2020, respectively and 1.8 in each of the three months ended June 30, 2020 and June 30, 2021, respectively.

Our management team has decades of experience in the health and wellness industry and our executive team has been with Thorne for the past ten years. Our scientific team has authored more than 2,800 peer-reviewed publications in top-tier technical journals and has more than 470 years of combined scientific industry and research experience.

Thorne HealthTech Platform

Our Technology

We seek to transform the health and wellness market by combining our proprietary technology platform, Onegevity, a comprehensive multi-omics database that uses powerful AI platform and machine learning to map, integrate, and understand the billions of dynamic biological features that describe the state of an individual's health with our premium nutritional supplements. Onegevity provides a comprehensive molecular portrait and personalized recommendations for an individual's health, based on integrated analysis of longitudinal blood, genetics and gut microbiome profiles.

Our AI model and multi-omics database improves our product formulations and makes our recommendations to customers more precise. Using Onegevity across our product portfolio creates an unparalleled ecosystem where data collected from customers and our network of health professionals strengthens our AI model. We collect and analyze approximately 600 personalized tests, evaluations and surveys per day and are able to develop actionable insights from that data on our platform. The data collected from consumers, combined with a powerful AI engine enhances our ability to provide personalized recommendations and education to our customers, driving higher conversion and retention. This system enables us to create better products because we have access to multi-omics datasets, while also helping other businesses, such as those in the pharmaceutical, food and skin care industries, to develop more personalized solutions with our data analytics. The availability of this data may open further opportunities for us in the future to drive revenue by providing data services as a health intelligence provider.

Our Biological Age test, powered by Onegevity, is designed to be a simple, quick and affordable evaluation to determine one's biological age versus chronological age and to assess the age of an individual's organs system. The straightforward, easily understood results are designed to guide the recommendations made to optimize wellness and decrease biological age.

Our Products

Nutritional Supplements: We offer premium, high-quality nutritional supplements that are developed with rigorous science and comprehensive testing from start to finish. This includes a suite of nutritional supplement products centered around a novel ingredient, NR, which we believe contains properties that support healthy aging at the cellular level. Onegevity fuels our evidence-based nutritional product development. Our confidence that each product we formulate and manufacture will deliver the intended outcome is based on extensive clinical research and medical literature. All of our research and development for the formulation of new products is conducted in-house, in collaboration with leading research institutions from around the world. We have a robust product pipeline focused on future high market growth indications and personalization.

Our formulas are of the highest quality offered in the nutritional supplement market, and our manufacturing processes have received among the highest possible ratings in the industry, which is aligned with our unparalleled commitment and adherence to cGMPs and quality throughout our entire supply chain. The quality control and quality assurance for all products is done in-house in our two state-of-the-art laboratories. We manufacture our products in our 272,000 square foot Summerville, South Carolina facility which is third-party certified. To ensure supply chain consistency and to meet the highest quality standards we thoroughly and frequently test our ingredients for contaminants. We manufacture more than 20 NSF-Certified for Sport products, which gives athletes complete confidence that our nutritional supplements do not include any banned substances. No single nutritional supplement represented more than 5% of total sales during the trailing twelve months ended June 30, 2021.

We approach the formulation and manufacturing of each product in a scientific, data-driven way, using clinical research and medical literature to support the inclusion of each ingredient in individual formulas. Since our inception, we have built and continue to maintain a database of technical evidence, scientific literature, and industry research that we use to substantiate the structure and function claims we make in support of the indications of use, safety, and efficacy of our nutritional supplement products. We focus on using ingredients in our products that are supported by clinical trial data or other scientific research.

Moreover, we have conducted additional clinical studies on approximately 15% of our product portfolio (45 products) by ourselves or in concert with our strategic partner Indena. This includes studies on botanical extracts and small molecule products, including vitamin analogs, such as nicotinamide riboside, and conjugated materials, such as ketogenic esters. Currently, we are participating in 23 ongoing clinical trials by supplying product, offering technical advisement or participating as the principal investigators. We do not view the clinical studies on any one of our products as being material to our business.

A few key examples of our clinically-studied products include:

- Meriva-500 SF, one of our most studied ingredients, was developed as a phytosome to increase the bioavailability of turmeric. There have been 35 clinical studies to date on Meriva-500 SF itself, alongside studies that we have participated in, which includes five completed studies and three ongoing studies, including one pediatric study on liver health.

- Quercetin Phytosome, a phytosome technology intended to increase bioavailability, is undergoing work through Mayo Clinic, which is currently exploring quercetin in combination as a senolytic for healthy aging. There have been two completed trials and there are six ongoing trials focusing on Quercetin Phytosome.

- Crucera, a patented broccoli extract that delivers glucoraphanin, is a precursor to the NRF2 activator, sulforaphane. Sulforaphane is a compound that reduces cellular oxidative stress, a phenomena which increases in frequency as we age. There has been one completed trial regarding aging and inflammation in the skin and there is one ongoing trial studying sulforaphane's bioavailability.

- NiaCel, our exclusively developed nicotinamide riboside malate salt, is intended as a platform for aging and as a supporter of Nicotinamide adenine dinucleotide levels within the body. Currently, two trials are planned to further understand the ability to increase NAD levels.

- AB-free Kava is intended to reduce the liver risks that are typically associated with whole Kava extract use. We are participating in two ongoing trials in mood and health.

Health Tests: Customers uncover insights about their health through our tests and we turn those insights into a personalized plan for how to eat, exercise and choose supplements, based on unique test results. Customers

can have our tests delivered to their doorstep, collect biological samples at home, and then can drop their free return envelope in nearly any mailbox. Alternatively, customers can go to a diagnostic laboratory, such as Quest Diagnostics, to have their samples collected and tests performed. After a licensed professional reviews the results, customers receive their comprehensive Onegevity-powered results and evidence-based recommendations online. Our extensive portfolio of health tests includes tests focused on sleep, stress, weight management, gut health, heavy metals, biological age and more.

Our health tests' collection method, measurements and markers are set forth below:

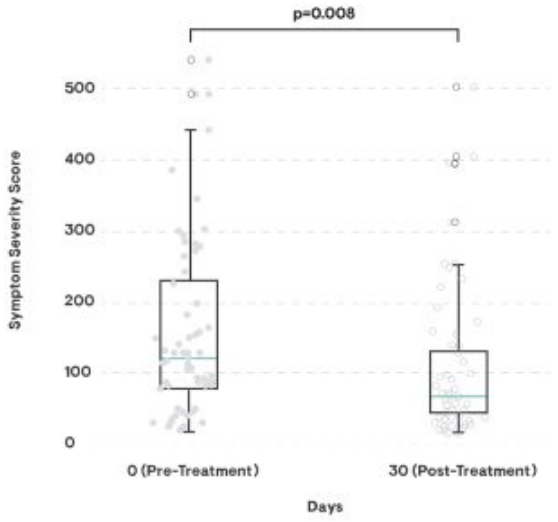
Test	Collection Method	What we Measure	Number of Markers
Biological Age	Blood Draw	Biological Age, Age Rate, Blood Age, Lipid Age, Liver Age, Kidney Age, Metabolic Age	36
Fertility	Blood Spot & Saliva	Reproductive Hormones, Thyroid Hormones, Adrenal Hormones	12
Gut Health	Stool	Intestinal Permeability, Gut Dysbiosis, Digestion, Inflammation, Enteric Nervous System Imbalance, Diversity, Micronutrients, Short-Chain Fatty Acids, Immune Readiness, Pathogens	90
Heavy Metals	Blood Spot	Heavy Metals, Essential Minerals	8
Menopause	Saliva	Reproductive Hormones, Adrenal Hormones	5
Sleep	Urine	Melatonin, Cortisol	2
Stress	Saliva	Cortisol x4, DHEA	2
Thyroid	Blood Spot	Thyroid Hormones, Thyroid Antibodies	4
Vitamin D	Blood Spot	Vitamin D	1
Weight Management	Blood Spot & Saliva	Reproductive Hormones, Adrenal Hormones, Blood Sugar Metabolism, Vitamin D, Thyroid Hormones	9

As discussed below, our analytical software, powered by Onegevity Health Intelligence, produces medically supervised, AI-driven recommendations, and presents the results in an easy-to-read, consumer-friendly digital dashboard. The insights found on the dashboard help individuals identify health trends and potential future health concerns by providing actionable, meaningful insights about the individual's results.

Gut Health Test: Our Gut Health Test is a metagenomic-based, fecal sample sequencing test to evaluate gut bacteria and its impact on human health. Based on an individual's gut microbiome test results, we create a protocol that includes a regimen of our supplements. Our protocols are aimed at addressing common

gastrointestinal (GI) issues, including constipation or diarrhea, with product intervention. Based on our protocols, we conducted a clinical study aiming to investigate the benefit of our protocol to consumers with Irritable Bowel Syndrome (IBS) which was published in the peer-reviewed journal *Precision Clinical Medicine*.

IBS is the most prevalent functional GI disorder worldwide, and the most common reason for referral to gastroenterology clinics. However, the pathophysiology is still not fully understood and consequently current management guidelines are very symptom-specific, leading to mixed results. In our study, we presented our analysis of data from 88 individuals with IBS who had baseline sequencing of their gut microbiome (stool samples), received targeted interventions that included dietary, supplement, prebiotic/probiotic and lifestyle recommendations for a 30-day period, and then a follow-up sequencing of their gut microbiome. The study's objectives were to demonstrate unique metagenomic signatures across the IBS phenotypes and to validate whether metagenomic-guided interventions could lead to improvement of symptom scores in individuals with IBS. Enrolled subjects also completed a baseline and post-intervention questionnaire that assessed their symptom scores. The average symptom score of an individual with IBS at baseline was 160 and at the endpoint of the study the average symptom score of the cohort was 100.9. The mixed IBS subtype showed the most significant reduction in symptom scores across the different subtypes (average decrease by 102 points, $P = 0.005$). The investigators found that metagenomics analysis reveals shifts in the microbiome post-intervention that have been cross-validated with the literature as being associated with improvement of IBS symptoms. Given the complex nature of IBS, further studies with larger sample sizes, more targeted analyses and a broader population cohort are needed to explore these results further.



The graph above illustrates symptom score reduction. The difference between day 30 (post-treatment) and day 0 (pre-treatment) demonstrates individual symptom score reduction of participants with IBS.

See Meydan C, et al. Improved gastrointestinal health for irritable bowel syndrome with metagenome-guided interventions. *Precis Clin Med*. 2020 Jun;3(2):136-146.

Our Services

Onegevity is AI for health. Onegevity combines AI with professional human assistance to map, integrate and understand the billions of dynamic biological features that illustrate the state of an individual's health. Onegevity's platform and technology are used by customers to manage their own health, and by practitioners and professionals to support patient health and advance their scope of practice. Onegevity's portfolio of enterprise-ready models coupled with its proprietary multi-omics database is also designed to

improve outcomes and reduce the difficulties and costs of AI adoption in health and wellness and can be used in the development of nutritional supplements and pharmaceuticals by our business-to-business customers.

Onegevity Health Intelligence: Our platform leverages AI models to provide insights and personalized health recommendations as a part of an individual's health test results. Onegevity uses pattern recognition, deep neural networks, bioinformatics and our multi-omics database to provide these personalized recommendations. Designed as a multi-tenant capable service, Onegevity Health Intelligence powers our testing and nutritional supplement channel and also has third-party applications. Pharmacies, health professionals and lifestyle companies can integrate testing and Onegevity Health Intelligence to engage, educate and empower their patients and users to make smarter decisions about their health, all while staying within the third party's own web portal. We put individuals at the center of control of their health journey with direct access to convenient molecular diagnostics and intelligent digital analytics to develop personalized and highly
actionable plans to achieve desired health goals.

Onegevity Discovery: We have combined AI models with our multi-omics database to create a platform that can be used to develop new nutritional and pharmaceutical products at faster speeds and with higher efficiency than traditional development methods. This capability is achieved through predictive algorithms, informed by an array of biological and chemical factors, that can identify pharmaceutical agents or natural products likely to have the targeted result. Our Onegevity Discovery fuels our product development as well as that of clients in diverse fields, including pharmaceuticals, biotechnology, consumer packaged goods (CPGs) and research clinics. We have helped clients repurpose existing drugs and compounds, improve existing medications and develop new products.

Onegevity Lab: Our Onegevity Lab assessments are being developed to provide the an in-person clinical experience powered by AI that embodies the personalized scientific wellness paradigm. We believe that by enabling individuals to obtain a 360-degree snapshot of their health, Onegevity Lab, the potential clinic of the future, will empower individuals to identify opportunities that preserve their health and optimize performance. As part of the session, a trained independent clinician will guide the patient through a personalized health assessment and consultation that includes highly validated but understudied modules of health such as cognitive function, grip strength and balance, which are all leading indicators in long-term health, but rarely evaluated when a patient is healthy.

Powerful Health Professional Network

Our network of 42,000 health professionals includes medical doctors, naturopathic doctors, registered dieticians, pharmacists, chiropractors, nutritionists, trainers, acupuncturists and other accredited health professionals. Our annual retention rate with these health professionals was 85% in 2020. Backed by this strong network, we offer convenient testing and data-driven, personalized nutrition, clinically studied supplements and pre- and pro-biotics designed to lower healthcare costs and improve wellness for health professionals and consumers.

Vertically Integrated Product Development Platform

We have built our brand on the core pillars of safety, credibility, quality and user experience. The foundation for these pillars comes from our vertically integrated capabilities. We believe that we are one of the only vertically integrated science-based wellness companies in the world, which enables us to provide our customers with premium quality products with ingredient integrity that are manufactured in the United States. Our platform also provides fixed-cost leverage on increased volumes and optimizes our ability to efficiently monitor inventory management.

Bringing high-quality products to market starts at the source. Our research and development team searches the globe to find only the highest-quality ingredients to use in our nutritional supplements. We source

high-quality ingredients that have been clinically tested, allowing us to better understand each ingredients' safety and quality. To us, "clean" describes supplements that do not contain any harmful, banned or unnecessary ingredients. Our "No" List guides us every day in choosing which ingredients to source and how to formulate new products. We have access to Indena's comprehensive botanical compound libraries which enables throughput functional molecule screening. We partner with suppliers whose practices emphasize quality, science, and environmental responsibility. Our single largest provider of botanical material is Indena S.p.A., a company based in Milan, Italy, which is well-known for its identification, development and production of high-quality actives derived from plants.

Our vertical integration spans from sourcing the highest quality ingredients, research and development activities, product delivery and continued customer engagement. Our product formulation is driven completely in-house by a team of 23 scientists and engineers utilizing proprietary technologies, health intelligence systems and our Onegevity Discovery. This capability drives our data-centric approach to evidence-based nutritional product formulations. The Onegevity Discovery AI Platform delivers molecular insights and personalized health mapping. This system has a one-of-a-kind gene expression library that consists of over 800 unique signatures and is one of the world's most comprehensive multi-omics databases for precision wellness. It has been used to track one of the largest microbiome datasets from skin and gut health and has resulted in over 18,000 data points covering multiple key diseases. These databases are integrated with product targets and statistical and analytical methods that have been published in top peer reviewed journals, including *Nature, Science, and Proceedings of the National Academy of Sciences*.

We develop the optimal product formula to meet the needs of our customers and have the proper facility to maintain control of the manufacturing process. In 2019, we opened our state-of-the-art 272,000 square-foot facility in Summerville, South Carolina. This facility provides significant enhancements to our manufacturing capacity and production efficiencies, research and development platform and in-house laboratory and testing capabilities. We have substantial capacity to meet near-term production requirements and can expand our facility without the need for substantial capital expenditures. This facility demonstrates our commitment to manufacturing all our products in the United States and ensures a quality product is delivered to our growing and loyal customer base.

Our vertically integrated platform has also enabled the development of a suite of nutritional supplement products centered around a novel ingredient, NR, which we believe contains properties that support healthy aging at the cellular level. Whether it be older consumers looking to stay healthy longer, or younger consumers focusing on their wellness earlier in life, many individuals are seeking new ways to promote healthy aging. This is a concept we refer to as "aging well." We believe NR addresses these demands and presents a significant market opportunity. Through our integrated platform, we have leveraged the trust and manufacturing expertise of Thorne and the power of Onegevity's engine and multi-omics database to develop and launch our NR-based NiaCel suite of products.

Our NiaCel suite currently consists of three products: NiaCel 200, which is designed to promote basic healthy aging support; Niacel 400, which is designed for advanced support; and ResveraCel, our premier healthy aging supplements. In addition, using Onegevity's insight, we intend to develop a NiaCel-based cosmetic product and a NiaCel-based ketone ester beverage product. Unlike other NR products on the market, we believe NiaCel holds several key advantages over our competitors. First, our price point is significantly lower than competitive products. Second, our NR ingredient is exclusively manufactured for our NiaCel suite allowing us more control over product quality and our supply chain. Although we do not typically compete on price, our significant advantages in manufacturing and supply chain in this market allows us to offer a premium product in a price competitive manner. Third, our NR ingredient, as all subsequent formulations in the NiaCel line, is exclusively paired with a complementary ingredient that acts as a methyl donor, allowing for improved quality and safety based off supporting research.

We believe it is crucial to form relationships with leading industry participants in order to continue to provide innovative products to our customers. Our development ecosystem is comprised of research partners

Mayo Clinic, Unilever, Tetra Biopharma, Kyowa Hakko and a global pharmaceutical company; sponsorship of UFC, USA Rugby, Penske Racing, Roush Fenway Racing and the U.S. Army World Class Athlete Program; and high-profile customers such as individual Navy SEALs, teams in the NFL, MLB and NBA and other major athletic organizations.

Our products are subject to four rounds of testing in our two state-of-the-art, in-house laboratories. This process includes testing of raw materials and components, which screens for contaminants; in-process testing, which helps to ensure the correct amount of ingredients are used in our formulations; finished product testing, which confirms the identity, potency, purity of the ingredients, and that no microbiological contamination occurred during manufacturing; and in-house stability testing, which confirms each product will meet its label claims at its expiration date.

During the trailing twelve months ended June 30, 2021, over 90% of our sales were generated by products that we manufactured in-house. We make strategic decisions to use outside contract manufacturers for products like probiotics that cannot be made in the same facility as all our other supplements due to the risk of contamination.

Our Compelling Value Proposition

Our Value Proposition to Consumers

We believe our personalized approach to health and scientific wellness empowers our customers to improve and extend their health span and enjoy happier and healthier lives. Our customers trust the Thorne brand to meet the highest standards of quality and safety. With our history of continued innovation, consumers have access to new ways to measure how biological age and well-being are calculated and controlled. We have created an intuitive and convenient health testing experience and our tests are designed to produce results that are easy to understand and actionable. Our approach, paired with our emphasis on data and AI, consistently delivers further refined insights, which provides our customers with enhanced information to support and maintain their health.

Our Value Proposition to Professional Athletes

We collaborate with sports organizations and professional athletes to ensure they have the tools and information necessary to help individuals improve health and performance through science-backed education and best-in-class products. Within our NSF-Certified facility, we manufacture one of the most comprehensive line of NSF Certified for Sport products on the market, with over 20 products. We believe professional athletes, coaches and teams love and have complete confidence in our NSF Certified for Sport product line because of the thorough testing methods that screen for more than 200 banned substances.

Our dedication to science and quality has earned us the trust of 11 U.S. Olympic Teams and more than 100 professional sports teams. We also sponsor world-class performance organizations, such as UFC, USA Rugby, Penske Racing and the U.S. Army World Class Athlete Program. It is our ongoing support and collaboration with these professional organizations that has led to our position as one of the most comprehensive NSF Certified for Sport supplement manufacturers in the United States.

Our Value Proposition to Health Professionals

Our mission is to help health professionals improve patient outcomes by encouraging product use, supplying proper patient education materials and providing a consumer-friendly service. We believe this is increasingly valuable in the current competitive landscape of the health industry where physicians and other health professionals are more transparently reviewed by their peers and patients based on patient outcomes. Our value proposition is demonstrated by our active and growing professional network of more than 42,000 health professionals, including medical doctors, naturopathic doctors, registered dieticians, pharmacists, chiropractors, nutritionists, trainers, acupuncturists and other accredited health professionals who recommend our products and services.

Our B2B Value Proposition

Our Onegevity longitudinal multi-omics database is proprietary, difficult to replicate and generates data insights that can be used for further innovation in the fields of health and wellness. We have the opportunity to monetize our database and our unique analysis model to, or partner with, a variety of interested parties, including:

- corporations benefiting from insights on population health;
- pharmaceutical companies and biotechnology companies seeking additional data for new drug discovery and patient identification for clinical trials;
- CPGs companies; and
- health intelligence services for consumers and health professionals.

Our Industry and Opportunity

Industry

We participate in the large and growing multi-billion dollar global wellness industry. The market is highly fragmented, and no company holds more than 5% market share. We are redefining consumer health and building a brand with science-backed personalized products that meet the highest standards of quality, safety and efficacy.

Opportunity

We have a significant opportunity to continue to penetrate the product categories and channels we compete in today. In addition, we believe we benefit from several consumer trends.

Consumerization of Healthcare and an Increase of Healthcare in the Home: We believe that in the last ten years there has been a shift from individuals viewing themselves as patients to viewing themselves as consumers in the healthcare market. This has been demonstrated by the growth of the home healthcare market and increased competition in the healthcare provider marketplace. In an always-connected world of data, individuals expect and demand from healthcare what they are accustomed to in their everyday lives. They demand a personalized and holistic approach to daily wellness and long-term health combined with the convenience of products and services being available at their fingertips, all from the comfort and safety of their home. We believe successfully achieving this approach is only possible through the convergence of medicine and technology. COVID-19 has accelerated the trend of healthcare moving to the home, placing a greater impetus on individuals to find new ways to protect their health and fueling resiliency with limited person-to-person interaction.

Shift to Personalized Health: Personalized health tailors interventions for preventing and treating disease to the individual characteristics of each patient. The complete sequencing of the human genome, which was completed in 2003, ushered in the era of personalized medicine by providing a greater understanding of how an individual's unique molecular and genetic profile makes him or her predisposed to certain diseases. As demonstrated by the rise in targeted gene therapies and cancer treatments, health care is evolving from a reactive, "one-size-fits-all" approach to a distinctively proactive, personalized and integrative approach. We believe the dietary supplement market can be personalized in the same way. Such an approach will focus on the optimal selection of treatments and preventative measures that best address a patient's unique medical attributes, vulnerabilities and predispositions.

Increased Demand for Safe Nutritional Supplements Driven by Increased Consumer Education and Expanding Datasets: Physicians and other health professionals are motivated to help patients, and increasingly, are measured by patient outcomes. Traditional practitioners are more likely to study and prescribe nutritional supplements due to growing of evidence of the positive impact of supplement use and their safety profile. For example, traditional medical doctors have become an increased focus and now account for one-third our customer base in 2020, thanks to our continued growth initiatives and increased demand from patients.

Demand for Convenience: Consumers are increasingly placing more value on an exceptional user experience and a demonstrated willingness to invest in bringing premium products and services into their daily lives. Preferences for digital platforms and subscription-based products and services have increased in demand in recent years. Customers want simplicity and an easily available online option from a trusted and clinically validated brand. Our offerings are built to provide an unmatched user experience and provide information to consumers in a way they can easily understand and manage. Consumers can complete personalized testing, create and update their subscription and learn more about their recommended product suite, all from the comfort of their own home. Our omni-channel distribution model can deliver products to most consumers in the U.S. within two days or allow them to leverage our network of health professionals to receive their products at their local doctor's office. We make our test results and recommendations easy to understand. For example, our Biological Age test and resulting recommendations provide consumers with one easily understood number and an actionable plan with the goal of helping consumers to reduce their biological age and extend their health span.

What Sets Us Apart

Our Differentiated Consumer Journey

We believe that we provide consumers with one of the world's most innovative solutions for a personalized approach to health, delivered through our integrated platform of testing, supplements and digital health content. Our proprietary platform is redefining consumer health through a model of test, teach, transform and iterate to address the consumer pain points that exist in the market today. Consumers struggle to navigate confusing supplement categories and the market is crowded with ineffective, low-grade products. Personalization has been shown to deliver better health outcomes, yet current health solutions continue a "one-size-fits-all" approach. The healthcare system focuses on treatment of disease, but consumers need and want a proactive, empowered approach to health focused on maintaining and supporting health and promoting wellness.

Test: The first step in addressing these consumer pain points is to test. We begin with convenient and comprehensive test collections using multi-omics data, which can be for a range of health areas including sleep, stress, weight management, gut health and heavy metals. The testing phase is concluded with a personalized, AI-driven, actionable health plan with diet, activity and supplement recommendations based on the individual's test results.

Teach: We then build on the testing phase by teaching consumers through an education platform designed to empower and engage consumers through their health journey. The education occurs through both general and personal methods. The general education includes our daily online magazine *Take 5 Daily*, which includes podcasts, videos and articles, wellness guides and ingredients. The personalized education includes supplemental quizzes, connecting with health professionals in our network and analyzing test results.

Transform: We provide customers with premium nutritional solutions to optimize their body and its unique needs, including products to maintain and support heart health, healthy aging and gut health, among many others.

Iterate: The Onegevity platform uses molecular biology and AI to deliver continuous improvement of the test, teach, and transform model. The sophisticated AI system utilizes pattern recognition, deep neural networks, and bioinformatics to deliver unparalleled molecular insight and personalization. In addition, this

technology informs our product development and reformulation process. Together, the data and AI consistently provide further refined insights, which provides our customers with enhanced information and more effective products to improve their health.

We teach individuals about their health and what is occurring in their bodies and why we recommend specific supplement choices. We aim to address an individual's health needs and deficiencies with our nutritional supplements, as needed. This is an iterative process and provides a differentiated and simplified journey for our customers to navigate the complicated supplement market and improve their health over time.

Trusted Brand, Products and Services

We believe we are a leader in developing high-quality nutritional supplements in a variety of unique form factors. We presently sell over 300 supplements and test SKUs. Our network of tens of thousands of health professionals, trainers, and world-class athletes deepens the credibility of our product portfolio. Our offering is further differentiated by conducting all manufacturing and quality management in the United States. We have strong relationships with our suppliers, predominantly located in Europe and United States, who assist in our product innovation cycle and share our commitment to bringing the highest quality products to our customers.

This commitment to quality has contributed to our position as one of the most comprehensive NSF Certified for Sport supplement manufacturers in the United States. We believe that our line of supplements is one of the most extensive lines of NSF Certified for Sport supplement products based on publicly available data for the number of certified products by manufacturer, regardless of whether the products are currently on the market; however, there is no publicly available volume or revenue data regarding our competitors' NSF Certified for Sport supplement products. We currently have 23 products in the NSF Certified for Sport program in the United States and 11 products in the NSF Certified for Sport program Canada, each of which certifies dietary supplements to be free from substances banned by major sporting organizations and helps athletes, dietitians, coaches and consumers make more informed decisions when choosing sports supplements. While we plan to continue to seek and maintain NSF certification for certain of our trusted brand of products, we face competition from other manufacturers that have similarly broad lines of NSF Certified for Sport supplement products and target the professional athlete market.

The National Sanitation Foundation (NSF) International evaluates product and ingredient safety through its accredited certification and testing services. The NSF Dietary Supplement Certification Program certifies dietary supplements that meet the requirements of the official American National Standard for Dietary Supplements (NSF/ANSI Standard 173). The certification process includes a toxicology and label review to verify product formulation, testing to identify and quantify dietary ingredients declared on the product label, testing to ensure the product does not contain unacceptable levels of contaminants and annual current Good Manufacturing Practices (cGMP) facility inspections. Our facility has been cGMP certified through NSF since 2015. As part of this certification, our Quality Management system, which includes onsite and third-party laboratory operations, is audited to ensure compliance to cGMPs.

Powerful Data and AI engine

Our AI model and multi-omics database improve our product formulations and make our recommendations to consumers more precise. We collect and process approximately 600 personalized tests, evaluations and surveys per day and are able to develop actionable insights from that data with our Onegevity platform. The data collected from customers, combined with a powerful AI engine, enhances our ability to provide personalized recommendations and education to our customers, thereby driving higher conversion and retention. Our platform captures this information which is utilized by our algorithms to create better nutritional supplements with optimal safety and quality and also helps our B2B customers develop more personalized solutions. The availability of this data may open further opportunities for us in the future to drive revenue by providing data services as a health intelligence provider.

Scalable Platform

The large number of highly engaged consumers who trust our Thorne brand and Onegevity platform provide a strong foundation for developing new products that extend across the health and wellness markets. This ecosystem uniquely positions us to create and capture value along the continuum of a consumer's life with safe and innovative formulas that provide support for prenatal development, healthy adult lifestyles and healthy aging. We have achieved a demonstrated ability to develop innovative new products and successfully integrate acquired companies and assets.

Founder-Led, Science-Oriented Team

Our team of pioneers brings expertise in science-backed wellness, precision health, systems biology and AI-for-health, and has a proven track record of driving profitable growth. Co-Founder Paul Jacobson built this team with a commitment to redefine what it means to be healthy and to push the limits of human potential. Our experienced and highly regarded team of scientists consists of 40 science degrees, including doctorate degrees in 15 specialties, spanning fields such as molecular medicine, neuroscience, immunology and genetics.

Growth Strategies

Grow Brand Awareness

We have a significant opportunity to continue to penetrate the product categories and channels we compete in today. We intend to leverage our existing brand strength and reputation among health professionals and consumers, which will drive growth through an integrated, omni-channel marketing strategy.

Launch New Products and Expand Content Offerings

We will innovate and launch new products focused on unmet clinical needs. We will continue to invest in evidence-based nutritional supplement development powered by Onegevity's engine and multi-omics database. For example, we recently contributed to the development of Effusio, the brand associated with dissolvable discs that enrich any beverage with nutrients. We are also utilizing Onegevity's engine and multi-omics database to enable innovation in pharmaceutical markets at faster speeds, with potential to produce more effective and safer drugs.

Leverage Our Multi-Omics Database and AI with B2B Partners

Our longitudinal multi-omics database is proprietary, difficult to replicate, and generates unprecedented data insights. We have the opportunity to monetize our database and unique analysis model to, or partner with, a variety of interested parties, including: corporations benefiting from insights on population health; pharmaceutical companies and biotechnology companies seeking additional data for new drug discovery and patient identification for clinical trials; consumer packaged goods companies; and health intelligence services for consumers and healthcare providers.

Continue to Improve Personalization for a Better Consumer Experience

Our personalized approach to health, delivered through a customized platform of testing, supplements and digital health content continues to contribute to our favorable NPS score and subscription retention rates. We will improve our outstanding track record by further enhancing our AI solutions and consumer engagement to provide tailored, personalized solutions to our customers.

Invest in Our Platform

We will continue to invest in technology and the infrastructure to support the growth of our integrated Thorne and Onegevity platform. We will build on our innovative testing system to collect data and better

understand consumer health by investing in our AI system to process more powerful data sets. We will also invest in developing innovative ingredients and compounds that can support our platform and the health of our customers.

Further Expand into International Markets

We will continue to build on our network of distributors across Asia, Europe and South America. We believe that we have the regulatory expertise to execute on this initiative and to accelerate international growth.

Selectively Pursue Acquisitions

Our comprehensive platform will enable us to selectively pursue strategic and complementary assets that support our customers' needs. We have a track record of successfully identifying and integrating acquisitions. Our March 2021 acquisition of Onegevity Health strategically expanded our testing and education offerings. We intend to augment and scale the breadth of our platform and offerings through continued strong organic growth opportunities and the acquisition of complementary products and services.

Sales and Marketing

Our vertical integration contributes to our sales and marketing strategy. We have built our brand around what is best for the customer. This approach has bolstered customer perception of our products, helping to drive our world class NPS score of 74 during the first six months of 2021, a leading indicator of brand loyalty. Our customers trust that when they purchase our products, they are ingesting naturally derived ingredients that were developed with a science-backed approach. These factors are synergistic to customer acquisition since existing customers tend to recommend our products to new customers.

We take an integrated approach to marketing that spans the entire customer journey. This allows us to build efficient reach, raise awareness to promote acquisition and foster loyalty and retention. Our proprietary data and analytics are at the center of our marketing strategy and efforts. In addition to our brand building activities, such as thought leadership, out-of-home and video advertising, we have sophisticated performance marketing tactics, including retargeting, paid search and product listing ads, affiliate marketing, paid social media, search engine optimization, personalized email marketing and a referral program. All paid media efforts and ad buying are executed in-house, which is more cost-effective and provides the ability to be more agile in optimizing marketing activities based on real-time data. Together these efforts support our efficient customer acquisition cost and our attractive lifetime value and retention metrics.

Net Promoter Score (NPS) is a widely used market research metric that typically takes the form of a single survey question asking respondents to rate the likelihood that they would recommend a company, product, or a service to a friend or colleague on a scale of one to ten. Customers who respond to our survey with a score of nine or ten after they have purchased our Thorne supplement and health test products and health tests are classified as "promoters" and considered loyal enthusiasts who will keep buying and refer others, thereby fueling growth. Those who respond with a score of seven or eight are considered as "passives" and considered satisfied, but unenthusiastic customers who are vulnerable to competitive offerings. Those with response scores of zero to six are classified as "detractors" and considered to be unhappy customers who can impede growth through negative word of mouth. An NPS score is calculated by taking the percent of promoters less the percent of detractors. We consider the NPS score as an important indicator of customer satisfaction. We take pride in our NPS score, given that the average digital retailer's NPS score in 2020 was 34.9, as reported in Forrester's US Net Promoter Benchmarks 2020 report. As a company that is heavily dependent upon its brand equity, NPS is critical to our business in order to benchmark our performance and customer satisfaction. Objectively measuring customer loyalty and brand advocacy through the NPS survey is critical. Our NPS score allows us to compare our brand performance over time as well as compare our performance to that of our competitors. We use NPS as a customer feedback tool, and we distribute the data to our marketing, sales and product development teams.

Additionally, our network of over 42,000 health professionals provides us with a sales channel that provides immediate credibility with new customers. Health professionals in our network are equipped with educational materials, which allow them to better inform their patients about our products. This approach also improves our DTC organic growth and retention and further promotes brand awareness and trust from our customers.

We have also grown our customer base largely through organic methods. We find that by focusing on creating great products through vertical integration, our customers reorder and refer others. Part of our focus has been to educate consumers about the health benefits of nutritional supplements. Our education platform was developed with this in mind, and it acts as a powerful tool for empowering, engaging and retaining customers through their health journey. We publish both general and personalized education including online articles, wellness guides, podcasts and videos. Our daily online magazine, *Take 5 Daily*, has been our #1 customer acquisition channel. Our wellness guides have been downloaded over 100,000 times and our quizzes have been completed over 475,000 times. We continue to leverage this platform as a key source for customer acquisition.

Omni-Channel Sales Model

Customers can purchase our products through our omni-channel model consisting of both our DTC platform and our large network of health professionals.

There are two typical consumer pathways to purchasing Thorne supplement products for the first time through our DTC channel. The first common pathway is through our Thorne educational platform, where a consumer searches for a specific ingredient, health concern or product, and due to targeted advertising or positive media content, they land on our website to learn more. Once on our site, the consumer may read one to two Take 5 Daily blog articles or take a product quiz to help determine the best product to meet his or her needs. An interested consumer typically purchases one to two nutritional supplement products on average, with an average unit price of $30.70, either through our website, app or third-party site such as Amazon. We have an average rating of 4.5 stars across our products on Amazon, which we believe to be among the highest in the industry. Our platform also enables customers to easily choose personalized plans through our subscription service.

The second path occurs when a consumer searches for a data-driven approach to determine the best product to meet his or her needs. These consumers also typically find our website due to targeted advertising or positive media content and purchase one health test for an average price of $182.30 through our website or app. This consumer then collects a bio sample, mails the sample to a third-party laboratory, and receives his or her test results on Thorne.com within seven to ten business days. Within the results, the consumer can review his or her health insights and personalized recommendations on diet, lifestyle and supplementation. From there, the consumer converts and purchases on average one to two of our supplement products. After taking one of our tests, over 30% of consumers convert to using our recommended products. For customers in this second pathway, we receive revenue from the testing fee and from our supplement product sales. As a result of our merger with Onegevity, we expect that the traffic to our websites through this second pathway to continue to increase and to realize increasing revenue as a result of the synergy with our Thorne products.

Our platform enables customers to easily choose personalized plans through our subscription service. After taking one of our tests, over 30% of consumers convert to using our recommended products. Our website has garnered increasing popularity, with total users increasing by 89.5% from 2019 to 2020 and total subscriptions growing from 89,178 in 2019 to 155,305 in 2020, a 74.2% year-over-year growth rate. We plan to further expand this channel in order to build a strong recurring revenue stream. We have made significant investments in our supply chain logistics in order to offer shipping anywhere in the United States within two days. As a result of the investment in logistics and marketing, our new customers through our website increased by 185.7% in 2020 over 2019 and our DTC sales on our website grew at a 73.8% CAGR over the past three years.

In addition to our robust DTC channel, we have also grown our network of over 42,000 health professionals across the world who recommend our products to their patients when appropriate. We are a trusted brand by top health professionals all over the world. According to the Holistic Primary Care's 2016 Practitioner Survey Report, we are the most dispensed brand by health professionals with 30- to 40-year-old patients. This ecosystem provides a separate channel to reach our customers. Our team of 24 sales professionals continue to expand this network, educating health professionals of the benefits to using our products. As we continue to see more and more patients seeking safe, effective nutritional supplements for their health, our products have become increasingly popular through this channel. Thousands of our trusted health professionals recommend our products to their patients through "online dispensing". Consumers can avoid going to a retailer and instead purchase any recommended products directly through our website using their health professional's trusted recommendations and unique code. Health professionals also have the option to buy our products directly to resell in their offices. This continues to increase our brand awareness while also benefiting patients who are being treated by our network of health professionals. We continue to see the adoption through this channel, demonstrated by an increase from 25.8% year-over-year growth in 2018 to 57.6% year-over-year growth in 2020, representing a 40.2% three-year CAGR.

Our selling efforts are accelerated and supported by an in-house U.S.-based customer service team. Our customer service representatives are available for live chat, as well as calls 9 a.m. to 7 p.m. Eastern Standard Time, Monday through Friday. We also make our licensed medical professionals available to answer non-disease related questions to both health professionals and consumers.

Clinical Laboratory Partners

We partner with three certified clinical laboratories to process, and in some cases, produce, the tests that we offer. These laboratories are responsible for receiving and logging samples, preparing samples for processing, processing samples, performing quality assurance and quality control to assure validity of all test results before returning results to our network of physicians for assessment, and, in some cases, producing the tests. The samples that these laboratories process on our behalf include saliva-, blood-, stool- and urine-derived samples. Our payment and shipping arrangements with these laboratories vary by laboratory and are described below.

ZRT Laboratory, LLC

Pursuant to a Strategic Supply Agreement, ZRT Laboratory, LLC ("ZRT") performs test kit production and sample processing for our home health test kits, including our Thyroid Test, Fertility Test, Heavy Metals Test, Weight Management Test, Menopause Test, Sleep Test, Stress Test and Vitamin D Test. Under our agreement with ZRT, we place a purchase order with ZRT for a bulk number of test kits and ZRT charges us a nominal fee per test kit. We keep the test kits in inventory following a quality control process and then sell the test kits directly to our customers through our website. After a customer returns the test kit sample to ZRT for processing, ZRT bills us directly for the laboratory processing fees, which constitutes the majority of a test's cost to the customer. We have 45-day payment terms with ZRT. ZRT provides a written or electronic test report of the tests performed on the analyzed specimen to the authorized provider. This agreement is terminable anytime at either party's convenience.

CosmosID

Pursuant a Services Agreement, CosmosID, Inc. ("CosmosID") performs production of our test kits and their subsequent processing for our Gut Health Test. Our agreement with CosmosID covers both the production of the test kits and their subsequent processing. We place purchase orders with CosmosID and we are billed on 30-day terms following delivery of the test kits. We keep the test kits in inventory following a quality control process and then sell the test kits directly to our customers through our website. After a customer returns the test kit sample to CosmosID for processing, CosmosID invoices us within 15 business days after the end of each month for which laboratory services have been provided, which constitutes the majority of a test's cost to the

customer. We pay on 30-day terms from the invoice date. CosmosID provides a written or electronic test report of the tests performed on the analyzed specimen to the authorized provider. The agreement is terminable for convenience on twelve months notice. During the term of the agreement, we will exclusively use CosmosID's microbiome sequencing services for all animal and human microbiome sample testing.

Quest Diagnostics

Pursuant to a Laboratory Services Agreement, Quest Diagnostics Inc. ("Quest") performs laboratory testing services for more than 40 of our tests. Quest provides the specimen collection supplies directly to the customer at no cost to us. The cost of each of the laboratory test that is performed by Quest during each month is invoiced to us on a monthly basis. Payment terms are net 30. Quest provides a written or electronic test report of the tests performed on the analyzed specimen to the authorized provider. This agreement is terminable on 120 days prior written notice by either party.

Competition

We are building a new health category to develop personalized nutritional solutions to improve health with the same degree of scientific rigor that pharmaceutical and biotechnology companies are using for disease treatment. We are at the intersection of and compete against companies that offer DTC subscriptions, digital health services, personalized consumer products and data-enabled wellness solutions. Due to our comprehensive approach to health and wellness, we currently compete with different health and wellness companies in different markets, such as Nestle Health Science and Metagenics in the nutritional supplement market, Hims, 23and Me and Livongo in the health services and online testing market and companies like Schrodinger and SEMA4 in the AI-driven healthcare market. The market for our products and services is highly fragmented, with many global players participating across category segments in which no single company has obtained more than a 5% market share. We believe no single competitor offers a similarly comprehensive, vertically integrated platform combining product efficacy with personalized wellness solutions to consumers, health professionals and corporations.

We believe that the principal competitive factors in our market are product quality, customer experience, brand awareness and loyalty, reliability and trust. We believe that we differentiate ourselves from our competitors by our relentless pursuit of science-based, personalized wellness solutions.

Research and Development

We plan to continue to devote significant resources to research and development. Our research and development organization is responsible for the design, architecture and operation of our personalized testing platform and nutritional supplement products. Our personalized testing platform includes over 13 tests, such as the Biological Age and Gut Health tests. We develop new nutritional products through evidence-based product development in areas such as healthy aging and cognition. We pioneered a drug-supplement mapping system that, through AI, helps develop a new B2B pipeline to support product development of our B2B partners such as pharmaceutical and CPG companies.

We continue to innovate in many areas, such as the development of Onegevity Lab. Our Onegevity Lab assessments provide an in-person clinical experience powered by AI, which we believe will help expand the personalized scientific wellness paradigm. By enabling individuals to obtain a 360-degree snapshot of their well-being, we believe Onegevity Lab, the clinic of the future, will empower individuals to identify opportunities that preserve their health and optimize performance.

Intellectual Property

We believe that our intellectual property rights are valuable and important to our business. We rely on trademarks, trade secrets, intellectual property assignment agreements, confidentiality procedures, non-disclosure

agreements and employee non-disclosure and invention assignment agreements to establish and protect our proprietary rights. In addition, we rely at least in part on trade secrets to protect some aspects of our business, including the sourcing and methods of manufacturing for our nutritional supplement products, the multi-omics database and the algorithm of our AI models. Though we rely in part upon these legal and contractual protections, we believe that factors such as the skills and ingenuity of our employees and the functionality and frequent enhancements to our solutions are larger contributors to our success in the marketplace.

As of June 30, 2021, we held 70 active registered trademarks in the United States, primarily for product names, tag lines, and several THORNE marks; we have been issued three pending Notice of Allowances by the USPTO, and we have three active trademark applications pending at the USPTO. Internationally, we have received two registered trademarks, for THORNE RESEARCH and THORNE, respectively, from the Japan Trademark Office, and we have three trademark applications for THORNE currently pending at the China Trademark Office.

We intend to pursue additional intellectual property protection, including patent protection in the future, to the extent we believe it will be beneficial and cost-effective. Despite our efforts to protect our intellectual property rights, they may not be respected in the future or may be invalidated, circumvented or challenged. For example, third parties may have blocking patents that could be used to prevent us from commercializing our products and practicing our proprietary technology, and any patent applications we pursue that may issue in the future may be challenged, invalidated or circumvented, which could limit our ability to stop competitors from marketing related products or could limit the term of patent protection that otherwise may exist for our products. In addition, the scope of the rights granted under any issued patents may not provide us with protection or competitive advantages against competitors with similar products. Furthermore, our competitors may independently develop similar technologies that are outside the scope of the rights granted under any issued patents that we own or in-license. For these reasons, we may face competition with respect to our products and services.

Our industry is characterized by the existence of many patents and frequent claims and related litigation based on allegations of patent infringement or other violations of intellectual property rights. We believe that competitors will try to develop products that are similar to ours and that may infringe our intellectual property rights. Our competitors or other third parties may also claim that our solutions infringe their intellectual property rights. Some companies in our industry have extensive patent portfolios. From time to time, third parties have in the past and may in the future assert claims of infringement, misappropriation and other violations of intellectual property rights against us or our customers or partners, with whom our agreements may obligate us to indemnify against these claims. Successful claims of infringement by a third party could prevent us from offering certain products or features, require us to develop alternate, non-infringing technology, which could require significant time and during which we could be unable to continue to offer our affected products of solutions, require us to obtain a license, which may not be available on reasonable terms or at all, or force us to pay substantial damages, royalties or other fees. Moreover, our solutions incorporate software components licensed to the general public under open source software licenses. We obtain many components from software developed and released by contributors to independent open source components of our solutions. Open source licenses grant licensees broad permissions to use, copy, modify and redistribute our platform. As a result, open source development and license practices can limit the value of our software copyright assets. For additional information, see the section titled “Risk Factors—Risks Related to our Business – Risks Related to our Intellectual Property.”

Data Protection

We are committed to the security and privacy of our customers’ data. The data we collect and process is an integral part of our products and services, allowing us to ensure our products are safe and effective, to provide an engaging consumer experience, to recommend the most relevant products and services and to reach opted-in consumers with timely information. We collect and may use personal information to help operate our business, including for analytical purposes, and to communicate and otherwise reach our consumers. In some instances, we use third-party service providers to assist us in these activities.

We attempt to control access to and distribution of our proprietary information, including our algorithms, source code and customer data through enterprise-grade security measures. We utilize various technology and process-based methods, such as multi-layer firewalls, intrusion detection systems, content filtering, endpoint security, centralized logging and alerting, email security mechanisms and access control mechanisms. Our platform offers powerful data security from our cloud infrastructure to the application layer, end-to-end data encryption, as well as fine grain authorization controls and sensitive field data masking. In addition, we continue to pursue independent third-party assessments and validations of our security and compliance capabilities, including through industry-standard certification like SOC 2.

Culture and Values

Our culture is driven by empowering our employees. By ensuring employees enjoy their jobs and believe they are challenged and treated fairly, we believe they will work hard to deliver our premium products for our customers and strong results for our investors.

We pride ourselves on the fact that our manufacturing and customer service takes place in our facilities in the United States. During 2020, we developed protocols to deal with the COVID-19 pandemic and were forced to adjust to a workforce that was split between those who could work from home and those who could not.

We used the COVID-19 pandemic as an opportunity to learn from our employees. We established Thorne United Committee, an action committee derived from all of our departments, that examined how we paid people, our role in the community, the diversity of our staff, the childcare issues facing employees, the potential for adult education programs, mentoring by senior staff and opportunities for college and trade school scholarships.

We believe that talented and engaged employees create trust and a bond with our customers that no senior management team can achieve alone. We engineer and produce complex products to solve the complex problems of health and wellness and believe that if our customers are to trust our brand, our employees must lead the messaging and be trusted to make decisions that do not compromise the quality of our products. To that end, we have long had policies that senior management cannot overrule decisions made by our quality control and quality assurance teams, nor can senior management overrule decisions taken by our adverse event review team about reporting Serious Adverse Events to the FDA or the safety of our products. We are a product-driven company, built around a culture that empowers employees to make the right decisions and rewards them for doing the right things for the company and our customers.

The key to our success lies in the four tenets of our culture that have driven our innovation and ingenuity from the very start. These tenets define our legacy and propel us toward a future where we are the leader in solving the complex problems of health and wellness. These four tenets are:

A belief in our purpose

We are a team united behind a common purpose: educating, inspiring and improving the health and wellness of people around the world. Being part of a larger purpose is what drives and unites us. It is this shared passion and belief in our mission that has helped us earn the trust of thousands of health professionals, United States National Olympic Teams, Mayo Clinic and customers around the world.

A belief in the power of our people

Our culture empowers our employees. From our distinguished researchers to our elite customer-care team, every individual has the opportunity to make a difference firsthand. Every individual has the opportunity to lead, to bring ideas to the table and to be an instrument of change in our workplace culture. We encourage candor, collaboration and communication within our company.

Our culture is built on equality, where people of all backgrounds and experiences are both celebrated and encouraged. Women constitute over 40% of the leadership roles across our company and minorities represent 35% of our total employment. This group of leaders operates across multiple departments, including research and development, finance, marketing, bioinformatics, product development and customer service.

We give our employees the tools required to succeed. We offer competitive compensation, fully paid employee benefits, employee training and development, childcare benefits and monthly product credits for personal and immediate family use. We also provide unique growth opportunities dedicated to the ongoing training and professional development of our employees. To better achieve this objective, we draw together internal and external resources to develop and deliver the very best training, development and enrichment programs for our employees.

A belief in our communities

We create opportunities for employees to give back to their communities and support causes of their choosing. We are an active supporter of communities in South Carolina through charitable donations and programs. We encourage employees to support these activities with employer-sponsored paid time off for volunteer work. Our company does not make contributions to any political causes. Instead, we encourage our employees to take an active role in good government without management intervention.

Our Thorne United Committee champions a work environment that promotes the values of diversity, equality, inclusiveness and community. Its work supports programs that address cultural diversity, education and development, community outreach, dependent care support and employee wellness. Specific examples of these programs include tuition support for employees and a tuition grant award program for employees' dependents, a company-sponsored 529 college savings plan with a company contribution, internship and mentoring options for employees' children, community support programs and comprehensive childcare support.

A belief to lead from the front

Our mission is to be the world's leader in the scientific wellness. This is the bedrock of our organization's culture and it drives us to become the market leader in research and development, bringing innovative new products to market that address unmet clinical needs. Our goal is to innovate and provide new ways to think about health, performance and wellness.

Our Employees

We are extremely proud of our team, which embodies a diverse mix of backgrounds, industries and levels of experience, united in the shared belief that we can help people lead healthier, happier lives with longer health spans. Employee turnover is low, and close to zero in the management ranks. As of June 30, 2021, we had 456 full-time employees across our company. Of these employees, 297 were in manufacturing, 34 were in sales and marketing, 59 were in customer service and shipping, 35 were in medical, research and development and 31 were in general and administrative functions. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We have not experienced any work stoppages, and we believe the relationship between management and employees is one that has developed over mutual trust and is in good standing.

Sustainability

We care deeply about the origins of our ingredients. We only partner with suppliers whose practices emphasize quality, science and responsibility. Higher quality ingredients that meet our stringent specifications of potency, purity and absorption ultimately translate into better health and wellness. We believe that the environment should not be compromised for the sake of profits. To us, doing our part to protect the environment

and its resources goes hand-in-hand with our quality standards. We take pride in being a steward of the botanical ingredients we use in our products. If we learn a botanical ingredient is becoming endangered or over sourcing is diminishing its supply, we discontinue its use in our product line.

As our sustainability efforts evolve, we are working on long-term solutions to eliminate unnecessary paper waste, including an innovative paperless "pick, pack, and ship" system. Nearly all of our shipping supplies are made from recycled materials, including our shipping boxes, fill-air pillows and padded packs. We are also heavily invested in introducing innovative products, such as Effusio by Thorne, that align with our sustainability mission and help solve the complex problems we face today with plastic pollution. Effusio by Thorne leverages proprietary printing technology to develop dissolvable supplement beverage discs that provide healthier alternatives to traditional beverages, while also providing sustainable packaging alternatives and reducing packaging waste and emissions during shipping. Effusio by Thorne packaging is plastic free and the carton is fully recyclable.

Facilities

We currently lease seven facilities located in Summerville, South Carolina; New York City, New York; Madison, Wisconsin; and Benicia, California. Our 272,000 square-foot manufacturing and administrative facility is located on 25.8 acres in Summerville, South Carolina, with a lease expiring in October 2037. This facility consists of manufacturing and production, research and development, medical affairs, engineering, quality management, laboratory testing, brand marketing, inside sales, customer service, finance, legal, human resources, warehousing and materials management, procurement and safety functions. We entered into a 63-month lease agreement for a 115,500 square-foot warehouse in Summerville, South Carolina for occupancy planned during the third quarter of 2021. This will expand our finished goods warehousing and shipping capabilities to the eastern United States and international markets.

We have a 16,896 square-foot warehouse in Benicia, California that services Midwest and West Coast product fulfillment. This facility is leased through January 2025. Our corporate headquarters in New York City consists of office space totaling 7,700 square-feet and houses executive management, business development, corporate marketing and Onegevity personnel. The lease for this office expires in 2022. In addition, our information management and digital marketing staff, including our Chief Technology Officer, occupy a 2,500 square-foot facility in Madison, Wisconsin. The lease for this office expires in October 2024.

All of our leases contain terms that give us the option to extend the term of the lease. We intend to procure additional space as we add employees, grow production and expand geographically. We believe, however, that our facilities are adequate to meet our needs for the immediate future and suitable additional space will be available to accommodate any expansion of our operations as needed.

Government Regulation

Products that promote health and wellness, as well as payment for such products, are regulated by various federal, state and local agencies, including but not limited to the following: (i) the FDA, which administers the Federal Food, Drug and Cosmetic Act (FDCA), as well as other relevant laws; (ii) the Federal Trade Commission (FTC); (iii) the Consumer Product Safety Commission (CPSC); (iv) the Office for Civil Rights, which administers the privacy aspects of the Health Insurance Portability and Accountability Act of 1996; and (v) various state regulatory bodies. The FDA in the course of enforcing the FDCA may subject a company to various sanctions for violating FDA regulations or provisions of the FDCA, including requiring or requesting recalls, issuing Warning Letters, seeking to impose civil money penalties, seizing products that the agency believes are non-compliant, seeking to enjoin distribution of a specific product, seeking disgorgement of profits and seeking to criminally prosecute a company and its officers and other responsible parties.

Dietary Supplements

The Dietary Supplement Health and Education Act of 1994 (DSHEA), amended the FDCA to establish a new framework governing the composition, safety, labeling, manufacturing and marketing of dietary supplements. Generally, under DSHEA, dietary ingredients (i.e., vitamins; minerals; herb or other botanical; amino acids; or dietary substances for use by humans to supplement diet by increasing total dietary intake; or any concentrate, metabolite, constituent, extract or combination of any of the above) that were marketed in the United States prior to October 15, 1994 as a dietary supplement may be used in dietary supplements without notifying the FDA. "New" dietary ingredients (i.e., dietary ingredients that were "not marketed in the United States before October 15, 1994") must be the subject of a new dietary ingredient notification submitted to the FDA unless the ingredient has been "present in the food supply as an article used for food" without being "chemically altered." A new dietary ingredient notification must provide the FDA evidence of a "history of use or other evidence of safety" establishing that use of the dietary ingredient "will reasonably be expected to be safe." A new dietary ingredient notification must be submitted to the FDA at least 75 days before the initial marketing. The FDA may determine that a new dietary ingredient notification does not provide an adequate basis to conclude that a dietary ingredient is reasonably expected to be safe. In addition, manufacturers of dietary supplements must ensure that ingredients in their products that are not defined as dietary ingredients comply with all the requirements applicable to conventional foods. For example, fillers and other constituents of the product must be approved as food additives or must be deemed generally recognized as safe for the conditions of use in order to be sold.

The FDA generally prohibits the marketing of a dietary supplement with any "disease claim," including claims that the product is intended to treat, cure, mitigate or prevent disease or other health-related conditions or correlating use of the product with a decreased risk of disease, unless the claim constitutes a "health claim" that is authorized by the FDA. FTC has imposed stringent, claim-specific substantiation standards on certain dietary supplement manufacturers, to settle charges that they deceptively advertised their supplements' efficacy. However, "statements of nutritional support," including so-called "structure/function claims," are permitted to be included in labeling for dietary supplements. Such statements may describe how a particular dietary ingredient affects the structure, function or general well-being of the body, or the mechanism of action by which a dietary ingredient may affect the structure, function or well-being of the body, but such statements may not state that a dietary supplement will reduce the risk or incidence of a disease unless such claim has been reviewed and approved by the FDA. A company that uses a statement of nutritional support in labeling must possess evidence substantiating that the statement is truthful and not misleading. Such statements must be submitted to the FDA no later than thirty days after first marketing the product with the certification that they possess the necessary evidence and must be accompanied by an FDA mandated label disclaimer that "This statement has not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease."

The FDA has published detailed current Good Manufacturing Practice (cGMP), regulations that govern the manufacturing, packaging, labeling and holding operations of dietary supplement manufacturers. The cGMP regulations, among other things, impose significant recordkeeping requirements on manufacturers and require dietary supplements to be of appropriate potency, purity and identity. The cGMP requirements are in effect for all dietary supplement manufacturers, and the FDA conducts inspections of dietary supplement manufacturers pursuant to these requirements.

The FDA has broad authority to enforce the provisions of federal law applicable to dietary supplements, including powers to issue a public warning or notice of violation letter to a company, publicize information about illegal products, detain products intended for import, require the reporting of serious adverse events, require a recall of illegal or unsafe products from the market, and request the Department of Justice to initiate a seizure action, an injunction action or a criminal prosecution in the United States courts.

The Food Safety Modernization Act (FSMA), expands the reach and regulatory powers of the FDA with respect to the production and importation of food, including dietary supplements. The expanded reach and regulatory powers include the FDA's ability to order mandatory recalls, administratively detain domestic

products, and require certification of compliance with domestic requirements for imported foods associated with safety issues. FMSA also gave FDA the authority to administratively revoke manufacturing facility registrations, effectively enjoining manufacturing of dietary ingredients and dietary supplements without judicial process.

Hemp-Derived Substances

On December 20, 2018, the Agriculture Improvement Act of 2018 also known as the "Farm Bill" was signed into law. The Farm Bill removed hemp from the definition of marijuana under the Controlled Substances Act, and granted the U.S. Department of Agriculture the ability to regulate hemp defined as the cannabis plant (Cannabis sativa L.), and derivatives of cannabis, with extremely low (less than 0.3 percent on a dry weight basis) concentrations of the compound delta-9-tetrahydrocannabinol (THC), The Farm Bill did not alter, and explicitly preserved, the authority of the FDA to regulate dietary supplements, foods, and other products containing cannabis or cannabis-derived compounds including hemp or hemp-derived compounds under the FDCA.

Our hemp oil product is derived from the seeds and mature stalks of the Cannabis Sativa plant and, in accordance with the definition of hemp, contains a THC concentration that is less than 0.3 percent on a dry-weight basis. Hemp-containing products may also be subject to state registration requirements depending on where such products are marketed. We are also subject to state laws and regulations for our hemp oil product, which may limit where we can sell and market hemp-derived products.

Laboratory Developed Tests

The health and wellness tests we offer are considered laboratory developed tests (LDTs), and are designed, manufactured, and used within a single laboratory that is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), a federal law that regulates clinical laboratories that perform testing on specimens derived from humans and under which our partner laboratories are certified. Laboratory testing is currently under the purview of the U.S. Centers for Medicare and Medicaid Services (CMS) and state agencies that provide oversight of the safe and effective use of clinical laboratory tests, including LDTs.

Our partner clinical laboratories' operations are subject to CLIA regulations, which are designed to ensure the quality and reliability of clinical laboratories by mandating specific standards in the areas of personnel qualifications, administration and participation in proficiency testing, patient test management, quality control, quality assurance and inspections. Laboratories must undergo on-site surveys at least every two years, which may be conducted by CMS under the CLIA program or by a private CMS approved accrediting agency. The sanction for failure to comply with CLIA requirements may be suspension, revocation or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, as well as significant fines and/or criminal penalties. Our partner laboratories are also subject to regulation of laboratory operations under state clinical laboratory laws. State clinical laboratory laws may require that laboratories and/or laboratory personnel meet certain qualifications, specify certain quality controls or require maintenance of certain records. Certain states, such as New York, California, Maryland, Pennsylvania, and Rhode Island, each require that laboratories obtain licenses to test specimens from patients residing in those states and additional states may require similar licenses in the future. Only Washington and New York State are exempt under CLIA, as these states have established laboratory quality standards at least as stringent as CLIA's quality standards. Potential sanctions for violation of these statutes and regulations.

Our partner clinical laboratories' operations are subject to complex laws, regulations and licensure requirements relating to billing and payment for laboratory services, sales and marketing interactions with ordering physicians and other health care providers, security and confidentiality of health information, and environmental and occupational safety, among others. Changes in regulations often increase the cost of testing or processing claims. Also, these laws may be interpreted or applied by a prosecutorial, regulatory or judicial authority in a manner that could require our partner laboratories and, consequently us, to make changes in

operations, including in pricing, billing and/or marketing practices in a manner that could adversely affect operations.

In addition, the FDCA defines a medical device to include any instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including a component part, or accessory, intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals. The health tests we offered may be considered by the FDA to be subject to regulation as medical devices. Among other things, pursuant to the FDCA and its implementing regulations, the FDA regulates the research, testing, manufacturing, safety, labeling, storage, recordkeeping, pre-market clearance or approval, marketing and promotion, and sales and distribution of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. In addition, the FDA regulates the export of medical devices manufactured in the United States to international markets.

Although the FDA has statutory authority to assure that medical devices are safe and effective for their intended uses, the FDA has generally exercised its enforcement discretion and not enforced applicable regulations with respect to LDTs, which the FDA considers to be in vitro diagnostics that are designed, manufactured, and used within a single laboratory for use only in that laboratory. As a result, we believe the health tests that we offer are currently subject to the FDA's enforcement discretion and are not subject to the FDA's oversight.

Legislative and administrative proposals proposing to amend the FDA's oversight of LDTs have been introduced in recent years and we expect that new legislative and administrative proposals will continue to be introduced from time to time. It is possible that legislation could be enacted into law or regulations or guidance could be issued by the FDA which may result in new or increased regulatory requirements for us to continue to offer our health tests or to develop and introduce new tests.

For example, in recent years, FDA has stated its intention to modify its enforcement discretion policy with respect to LDTs. On July 31, 2014, the FDA notified Congress of its intent to modify, in a risk-based manner, its policy of enforcement discretion with respect to LDTs. On October 3, 2014, the FDA issued two draft guidance documents entitled "Framework for Regulatory Oversight of Laboratory Developed Tests (LDTs)," or the Framework Guidance, and "FDA Notification and Medical Device Reporting for Laboratory Developed Tests (LDTs)," or the Reporting Guidance. The Framework Guidance stated that FDA intends to modify its policy of enforcement discretion with respect to LDTs in a risk-based manner consistent with the classification of medical devices generally in Classes I through III. The Reporting Guidance would have further enabled FDA to collect information regarding the LDTs currently being offered for clinical use through a notification process, as well as to enforce its regulations for reporting safety issues and collecting information on any known or suspected adverse events related to the use of an LDT. On November 18, 2016, the FDA announced that it would not finalize either guidance document to allow for further public discussion on an appropriate oversight approach to LDTs and to give Congressional authorizing committees the opportunity to develop a legislative solution, and the FDA issued a discussion paper on possible approaches to LDT regulation in January 2017. Moreover, in August 2020, the U.S. Department of Health and Human Services announced that FDA will not require premarket review of LDTs absent notice-and-comment rulemaking, as opposed to through guidance documents and other informal issuances.

Medical Devices

LDTs, which are currently subject to FDA's enforcement discretion and for which HHS has announced the FDA may not impose its authority without notice and comment rulemaking, the FDA may decide in the future to regulate LDTs and do not qualify for enforcement discretion at present. If this occurs, or if the FDA determines that certain of our other offerings, such as low-risk health and wellness products, including software, are subject to regulation as medical devices, our health tests and/or these other product offerings could become

subject to the FDA's authority applicable to medical devices, including the requirement for premarket review. Unless an exemption applies, each new or significantly modified medical device we seek to commercially distribute in the U.S. will require either a premarket notification to the FDA requesting permission for commercial distribution under Section 510(k) of the FDCA, also referred to as a 510(k) clearance, or approval from the FDA of a premarket approval application (PMA).

Classification

Under the FDCA, medical devices are classified into one of three classes-Class I, Class II or Class III depending on the degree of risk associated with each medical device and the extent of control needed to provide reasonable assurances with respect to safety and effectiveness. Class I includes devices with the lowest risk to the patient and are those for which safety and effectiveness can be reasonably assured by adherence to a set of FDA regulations, referred to as the General Controls for Medical Devices, which require compliance with the applicable portions of the FDA's quality system regulation (QSR), facility registration and product listing, reporting of adverse events and malfunctions, and appropriate, truthful and non-misleading labeling and promotional materials. Some Class I devices also require premarket clearance by the FDA through the 510(k) premarket notification process described below. Most Class I products are exempt from the premarket notification requirements.

Class II devices are those that are subject to the General Controls, and special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These special controls can include performance standards, patient registries, FDA guidance documents and post-market surveillance. Most Class II devices are subject to premarket review and clearance by the FDA. Premarket review and clearance by the FDA for Class II devices is accomplished through the 510(k) premarket notification process. Our subsidiary, Drawbridge Health, Inc., has developed a blood draw device that is regulated as a Class II medical device and received 510(k) clearance in 2019.

Class III devices include devices deemed by the FDA to pose the greatest risk such as life-supporting or life-sustaining devices, or implantable devices, in addition to those deemed novel and not substantially equivalent following the 510(k) process. The safety and effectiveness of Class III devices cannot be reasonably assured solely by the General Controls and Special Controls described above. Therefore, these devices are subject to the PMA application process, which is generally more costly and time-consuming than the 510(k) process. Through the PMA application process, the applicant must submit data and information demonstrating reasonable assurance of the safety and effectiveness of the device for its intended use to the FDA's satisfaction. Accordingly, a PMA typically includes, but is not limited to, extensive technical information regarding device design and development, preclinical and clinical trial data, manufacturing information, labeling and financial disclosure information for the clinical investigators in device studies. The PMA application must provide valid scientific evidence that demonstrates to the FDA's satisfaction a reasonable assurance of the safety and effectiveness of the device for its intended use.

510(k) Clearance

Under the 510(k) clearance process, the manufacturer must submit to the FDA a premarket notification, demonstrating that the device is "substantially equivalent" to a legally marketed predicate device. A predicate device is a legally marketed device that is not subject to a PMA, i.e., a device that was legally marketed prior to May 28, 1976 (pre-amendments device) and for which a PMA is not required, a device that has been reclassified from Class III to Class II or I, or a device that was previously found substantially equivalent through the 510(k) process. To be "substantially equivalent," the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data is sometimes required to support substantial equivalence.

After a 510(k) premarket notification is submitted, the FDA determines whether to accept it for substantive review. If it lacks necessary information for substantive review, the FDA will refuse to accept the

510(k) notification. If it is accepted for filing, the FDA begins a substantive review. By statute, the FDA is required to complete its review of a 510(k) notification within 90 days of receiving the 510(k) notification. As a practical matter, clearance often takes longer, and clearance is never assured. Although many 510(k) premarket notifications are cleared without clinical data, the FDA may require further information, including clinical data, to make a determination regarding substantial equivalence, which may significantly prolong the review process. If the FDA agrees that the device is substantially equivalent, it will grant clearance to commercially market the device.

If the FDA determines that the device is not "substantially equivalent" to a predicate device, or if the device is automatically classified into Class III, the device sponsor must then fulfill the much more rigorous premarketing requirements of the PMA approval process, or seek reclassification of the device through the de novo process. The de novo classification process is an alternate pathway to classify medical devices that are automatically classified into Class III but which are low to moderate risk. A manufacturer can submit a petition for direct de novo review if the manufacturer is unable to identify an appropriate predicate device and the new device or new use of the device presents a moderate or low risk. De novo classification may also be available after receipt of a "not substantially equivalent" letter following submission of a 510(k) to FDA.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a new or major change in its intended use, will require a new 510(k) clearance or, depending on the modification, could require a PMA application. The FDA requires each manufacturer to determine whether the proposed change requires a new submission in the first instance, but the FDA can review any such decision and disagree with a manufacturer's determination. Many minor modifications are accomplished by a letter-to-file in which the manufacture documents the change in an internal letter-to-file. The letter-to-file is in lieu of submitting a new 510(k) to obtain clearance for such change. The FDA can always review these letters to file in an inspection. If the FDA disagrees with a manufacturer's determination regarding whether a new premarket submission is required for the modification of an existing 510(k)-cleared device, the FDA can require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or approval of a PMA application is obtained. In addition, in these circumstances, the FDA can impose significant regulatory fines or penalties for failure to submit the requisite application(s).

Over the last several years, the FDA has proposed reforms to its 510(k) clearance process, and such proposals could include increased requirements for clinical data and a longer review period, or could make it more difficult for manufacturers to utilize the 510(k) clearance process for their products. For example, in November 2018, FDA officials announced steps that the FDA intended to take to modernize the premarket notification pathway under Section 510(k) of the FDCA. Among other things, the FDA announced that it planned to develop proposals to drive manufacturers utilizing the 510(k) pathway toward the use of newer predicates. These proposals included plans to potentially sunset certain older devices that were used as predicates under the 510(k) clearance pathway, and to potentially publish a list of devices that have been cleared on the basis of demonstrated substantial equivalence to predicate devices that are more than 10 years old. These proposals have not yet been finalized or adopted, although the FDA may work with Congress to implement such proposals through legislation.

More recently, in September 2019, the FDA published revised final guidance describing an optional "safety and performance based" premarket review pathway for manufacturers of "certain, well-understood device types" to demonstrate substantial equivalence under the 510(k) clearance pathway by showing that such device meets objective safety and performance criteria established by the FDA, thereby obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process. The FDA maintains a list device types appropriate for the "safety and performance based" pathway and continues to develop product-specific guidance documents that identify the performance criteria for each such device type, as well as the recommended testing methods for such device types.

PMA Approval

Following receipt of a PMA application, the FDA conducts an administrative review to determine whether the application is sufficiently complete to permit a substantive review. If it is not, the agency will refuse to file the PMA. If it is, the FDA will accept the application for filing and begin the review. The FDA has 180 days to review a filed PMA application, although the review of an application more often occurs over a significantly longer period of time. During this review period, the FDA may request additional information or clarification of information already provided, and the FDA may issue a major deficiency letter to the applicant, requesting the applicant's response to deficiencies communicated by the FDA.

Before approving or denying a PMA, an FDA advisory committee may review the PMA at a public meeting and provide the FDA with the committee's recommendation on whether the FDA should approve the submission, approve it with specific conditions, or not approve it. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Prior to approval of a PMA, the FDA may conduct inspections of the clinical trial data and clinical trial sites, as well as inspections of the manufacturing facility and processes to ensure compliance with the QSR. PMA devices are also subject to the payment of user fees, and an annual establishment registration fee.

If the FDA evaluation of a PMA is favorable, the FDA will issue either an approval letter, or an approvable letter, the latter of which usually contains a number of conditions that must be met in order to secure final approval of the PMA. When and if those conditions have been fulfilled to the satisfaction of the FDA, the agency will issue a PMA approval letter authorizing commercial marketing of the device, subject to the conditions of approval and the limitations established in the approval letter. If the FDA's evaluation of a PMA application or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. The FDA also may determine that additional tests or clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and data is submitted in an amendment to the PMA, or the PMA is withdrawn and resubmitted when the data are available. The PMA process can be expensive, uncertain and lengthy and a number of devices for which the FDA approval has been sought by other companies have never been approved by the FDA for marketing.

New PMA applications or PMA supplements are required for modification to the manufacturing process, equipment or facility, quality control procedures, sterilization, packaging, expiration date, labeling, device specifications, ingredients, materials or design of a device that has been approved through the PMA process. PMA supplements often require submission of the same type of information as an initial PMA application, except that the supplement is limited to information needed to support any changes from the device covered by the approved PMA application and may or may not require as extensive technical or clinical data or the convening of an advisory panel, depending on the nature of the proposed change.

In approving a PMA application, as a condition of approval, the FDA may also require some form of post-approval study or post-market surveillance, whereby the applicant conducts a follow-up study or follows certain patient groups for a number of years and makes periodic reports to the FDA on the clinical status of those patients when necessary to protect the public health or to provide additional or longer term safety and effectiveness data for the device. The FDA may also approve a PMA application with other post-approval conditions intended to ensure the safety and effectiveness of the device, such as, among other things, restrictions on labeling, promotion, sale, distribution and use. New PMA applications or PMA supplements may also be required for modifications to any approved diagnostic tests, including modifications to our manufacturing processes, device labeling and device design, based on the findings of post-approval studies.

Clinical Trials

Clinical trials are almost always required to support a PMA and are sometimes required to support a 510(k) submission. All clinical investigations of devices to determine safety and effectiveness must be conducted

in accordance with the FDA's investigational device exemption (IDE), regulations which govern investigational device labeling, prohibit promotion of the investigational device, and specify an array of recordkeeping, reporting and monitoring responsibilities of study sponsors and study investigators. If the device presents a "significant risk," to human health, as defined by the FDA, the FDA requires the device sponsor to submit an IDE application to the FDA, which must become effective prior to commencing human clinical trials. A significant risk device is one that presents a potential for serious risk to the health, safety or welfare of a patient and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a subject. An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company that the investigation may not begin. If the FDA determines that there are deficiencies or other concerns with an IDE for which it requires modification, the FDA may permit a clinical trial to proceed under a conditional approval.

In addition, the study must be approved by, and conducted under the oversight of, an Institutional Review Board (IRB), for each clinical site. The IRB is responsible for the initial and continuing review of the IDE, and may pose additional requirements for the conduct of the study. If an IDE application is approved by the FDA and one or more IRBs, human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA, but must still follow abbreviated IDE requirements, such as monitoring the investigation, ensuring that the investigators obtain informed consent, and labeling and record-keeping requirements. Acceptance of an IDE application for review does not guarantee that the FDA will allow the IDE to become effective and, if it does become effective, the FDA may or may not determine that the data derived from the trials support the safety and effectiveness of the device or warrant the continuation of clinical trials. An IDE supplement must be submitted to, and approved by, the FDA before a sponsor or investigator may make a change to the investigational plan that may affect its scientific soundness, study plan or the rights, safety or welfare of human subjects.

During a study, the sponsor is required to comply with the applicable FDA requirements, including, for example, trial monitoring, selecting clinical investigators and providing them with the investigational plan, ensuring IRB review, adverse event reporting, record keeping and prohibitions on the promotion of investigational devices or on making safety or effectiveness claims for them. The clinical investigators in the clinical study are also subject to FDA's regulations and must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of the investigational device, and comply with all reporting and recordkeeping requirements. Additionally, after a trial begins, the sponsor, the FDA or the IRB could suspend or terminate a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits.

Post-Market Regulation

After a device is cleared or approved for marketing, numerous and pervasive regulatory requirements continue to apply. These include:

- establishment registration and device listing with the FDA;
- QSR requirements, which require manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the design and manufacturing process;
- labeling regulations and FDA prohibitions against the promotion of investigational products, or the promotion of ''off-label'' uses of cleared or approved products;

- requirements related to promotional activities;
- clearance or approval of product modifications to 510(k)-cleared devices that could significantly affect safety or effectiveness or that would constitute a major change in intended use of one of our cleared devices, or approval of certain modifications to PMA-approved devices;
- medical device reporting regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;
- correction, removal and recall reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FDCA that may present a risk to health;
- the FDA's recall authority, whereby the agency can order device manufacturers to recall from the market a product that is in violation of governing laws and regulations; and
- post-market surveillance activities and regulations, which apply when deemed by the FDA to be necessary to protect the public health or to provide additional safety and effectiveness data for the device.

Device manufacturing processes are required to comply with the applicable portions of the QSR, which cover the methods and the facilities and controls for the design, manufacture, testing, production, processes, controls, quality assurance, labeling, packaging, distribution, installation and servicing of finished devices intended for human use. The QSR also requires, among other things, maintenance of a device master file, device history file, and complaint files. As a manufacturer, will be subject to periodic scheduled or unscheduled inspections by the FDA. Failure to maintain compliance with the QSR requirements could result in the shut-down of, or restrictions on, manufacturing operations and the recall or seizure of products. The discovery of previously unknown problems with any marketed medical device products, including unanticipated adverse events or adverse events of increasing severity or frequency, whether resulting from the use of the device within the scope of its clearance or off-label by a physician in the practice of medicine, could result in restrictions on a medical device, including the removal of the product from the market or voluntary or mandatory device recalls.

The FDA has broad regulatory compliance and enforcement powers. If the FDA determines that a manufacturer has failed to comply with applicable regulatory requirements, it can take a variety of compliance or enforcement actions, which may result in any of the following sanctions:

- warning letters, untitled letters, fines, injunctions, consent decrees and civil penalties;
- recalls, withdrawals, or administrative detention or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying requests for 510(k) marketing clearance or PMA approvals of new products or modified products;
- withdrawing 510(k) clearances or PMA approvals that have already been granted;
- refusal to grant export approvals; or
- criminal prosecutions.

Telehealth Regulation

The practice of health care professions is subject to various federal, state and local certification and licensing laws, regulations and approvals, relating to, among other things, the adequacy of health care, the practice of medicine and other health professions (including the provision of remote care and cross-coverage practice), equipment, personnel, operating policies and procedures and the prerequisites for prescribing medication. In addition, the provision of health care services through any kind of clinic, facility, storefront or other location open to the public is often subject to state clinic licensure laws akin to those that health facilities like hospitals, surgery centers and urgent care clinics must obtain and maintain. We do not operate or promote any physical place to obtain healthcare and therefore do not believe we are subject to any clinic licensure requirements, but the application of some of these laws to the telehealth we facilitate is unclear and subject to differing interpretation.

Some states have enacted regulations specific to providing services to patients via telehealth. Such regulations include informed consent requirements that some states require providers to obtain from their patients before providing telehealth services. Health professionals who provide professional services using telehealth modalities must, in most instances, hold a valid license to practice the applicable health profession in the state in which the patient is located. In addition, certain states require a physician providing telehealth to be physically located in the same state as the patient. Any failure to comply with these laws and regulations could result in civil or criminal penalties against us.

State Corporate Practice of Medicine and Fee Splitting Laws

Our relationships with physicians and other health professionals are subject to various state laws, which are intended to prevent unlicensed persons from interfering with or influencing the physician's professional judgment, and prohibiting the sharing of professional services income with non-professional or business interests. These laws vary from state to state and are subject to broad interpretation and enforcement by state regulators. A determination of non-compliance could lead to adverse judicial or administrative action against us and/or our providers, civil or criminal penalties, receipt of cease and desist orders from state regulators, loss of provider licenses, or a restructuring of our arrangements with our affiliated professional entities.

Healthcare Fraud and Abuse Laws

Although none of our offerings are currently covered by any third-party payor, including any commercial payor or government healthcare program, we may nonetheless be subject to a number of federal and state healthcare regulatory laws that restrict business practices in the healthcare industry. These laws include, but are not limited to, federal and state anti-kickback, false claims, and other healthcare fraud and abuse laws.

The U.S. federal Anti-Kickback Statute prohibits, among other things, any person or entity from knowingly and willfully offering, paying, soliciting, receiving or providing any remuneration, directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any good, facility, item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. The majority of states also have antikickback laws, which establish similar prohibitions, and in some cases may apply to items or services reimbursed by any third party payor, including commercial insurers and self-pay patients.

The federal false claims, including the civil False Claims Act, prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false, fictitious or fraudulent claim for payment to, or approval by, the federal government, knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government, or knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the U.S. federal government. A

claim includes "any request or demand" for money or property presented to the U.S. government. Actions under the civil False Claims Act may be brought by the Attorney General or as a qui tam action by a private individual in the name of the government. Moreover, a claim including items or services resulting from a violation of the U.S. federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act.

In addition, the civil monetary penalties statute, subject to certain exceptions, prohibits, among other things, the offer or transfer of remuneration, including waivers of copayments and deductible amounts (or any part thereof), to a Medicare or state healthcare program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner or supplier of services reimbursable by Medicare or a state healthcare program.

The federal Health Insurance Portability and Accountability Act of 1996 created additional federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other healthcare professionals beginning in 2022, and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members.

Violations of fraud and abuse laws, including federal and state anti-kickback and false claims laws, may be punishable by criminal and civil sanctions, including fines and civil monetary penalties, the possibility of exclusion from federal healthcare programs (including Medicare and Medicaid), disgorgement and corporate integrity agreements, which impose, among other things, rigorous operational and monitoring requirements on companies. Similar sanctions and penalties, as well as imprisonment, also can be imposed upon executive officers and employees of such companies.

Data Privacy and Security Laws and Regulations

Numerous state, federal and foreign laws, including consumer protection laws and regulations, govern the collection, dissemination, use, access to, confidentiality and security of personal information, including health related information. In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and federal and state consumer protection laws and regulations (e.g., Section 5 of the FTC Act), that govern the collection, use, disclosure, and protection of health related and other personal information could apply to our operations or the operations of our partners. For example, the privacy and security regulations under HIPAA establish comprehensive federal standards with respect to the uses and disclosures of PHI by health plans, healthcare clearinghouses and certain health care providers referred to as covered entities, and the business associates with whom such covered entities contract for services, as well as their covered subcontractors, in addition to setting standards to protect the confidentiality, integrity and availability of electronic PHI. HIPAA requires covered entities and business associates to develop and maintain policies with respect to the protection of, use and disclosure of electronic PHI, including the adoption of administrative, physical and technical safeguards to protect such information, and imposes certain notification requirements in the event of a data breach.

As we launch commercial diagnostic tests, we must ensure that our use and disclosure and protection of PHI comply with requirements under the HIPAA privacy and security regulations. Violations of HIPAA may result in significant fines and other penalties for wrongful use or disclosure of PHI, including potential civil and criminal fines and penalties.

In addition, certain state and non-U.S. laws, such as the GDPR, govern the privacy and security of personal data, including health-related data in certain circumstances, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. For example, California enacted the CCPA, which went into effect on January 1, 2020. Pursuant to the CCPA, certain businesses are required, among other things, to make certain enhanced disclosures related to California residents regarding the use or disclosure of their personal information, allow California residents to opt-out of certain uses and disclosures of their personal information without penalty, provide Californians with other choices related to personal data in our possession, and obtain opt-in consent before engaging in certain uses of personal information relating to California residents under the age of 16. The California Attorney General may seek substantial monetary penalties and injunctive relief in the event of our non-compliance with the CCPA. The CCPA also allows for private lawsuits from California residents in the event of certain data breaches. Moreover, the CPRA recently passed in California. The CPRA significantly modifies the CCPA, creating obligations relating to consumer data including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It will also create a new California data protection agency authorized to issue substantive regulations and could result in increased privacy and information security enforcement. The majority of the provisions will go into effect on January 1, 2023, with enforcement beginning July 1, 2023. Aspects of the CCPA and CPRA remain uncertain, and we may be required to make modifications to our policies or practices in efforts to comply.

In Europe, the GDPR went into effect in May 2018 and imposes strict requirements for processing the personal data of individuals within the EEA. In addition, the GDPR increases the scrutiny of transfers of personal data from the EEA to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. Additionally, from January 1, 2021, companies have to comply with the GDPR and the UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, e.g. fines up to the greater of €20 million (£17.5 million) or 4% of global turnover. The relationship between the United Kingdom and the European Union in relation to certain aspects of data protection law remains unclear, and it is unclear how United Kingdom data protection laws and regulations will develop in the medium to longer term, and how data transfers to and from the United Kingdom will be regulated in the long term.

Privacy and security laws, self-regulatory schemes, regulations, standards, and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Federal Trade Commission

The advertising and promotion of our products in the United States is subject to regulation by the Federal Trade Commission (FTC), under the Federal Trade Commission Act (FTC Act). The FTC Act requires that an advertiser possess, at a minimum, a "reasonable basis" to substantiate all product claims before the claims are made, and competent and reliable scientific evidence to substantiate health and therapeutic claims. A lack of adequate substantiation may render such claims deceptive and/or misleading. The FTC Act also governs the

appropriate use and necessary disclosures relating to promotional statements made by social media influencers as well as product testimonials.

In recent years, the FTC has initiated numerous investigations of and actions against companies that sell dietary supplements. The FTC has issued guidance to assist companies in understanding and complying with its substantiation requirement. We believe that we have adequate substantiation for all material advertising claims that we make for our products in the United States, and we believe that we have organized the documentation to support our advertising and promotional practices in compliance with these guidelines. However, no assurance can be given that the FTC would reach the same conclusion if it were to review or question our substantiation for our advertising claims in the United States.

The FTC may enforce compliance with the law in a variety of ways, both administratively and judicially, using compulsory process, cease and desist orders, and injunctions. FTC enforcement can result in orders requiring, among other things, limits on advertising, corrective advertising, customer redress, restitution, divestiture of assets, rescission of contracts, and such other relief as the agency deems necessary to protect the public. Violation of these orders could result in substantial financial or other penalties. Although we have not been the subject of any action by the FTC, no assurance can be given that the FTC will not question our advertising or other operations in the United States in the future. Any action in the future by the FTC could materially and adversely affect our ability to successfully market our products in the United States.

In addition, state attorneys general and local district attorneys also have jurisdiction to enforce similar state and local consumer protection laws. Our policy is to use advertising that complies with applicable regulations. Nevertheless, there can be no assurance that inadvertent failures to comply with the applicable regulations will not occur. Failure by us to comply with applicable regulations could result in substantial penalties, which could have a material adverse effect on our financial condition or results of operations and adversely affect our ability to successfully market our products in the United States.

Environmental Matters

Our manufacturing processes and those of our suppliers involve use of hazardous materials and chemicals and produce waste products. We and our suppliers are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of hazardous materials and waste products. For example, the U.S. Environmental Protection Agency (EPA), regulates the generation and disposal of certain hazardous wastes. Additionally, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, and other state, local or foreign laws may impose liabilities for the costs of remediating contaminated real property. We may also be subject to environmental, health and safety claims and proceedings. While we believe we are in compliance with applicable environmental regulations, the failure to fully comply with any such regulations could result in the imposition of significant penalties, fines and/or sanctions which could have a material adverse effect on our business.

Proposition 65

We are also subject to regulation under various state, local, and international laws that include provisions governing, among other things, the formulation, manufacturing, packaging, labeling, advertising, and distribution of dietary supplements. For example, California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), in the state of California is a list of substances deemed to pose a risk of carcinogenicity or birth defects at or above certain levels. If any such listed ingredient exceeds the permissible levels in a marketed product distributed in the state of California, the product must be accompanied by a prominent warning label alerting consumers that the product contains an ingredient linked to cancer or birth defect risk. Private attorney general actions as well as California attorney general actions may be brought against non-compliant products and can result in substantial costs and penalties.

Other Government Regulation

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Biden Administration may impact our business and industry. The Biden Administration could significantly increase the federal government's willingness to engage in regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. Any of these could substantially affect any of our regulated products or services.

Legal Proceedings

We are aware of third-party issued U.S. patents with claims relating to compositions of nicotinamide riboside, a component of some of our products, owned by the Trustees of Dartmouth and licensed to ChromaDex. On December 1, 2020 and February 1, 2021, we filed petitions for inter partes review against U.S. Patent Nos. 8,383,086 and 8,197,807, respectively at the Patent Trial and Appeal Board to seek to invalidate these patents. The Patent Trial and Appeal Board issued a decision on June 10, 2021, granting institution of inter partes review against U.S. Patent No. 8,383,086, and the institution decision is expected on August 18, 2021, for U.S. Patent No. 8,197,807. On May 12, 2021, the Trustees of Dartmouth College and ChromaDex filed a complaint against us in the District Court of the Southern District of New York, alleging infringement of U.S. Patent Nos. 8,383,086 and 8,197,807. The complaint seeks to enjoin us from selling our nutritional supplement products that contain nicotinamide riboside, including our NiaCel suite of supplements, and further seeks monetary damages for alleged infringement of the patents. We are exploring all of our options as to how best to respond to the complaint.

For further information regarding Legal Proceedings please see "Risk Factors—Risks Relating to our Intellectual Property—Litigation or other proceedings or third-party claims of intellectual property infringement, misappropriation or other violations may require us to spend significant time and money, and could in the future prevent us from selling our products or services or impact our stock price, any of which could have a material adverse effect."

MANAGEMENT

Executive Officers and Directors

The following table sets forth the names and positions of our executive officers, key employees and directors and their ages as of June 30, 2021:

Name	Age	Position
Executive Officers:		
Paul F. Jacobson	67	Chief Executive Officer and Director
Thomas P. McKenna	61	Chief Operating Officer and Director
Will C. McCamy	52	President
Scott S. Wheeler	66	Chief Financial Officer
Key Employees:		
Michelle L. Crow	32	Chief Marketing Officer
Scott R. Hurth	41	Chief Technology Officer
Stephen M. Phipps	39	Chief Innovation Officer
Daniel McEvoy	60	Co-CEO – Drawbridge Health
Nathan D. Price	46	Chief Executive Officer – Onegevity
Bodi Zhang	36	Chief Science Officer
Kim R. Pearson	69	General Counsel
La Vonda Williams	50	Chief Financial Officer Onegevity
Non-employee Directors:		
Riccardo C. Braglia(1)(2)	61	Director
Yasuhiro Oki(4)	41	Director
Toru Yoshimura(2)	57	Director
Toshitaka Inuzuka(2)	52	Director
Tetsu Watanabe(4).	55	Director
Sarah M. Kauss(1)(2)(3)	45	Director Nominee
Saloni S. Varma(1)(3)	42	Director Nominee

(1) Member of the audit committee
(2) Member of the compensation committee
(3) Has agreed to join our board of directors upon the completion of this offering.
(4) Intends to resign upon the completion of this offering.

Executive Officers

Paul Jacobson, 67, has served as our co-founder, Chief Executive Officer, and on our board of directors since 2010. He has also served as co-founder, Chief Executive Officer and on the board of directors for Company subsidiaries, including Thorne Research Inc., Health Elements, LLC and WellnessFX, Inc. since 2010. Mr. Jacobson is also the co-founder and Chief Executive Officer for Onegevity Health, LLC, which is now a division of our company. In addition, he has served on the board of directors for Tecton Group, LLC since 2020, and from 2017 to 2020, he served on the board of directors for Drawbridge Health, Inc. Prior to joining our company, Mr. Jacobson was on the board of directors for Progenics Pharmaceuticals and a Partner and Co-head of the Liquid Capital Markets Department at Goldman Sachs. He holds an M.B.A. from Washington University in Saint Louis and a B.A. in English and Economics from Vanderbilt University. We believe Mr. Jacobson is qualified to serve on our board of directors due to his extensive history with us and his business experience in investment banking and finance.

Thomas McKenna, 61, has served as our Chief Operating Officer and on our board of directors since 2010. Before joining our company, he was the Chief Operating Officer of Diversified Natural Products, Inc. Prior

to that, he spent most of his career at Bristol-Myers Squibb in a variety of operational roles. Mr. McKenna holds an M.B.A. in Accounting from the Fox School of Business at Temple University and a B.S. in Finance from Fairfield University. We believe that Mr. McKenna is qualified to serve on our board of directors due to his extensive history with us, finance experience and education.

Will McCamy, 52, has served as President for Thorne Research, Inc. and on the board of directors for Health Elements, LLC, since 2010, both of which are our subsidiaries. Prior to joining our company, Mr. McCamy served as co-founder and President for Xymogen, Inc. Mr. McCamy has over 26 years of experience in the nutritional sciences industry, specifically focusing on the healthcare professional segment but recently expanding into consumer-driven initiatives and sport performance. Mr. McCamy holds a B.S. in Finance from University of Florida.

Scott Wheeler, 66, has served as Chief Financial Officer for us and our subsidiaries, Thorne Research, Inc., HEU Holding Company and Health Elements, LLC, since 2011. Prior to joining our Company, Mr. Wheeler served as Chief Financial Officer for Pulmuone Foods USA from 2009 to 2011 and Chief Financial Officer for Monterey Gourmet Foods, Inc., a publicly traded company, from 2003 through 2009. He holds an M.B.A. from Golden Gate University and a B.S. in Accounting from Brigham Young University. We expect that Mr. Wheeler will retire from his position as Chief Financial Officer of the Company during 2022, but will continue to consult with the Company through the end of 2022.

Key Employees

Michelle Crow, 32, has served as our Chief Marketing Officer since November 2017. She has also served on the board of directors for Akreto, Inc. since October 2020. Prior to becoming our Chief Marketing Officer, she held numerous positions from 2012 to October 2017 at our subsidiary Thorne Research Inc., including Vice President of Marketing, Assistant Vice President of Marketing, Director of Marketing, Manager of Operations, and Marketing Associate. Ms. Crow holds an M.B.A. in Marketing and Strategy from the Leonard N. Stern School of Business at New York University and a B.A. in Philosophy and Spanish from Duke University.

Scott Hurth, 41, has served as our Chief Technology Officer since 2014. He has also served on the board of directors for Akreto, Inc. since October 2020. Prior to his current roles, he co-founded Greydin, LLC, an information technology consulting firm and has held various positions with Amazon. He holds a B.S. in Computer Science from the University of Wisconsin Eau Claire.

Stephen Phipps, 39, has served as our Chief Innovation Officer since January 2021. Prior to his current role, he held numerous positions from 2015 to 2021 at our subsidiary Thorne Research, Inc., including Chief Innovation Officer, Vice President of Research and Development and Director of Clinical Programs. Mr. Phipps is also a member of the American Association of Naturopathic Physicians and the Naturopathic Academy of Primary Care Physicians, and was a practicing Naturopathic physician before joining our Company. He holds a N.D. in Naturopathic Medicine from Bastyr University, a Ph.D. in Pharmaceutical Sciences from the University of Florida and a B.S. in Botany from the University of Florida.

Daniel McEvoy, 60, has served as our Chief of Strategic Development since August 2019. He has also served as President for WellnessFX, Inc., a Company subsidiary, since March 2017. Additionally, Mr. McEvoy served on the board of directors for Health Elements, LLC, a Company subsidiary, and Onegevity Health, LLC, now a division of our company, since 2015 and January 2018, respectively. Prior to his current roles, he served as President for Onegevity Health, LLC from 2018 to 2020, Chief Operating Officer for WellnessFX, Inc., from 2015 to 2017, and Chief Financial Officer for WellnessFX, Inc. from 2014 to 2015. Prior to that, Mr. McEvoy served as Chief Financial Officer for Diversified Natural Products, Inc. from 2001 to 2009, as a Managing Director at Deutsche Bank Securities from 1996 to 1999 and as Vice President at Goldman Sachs from 1982 to 1996. He holds a B.A. in Biology from Dartmouth College.

Dr. Nathan Price, 46, has served as Co-Chief Executive Officer for Onegevity Health, LLC, from November 2020 until its merger with our Company in March 2021. Post-merger, Dr. Price will be the Chief Executive Officer of Onegevity, a division of our company. Dr. Price has also served on the Board of Directors of Health and Environmental Sciences, a non-profit, since 2018. Since 2017, Dr. Price has co-led the Hood-Price Integrated Lab for Systems Biomedicine with biotechnology pioneer Lee Hood. Prior to his current roles, Dr. Price served as co-founder and Director of Arivale Inc. from 2014 to 2019. He has also served on many advisory boards, including Roche (Personalized Healthcare Division), Providence St. Joseph Health, Sera Prognostics, Navican, Basepaws, Trelys and the Novo Nordisk Foundation Center for Biosustainability. Dr. Price holds a Ph.D. in Bioengineering from the University of California, San Diego, an M.S. in Bioengineering from the University of California, San Diego and a B.S. in Chemical Engineering from Brigham Young University.

Dr. Bodi Zhang, 36, has served as Chief Science Officer for Onegevity Health, LLC from January 2018 until its merger with our company in March 2021. Post-merger, Dr. Zhang continues in the role as Chief Science Officer of Onegevity, a division of our company. Prior to his current role, Dr. Zhang served as Vice President, Corporate and Medical Strategy from January 2015 to 2018, and as General Manager, Strategic Alliance from January 2013 to 2015. Prior to joining our company, Dr. Zhang worked at Deallus Group, a global healthcare consultancy. Prior to the Deallus Group, Dr. Zhang was a Research Assistant Professor of Pharmacology at Tufts University, Boston. As a scientist, Bodi's research focused on autoimmune diseases and published top-tier research publications, including in *Proceedings of the National Academy of Sciences*, *The Journal of Allergy and Clinical Immunology* and *Nature Reviews*. Dr. Zhang holds a Ph.D in Pharmacology and Biochemistry from Tufts University, Boston, an M.P.H in healthcare management from Harvard University, Boston and a M.D. from Peking University, China.

Kim Pearson, 69, has served as our General Counsel since 1995. Before joining our company, he was a partner in a Washington, D.C., law firm. As General Counsel, he ensures compliance with legal and regulatory requirements and protect the rights, resources, and business continuity of the Company and its officers, board of directors, employees, and investors. Mr. Pearson supports general and operating management in day-to-day legal matters and recommends policies and procedures to ensure legal and regulatory compliance nationwide and internationally. Mr. Pearson has 40 years of experience as a lawyer and has vast knowledge of the nutritional supplement and the pharmaceutical industries, including a comprehensive understanding of their statutory and regulatory backgrounds. Mr. Pearson received his J.D. degree from Brigham Young University in 1979.

La Vonda Williams, 50, has served as Chief Financial Officer for Onegevity Health, LLC, which is now a division of our company, since September 2019. Before joining that entity, she served as Vice President of Equity Derivatives Operations at Goldman Sachs from 2014 to 2019. Prior to that, Ms. Williams served as Chief Operating Officer for Solaire Generation, Inc. from 2009 to 2010. Ms. Williams has spent nearly 20 years in finance and operations in a series of executive roles at early-stage startups, as well as operations, sales and underwriting positions at leading investment banks. She holds an M.B.A. from Stanford University and a B.S. in Mechanical Engineering from Harvard University.

Non-Employee Directors

Riccardo Braglia, 61, has served on our board of directors since 2012. He has served as Chief Executive Officer and on the board of directors for Helsinn Holding SA, an international pharmaceutical, and many of Helsinn Group's subsidiaries and affiliates, including Helsinn Healthcare, Helsinn Advanced Synthesis, Helsinn Birex Pharmaceuticals and Helsinn Therapeutics, since 2002. He serves as an Advisory Board Member of the Healthcare Fund at Windham Venture Partners. He is also a co-founder and has served on the board of directors for Sinomedica, a Swiss acupuncture and Traditional Chinese Medicine center, since 2011, and is a co-founder and has served on the board of directors for Lyfebulb, a patient engagement platform, since 2014. He is also a Board Member for the Swiss-American Chamber of Commerce, a Board Member for the Conquer Cancer Foundation of ASCO, a Board Member for Medacta International, and Chairman of WS Fashion Holding. Mr. Braglia has worked for 35 years as an entrepreneur in the healthcare sector, starting both companies and

charities, and has international experience working with pharmaceutical businesses in the United Kingdom, Portugal, Switzerland and the United States. He holds an M.B.A in Industrial Business from the Università Boccini in Milan. We believe that Mr. Braglia is qualified to serve on our board of directors due to his extensive experience on company boards, his international experience, and his background as an entrepreneur in the healthcare sector.

Yasuhiro Oki, 41, has served on our board of directors and for our subsidiary Thorne Research Inc. since October 2018. He has also served as Director of Technology and Strategy for Thorne Research Inc. since March 2019. Mr. Oki also serves as a Senior Manager of Health Business Strategy in the Corporate Strategy Department at Kirin Holdings Co. since 2014. Prior to that, he held numerous positions within Kirin, including Manager of the Management Planning Department, Associate Manager of Corporate Strategy, and Associate Manager of Production and Quality Control for Kirin Brewery. Mr. Oki holds an M.B.A. in Business from the University of North Carolina at Chapel Hill, a Masters of Life Science from Kyoto University and a Bachelor of Agriculture from Kyoto University. We believe that Mr. Oki is qualified to serve on our board of directors because of his business background and education.

Toru Yoshimura, 57, has served on our board of directors and for our subsidiary Thorne Research Inc. since October 2019. He has also served as a member of our Compensation Committee since October 2019. Mr. Yoshimura has served in management roles at Kirin Holdings Co. since 2014, including as Senior Executive Officer and Director of Corporate Strategy since 2018. He also continues serve on the board of directors for many Kirin subsidiaries, including Kirin Brewery Co., Kirin Brewery (Zhuhai) Co., Kirin (China) Investment Co., Kirin Taiwan, and Interfood Shareholding Co. Prior to holding his current positions, Mr. Yoshimura was the Deputy General Manager and Manager of Strategy Planning at Kirin Holdings and held various positions at Kirin Brewery. He holds an M.B.A. from the Sloan School of Management at the Massachusetts Institute of Technology and a Bachelor of Agriculture from the University of Tokyo. We believe that Mr. Yoshimura is qualified to serve on our board of directors because of his business background and education.

Toshitaka Inuzuka, 52, has served on our board of directors and for our subsidiary Thorne Research, Inc. since October 2018. He has also served on our Compensation Committee since July 2019. In addition, he has served as General Manager of the NutriScience Division at Mitsui & Co., Ltd. since July 2019. He also continues to serve on the board of directors for a number of private companies, including Novus International, Inc., Soda Aromatic Co., Ltd., Ceva Santé Animale SA and Bussan Food Science Co., Ltd. Previously, he served on the board of directors for San-ei Sucrochemical Co., Ltd., Certis USA L.L.C. and Anagra S.A. Since 2014 and prior to his current roles, Mr. Inuzuka held numerous positions at Mitsui & Co., Ltd. and its US subsidiary Mitsui & Co. (U.S.A.), Inc., including Senior Vice President of the Chemicals Division, General Manager of the Strategic Planning Department within the Nutrition & Agriculture Business Unit and Deputy General Manager. He holds a Bachelor of Science & Technology from Keio University. We believe that Mr. Inuzuka is qualified to serve on our board of directors because of his business background and experience serving on company boards.

Tetsu Watanabe, 55, has served on our board of directors and for our subsidiary Thorne Research, Inc. since July 2019. He has been Senior Vice President of the Chemicals Division at Mitsui & Co. (U.S.A.), Inc. since July 2019. Prior to his current roles, he held numerous positions over the course of 33 years at Mitsui, including General Manager of the AgriScience Division, Deputy General Manager of the AgriScience Division, General Manager of the Strategic Planning Department for Performance Chemicals, Deputy General Manager of the Chemicals Investment Administration Department, General Manager of the 3rd AgriScience Department and General Manager of the 2nd AgriScience Department. He holds a Bachelor of Social Science from Hitotsubashi University. We believe that Mr. Watanabe is qualified to serve on our board of directors because of his business background and education.

Sarah M. Kauss, 45, has agreed to join our board of directors upon the completion of this offering. Ms. Kauss is the founder of S'well, which manufactures reusable, insulated products for the retail and wholesale market and served as its Chief Executive Officer from 2010 to February 2020. She currently serves as

Chairwoman. Prior to founding S'well, Ms. Kauss was a CPA at Ernst & Young. Ms. Kauss currently serves on the board of directors of Desenio Group AB, CarLotz Inc. and Glowforge Inc. Ms. Kauss received her M.B.A. from Harvard Business School and her B.S. in business and accounting from the University of Colorado at Boulder. We believe Ms. Kauss is qualified to serve as a member of our board of directors based on her background in accounting and extensive experience in product marketing and founding and leading a successful retail company.

Saloni S. Varma, 42, has agreed to join our board of directors upon the completion of this offering. Ms. Varma has served as the Chief Financial Officer of ByHeart, Inc., a fully integrated baby nutrition company, since July 2020. Prior to that, she served as VP Finance at Chobani, LLC from October 2017 to July 2020 and as VP Finance and Operations at Hunter Boot Ltd. from September 2016 to October 2017. She also held finance positions at Unilever, UBS and KPMG. Ms. Varma earned a Masters of Commerce, Accounting from the University of Mumbai and a Masters in Finance and Entrepreneurial Management from The Wharton School. We believe Ms. Varma is qualified to serve as a member of our board of directors based on her experience as a principal financial officer and background in accounting.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Board Composition

Our board of directors currently consists of seven members and following the resignation of Yasuhiro Oki and Tetsu Watanabe, and appointment of Saloni Varma and Sarah Kauss, upon completion of this offering, will continue to consist of seven members. After the completion of this offering, the number of directors will be fixed from time to time by our board of directors, subject to the terms of our amended and restated certificate of incorporation and amended and restated bylaws. Each of our current directors will continue to serve as a director until the election and qualification of his or her successor, or until his or her earlier death, resignation or removal.

Our amended and restated certificate of incorporation will provide that our board of directors will be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their respective three-year terms. Our current directors will be divided among the three classes as follows:

- the Class I directors will be Paul Jacobson, Riccardo Braglia and Thomas McKenna, and their terms will expire at the annual meeting of stockholders to be held in 2022;
- the Class II directors will be Saloni Varma and Sarah Kauss, and their terms will expire at the annual meeting of stockholders to be held in 2023; and
- the Class III directors will be Toru Yoshimura and Toshitaka Inuzuka, and their terms will expire at the annual meeting of stockholders to be held in 2024.

At each annual meeting of stockholders, upon the expiration of the term of a class of directors, the successor to each such director in the class will be elected to serve from the time of election and qualification until the third annual meeting following his or her election and until his or her successor is duly elected and qualified, in accordance with our amended and restated certificate of incorporation. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one third of our directors. This classification of our board of directors may have the effect of delaying or preventing changes in control of our company.

Nominating Agreement

Immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, we intend to enter into a nominating agreement with Mitsui and Kirin which will provide that, subject to certain minimum stock ownership requirements, that the Company will include a designee of Mitsui and Kirin (as applicable) in the slate of nominees recommended to the Company's stockholders for election at the Company's annual stockholder meetings if the current Mitsui or Kirin (as applicable) designee's term is expiring at such meeting. This agreement also provides for certain information, board observer and secondment rights.

Director Independence

Upon the completion of this offering, we anticipate that our common stock will be listed on the Nasdaq. Under the rules of Nasdaq, independent directors must comprise a majority of a listed company's board of directors within one year of the completion of this offering. In addition, the rules of Nasdaq require that, subject to specified exceptions, each member of a listed company's audit and compensation committees be independent. Audit committee members and compensation committee members must also satisfy the independence criteria set forth in Rule 10A-3 and Rule 10C-1, respectively, under the Securities Exchange Act of 1934, as amended (the Exchange Act). Under the rules of Nasdaq, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

To be considered to be independent for purposes of Rule 10A-3 and under the rules of Nasdaq, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee: (1) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or (2) be an affiliated person of the listed company or any of its subsidiaries.

To be considered independent for purposes of Rule 10C-1 and under the rules of Nasdaq, the board of directors must affirmatively determine that each member of the compensation committee is independent, including a consideration of all factors specifically relevant to determining whether the director has a relationship to the company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including: (1) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by the company to such director and (2) whether such director is affiliated with the company, a subsidiary of the company or an affiliate of a subsidiary of the company.

Our board of directors undertook a review of its composition, the composition of its committees and the independence of our directors and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that Riccardo Braglia, Saloni Varma, Sarah Kauss, Toru Yoshimura and Toshitaka Inuzuka, representing five of our seven directors, do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of Nasdaq.

In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Role of the Board in Risk Oversight

Our board of directors has an active role, as a whole and at the committee level, in overseeing the management of our risks. Our board of directors is responsible for general oversight of risks and regular review of information regarding our risks, including credit risks, liquidity risks and operational risks. The independent members of our board of directors are responsible for overseeing the management of risks associated with the independence of our board of directors and potential conflicts of interest. The compensation committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. The audit committee is responsible for overseeing the management of risks relating to accounting matters and financial reporting. Although each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through discussions from committee members about such risks.

Board Committees

Prior to the completion of this offering, our board of directors will have an audit committee and a compensation committee, each of which will have the composition and the responsibilities described below.

Audit Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, the members of our audit committee will be Saloni Varma, Riccardo Braglia and Sarah Kauss. Saloni Varma will be the chair of our audit committee and is an audit committee financial expert, as that term is defined under the SEC rules implementing Section 407 of the Sarbanes-Oxley Act of 2002, and possesses financial sophistication, as defined under the rules of Nasdaq. Our audit committee will oversee our corporate accounting and financial reporting process and assist our board of directors in monitoring our financial systems. Our audit committee will also:

- select, retain, compensate, evaluate, oversee, and where appropriate, terminate the independent registered public accounting firm to audit our financial statements;
- help to ensure the independence and performance of the independent registered public accounting firm;
- approve audit and non-audit services and fees;
- review financial statements and discuss with management and the independent registered public accounting firm our annual audited and quarterly financial statements, the results of the independent audit and the quarterly reviews and the reports and certifications regarding internal controls over financial reporting and disclosure controls;
- prepare the audit committee report that the SEC requires to be included in our annual proxy statement;
- review reports and communications from the independent registered public accounting firm;
- review the adequacy and effectiveness of our internal controls and disclosure controls and procedure;
- review our policies on risk assessment and risk management;
- review and monitor conflicts of interest situations, and approve or prohibit any involvement in matters that may involve a conflict of interest or taking of a corporate opportunity;

- review the overall adequacy and effectiveness of our legal, regulatory and ethical compliance programs and reports regarding compliance with applicable laws, regulations and internal compliance programs;
- review related party transactions; and
- establish and oversee procedures for the receipt, retention and treatment of accounting related complaints and the confidential submission by our employees of concerns regarding questionable accounting or auditing matters.

Our audit committee will operate under a written charter, to be effective upon the effectiveness of the registration statement of which this prospectus forms a part, which will satisfy the applicable rules of the SEC and the listing standards of Nasdaq.

Compensation Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, the members of our compensation committee will be Sarah Kauss, Riccardo Braglia, Toru Yoshimura and Toshitaka Inuzuka. Sarah Kauss will be the chair of our compensation committee. Our compensation committee will oversee our compensation policies, plans and benefits programs. The compensation committee will also:

- oversee our overall compensation philosophy and compensation policies, plans and benefit programs;
- review and recommend for approval to the Board of Directors compensation for our executive officers and directors;
- prepare the compensation committee report that the SEC will require to be included in our annual proxy statement; and
- administer our equity compensation plans.

Our compensation committee will operate under a written charter, to be effective upon the effectiveness of the registration statement of which this prospectus forms a part, which will satisfy the applicable rules of the SEC and the listing standards of Nasdaq.

Nominating and Corporate Governance Matters

Our board of directors does not currently have a nominating and corporate governance committee or other committee performing a similar function, nor do we have any formal written policies outlining the factors and process relating to the selection of nominees for consideration for membership on our board of directors by our directors or our stockholders. Our board of directors has adopted resolutions in accordance with the rules of The Nasdaq Stock Market authorizing a majority of our independent members to recommend qualified director nominees for consideration by the board of directors. Our board of directors believes that it is appropriate for us to not have a standing nominating and corporate governance committee because of a number of factors, including the number of independent members who want to participate in consideration of candidates for membership on our board of directors and in matters that relate to the corporate governance of our company. Upon completion of this offering, our board of directors will consist of seven members, five of whom will be independent. Our board of directors considered forming a nominating and corporate governance committee consisting of several of the independent members of our board of directors. Forming a committee consisting of less than all of the independent members was unattractive because it would have omitted the other independent members of our board of directors who wanted to participate in considering qualified candidates for board membership and to

have input on corporate governance matters related to our company. Since our board of directors desired the participation in the nominations process of all of its independent directors, it therefore decided not to form a nominating and corporate governance committee and instead authorized a majority of the independent members of our board of directors to make and consider nominations for membership to our board of directors. The independent members of our board of directors do not have a nominating and corporate governance committee charter, but act pursuant to board of director resolutions as described above. Each of the members of our board of directors authorized to recommend director nominees is independent within the meaning of the current "independent director" standards established by The Nasdaq Stock Market rules. Our board of directors intends to review this matter periodically, and may in the future elect to designate a formal nominating and corporate governance committee.

Outside Director Compensation Policy

Prior to this offering, we expect our board of directors to adopt and our stockholders approve a new compensation policy for our non-employee directors that will be effective as of the date of the effectiveness of the registration statement of which this prospectus forms a part. This policy will be developed with input from our independent compensation consultant, Compensia, regarding practices and compensation levels at comparable companies. It is designed to attract, retain, and reward non-employee directors.

Cash Compensation

Following the completion of this offering, non-employee directors will be entitled to receive the following cash compensation for their services under the outside director compensation policy:

- $40,000 per year for service as a board member;
- $35,000 per year for service as non-employee chair of the board;
- $20,000 per year for service as chair of the audit committee;
- $10,000 per year for service as a member of the audit committee;
- $15,000 per year for service as chair of the compensation committee; and
- $7,500 per year for service as a member of the compensation committee.

Each non-employee director who serves as the chair of a committee will receive only the additional annual cash fee as the chair of the committee, and not the annual fee as a member of the committee, provided that each non-employee director who serves as the non-employee chair or the lead independent director will receive the annual fee for service as a board member and an additional annual fee as the non-employee chair or lead independent director. All cash payments to non-employee directors are paid quarterly in arrears on a pro-rated basis.

Equity Compensation

Annual Award: Each non-employee director automatically will receive, on the date of each annual meeting of our stockholders following the effective date of the policy, an annual award of restricted stock units (Annual Award), covering a number of shares of our common stock having a grant date fair value (determined in accordance with GAAP) of $180,000; provided that the first annual award granted to an individual who first becomes a non-employee director following the effective date of the policy will have a grant date fair value equal to the product of (A) $180,000 multiplied by (B) a fraction, (i) the numerator of which is equal to the number of fully completed days between the non-employee director's initial start date and the date of the first annual

meeting of our stockholders to occur after such individual first becomes a non-employee director, and (ii) the denominator of which is 365; and provided further that any resulting fraction will be rounded down to the nearest whole share. Each Annual Award will vest in its entirety on the earlier of (x) the 1-year anniversary of the Annual Award's grant date, or (y) the day immediately before the date of the next annual meeting of our stockholders that follows the grant date of the Annual Award, subject to the non-employee director's continued service through the applicable vesting date.

In the event of a "change in control" (as defined in our 2021 Plan), each non-employee director will fully vest in their outstanding company equity awards issued under the director compensation policy, including any Annual Award, immediately prior to the consummation of the change in control provided that the non-employee director continues to be a non-employee director through such date.

Potential Payments Upon Termination or Change in Control

We plan to enter into a change in control and severance agreements with each of Mr. Jacobson, Mr. McCamy, and Mr. McKenna. Each change in control and severance agreement was approved by our board of directors on July 29, 2021.

Pursuant to each applicable named executive officer's severance agreement, if, within the period (the change in control period) beginning on the date a letter of intent or similar agreement is made between us and an acquiror, provided such date occurs no earlier than 3 months prior to a "change in control" (as defined in the applicable agreement), and ending 12 months following a change in control, we terminate the employment of the named executive officer without "cause" (excluding death or disability) or the executive resigns for "good reason" (as such terms are defined in the applicable agreement), and within 60 days following such termination, the named executive officer executes a waiver and release of claims in our favor that becomes effective and irrevocable, the named executive officer will be entitled to receive (i) a lump sum payment equal to the sum of (A) 12 months of the named executive officer's then current annual base salary in the case of Mr. McCamy and Mr. McKenna, and 18 months in the case of Mr. Jacobson and (B) 100% of the named executive officer's annual target bonus as in effect in the year of the applicable termination in the case of Mr. McCamy and Mr. McKenna, and 150% in the case of Mr. Jacobson, (ii) reimbursement of premiums to maintain group health insurance continuation benefits pursuant to "COBRA" for the named executive officer and the officer's respective eligible dependents for up to 12 months in the case of Mr. McCamy and Mr. McKenna and 18 months in the case of Mr. Jacobson, and (iii) vesting acceleration as to 100% of the then-unvested shares subject to each of the named executive officer's then outstanding equity awards (and in the case of awards with performance vesting, unless the applicable award agreement governing such award provides otherwise, all performance goals and other vesting criteria will be deemed achieved at target levels of achievement).

Pursuant to each applicable named executive officer's severance agreement, if, outside of the change in control period, we terminate the employment of the named executive officer without cause (excluding death or disability) or the executive resigns for good reason, and within 60 days following such termination, the named executive officer executes a waiver and release of claims in our favor that becomes effective and irrevocable, the named executive officer will be entitled to receive (i) a lump sum payment equal to the sum of nine months of the named executive officer's then current annual base salary in the case of Mr. McCamy and Mr. McKenna, and 12 months in the case of Mr. Jacobson, and (ii) reimbursement of premiums to maintain group health insurance continuation benefits pursuant to "COBRA" for the named executive officer and the officer's respective eligible dependents for up to nine months in the case of Mr. McCamy and Mr. McKenna and 12 months in the case of Mr. Jacobson.

Pursuant to each applicable named executive officer's severance agreement, in the event any payment to an executive would be subject to the excise tax imposed by Section 4999 of the Internal Revenue Code, as amended, or the Code (as a result of a payment being classified as a parachute payment under Section 280G of the Code), the executive will receive such payment as would entitle the executive to receive the greatest after-tax benefit, even if it means that we pay the executive a lower aggregate payment so as to minimize or eliminate the potential excise tax imposed by Section 4999 of the Code.

Compensation Committee Interlocks and Inside Participation

None of the members of our board of directors who will serve on our compensation committee upon the effectiveness of the registration statement of which this prospectus forms a part is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee (or other board committee performing equivalent functions or, in the absence of any such committee, the entire board of directors) of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Business Conduct and Ethics

Prior to the effectiveness of the registration statement of which this prospectus forms a part, we intend to adopt a written code of business conduct and ethics that will apply to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions. Following this offering, the code of business conduct and ethics will be available on our website at www.thorne.com. We intend to disclose future amendments to such code, or any waivers of its requirements, applicable to any principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions or our directors on our website identified above or in a current report on Form 8-K. Information contained on the website is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus. The inclusion of our website address in this prospectus is an inactive textual reference only.

EXECUTIVE COMPENSATION

Our named executive officers for 2020, which consist of our principal executive officer and our next two most highly compensated executive officer during 2020, are:

- Paul F. Jacobson, our Chief Executive Officer;
- William C. McCamy, our President; and
- Thomas P. McKenna, our Chief Operating Officer.

Summary Compensation Table

The following table sets forth information regarding the compensation of our named executive officers for the year ended December 31, 2020.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
Paul F. Jacobson *Chief Executive Officer*	2020	530,000	228,750	—	—	—	758,750
William C. McCamy *President*	2020	350,000	140,250	—	—	—	490,250
Thomas P. McKenna *Chief Operating Officer*	2020	430,000	237,000	—	—	17,200(1)	684,200

(1) Mr. McKenna participates in the Company's 401k plan and our company provided a matching payment of $17,200.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information concerning outstanding equity awards held by each of our named executive officers as of December 31, 2020:

		Option awards					
Name	Grant Date(1)	Number of securities underlying unexercised options exercisable (#)	Number of securities underlying unexercised options unexercisable (#)	Option exercise price ($)(2)	Option expiration date	Number of shares of stock that have not vested (#)	Market value of shares of stock that have not vested ($)
Paul F. Jacobson	February 12, 2015	258,100	—	1.35	February 12, 2025	—	—
	February 12, 2015	244,750	—	4.49	February 12, 2025	—	—
	February 12, 2015	244,750	—	6.74	February 12, 2025	—	—
	October 10, 2018	639,910	639,910(3)	5.12	October 10, 2028	639,910	3,278,640
	October 1, 2015	36,045	—	14.46	October 25, 2025	—	—
William C. McCamy	February 13, 2014	244,750	—	1.16	February 13, 2024	—	—
	February 12, 2015	78,230	—	1.35	February 12, 2025	—	—
	February 12, 2015	155,750	—	4.49	February 12, 2025	—	—
	February 12, 2015	164,650	—	6.74	February 12, 2025	—	—
	October 10, 2018	239,855	239,855(3)	5.12	October 10, 2028	239,855	1,227,796
Thomas P. McKenna	February 12, 2015	89,000	—	1.35	February 12, 2025	—	—
	February 12, 2015	186,900	—	6.74	February 12, 2025	—	—
	February 12, 2015	178,000	—	4.49	February 12, 2025	—	—
	October 10, 2018	319,955	319,955(3)	5.12	October 10, 2028	319,955	1,639,342

(1) Each of the outstanding equity awards was granted pursuant to our 2010 Plan, except for the grant to Paul F. Jacobson on October 1, 2015, which was granted under the Onegevity Plan.
(2) This column represents the fair market value of a share of our common stock on the date of grant, as determined by our board of directors.
(3) Twenty-Five percent (25%) of the shares subject to the award vest on each annual anniversary of October 10, 2018 subject to continued service to the Company.

Employment Arrangements With Our Named Executive Officers

Prior to the effectiveness of this offering, we expect to enter into new confirmatory offer letters with each of our named executive officers.

Paul Jacobson

Mr. Jacobson's current annual base salary is $530,000 and he is eligible for an annual employee bonus in an amount subject to approval by our board of directors.

William McCamy

Mr. McCamy's current annual base salary is $350,000 and he is eligible for an annual employee bonus in an amount subject to approval by our board of directors.

Thomas P. McKenna

Mr. McKenna's current annual base salary is $430,000 and he is eligible for an annual employee bonus in an amount subject to approval by our board of directors.

Potential Payments Upon Termination or Change in Control

Prior to the effectiveness of this offering, we expect to enter into new change in control and severance agreements with each of our named executive officers.

Employee Benefit And Stock Plans

2021 Equity Incentive Plan

Prior to the effectiveness of this offering, we expect that our board of directors will adopt, and our stockholders will approve, our 2021 Equity Incentive Plan (2021 Plan). We expect that our 2021 Plan will become effective on the business day immediately prior to the effective date of the registration statement of which this prospectus forms a part. Our 2021 Plan will provide for the grant of incentive stock options, within the meaning of Section 422 of the Code, to our employees and any parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock, restricted stock units (RSUs), and performance awards to our employees, directors, and consultants and our parent and subsidiary corporations' employees and consultants. Our 2010 Plan and our Onegevity Plan will terminate immediately prior to effectiveness of the 2021 Plan with respect to the grant of future awards.

Authorized shares. Subject to the adjustment provisions of and the automatic increase described in our 2021 Plan, a total of 3,480,510 shares of our common stock will be reserved for issuance pursuant to our 2021 Plan. In addition, subject to the adjustment provisions of our 2021 Plan, the shares reserved for issuance under our 2021 Plan will also include any shares subject to awards granted under our 2010 Plan or our Onegevity Plan that, on or after the effective date of the registration statement of which this prospectus forms a part, expire or otherwise terminate without having been exercised or issued in full, are tendered to or withheld by us for

payment of an exercise price or for satisfying tax withholding obligations, or are forfeited to or repurchased by us due to failure to vest (provided that the maximum number of shares that may be added to our 2021 Plan pursuant to outstanding awards under the 2010 Plan or Onegevity Plan is 10,615,030 shares). Subject to the adjustment provisions of our 2021 Plan, the number of shares available for issuance under our 2021 Plan will also include an annual increase on the first day of each fiscal year beginning with the 2022 fiscal year and ending on the ten year anniversary of the date our board of directors approved the 2021 Plan, in an amount equal to the least of:

- 8,701,275 shares;
- five percent (5%) of the outstanding shares of our common stock as of the last day of the immediately preceding fiscal year; or
- such other amount as our board of directors may determine.

If a stock option or stock appreciation right granted under the 2021 Plan expires or becomes unexercisable without having been exercised in full or is surrendered pursuant to an exchange program or, with respect to restricted stock, RSUs or stock settled performance awards, is forfeited to, or repurchased by, us due to failure to vest, then the unpurchased shares (or for awards other than stock options or stock appreciation rights, the forfeited or repurchased shares) which were subject thereto will become available for future grant or sale under the 2021 Plan (unless the 2021 Plan has terminated). With respect to stock appreciation rights, only the net shares actually issued will cease to be available under the 2021 Plan and all remaining shares under stock appreciation rights will remain available for future grant or sale under the 2021 Plan (unless the 2021 Plan has terminated). Shares that have actually been issued under the 2021 Plan under any award will not be returned to the 2021 Plan; provided, however, that if shares issued pursuant to awards of restricted stock, RSUs or performance awards are repurchased or forfeited to us due to failure to vest, such shares will become available for future grant under the 2021 Plan. Shares used to pay the exercise price of an award or to satisfy the tax withholding obligations related to an award will become available for future grant or sale under the 2021 Plan. To the extent an award is paid out in cash rather than shares, the cash payment will not result in a reduction in the number of shares available for issuance under the 2021 Plan.

Plan administration. We expect that our compensation committee will administer our 2021 Plan and may further delegate authority to one or more subcommittees or officers to the extent such delegation complies with applicable laws. Subject to the provisions of our 2021 Plan, the administrator will have the power to administer our 2021 Plan and make all determinations deemed necessary or advisable for administering our 2021 Plan, including but not limited to: the power to determine the fair market value of our common stock; select the service providers to whom awards may be granted; determine the number of shares covered by each award; approve forms of award agreements for use under our 2021 Plan; determine the terms and conditions of awards (including, but not limited to, the exercise price, the times or times at which the awards may be exercised, any vesting acceleration or waiver or forfeiture restrictions, and any restriction or limitation regarding any award or the shares relating thereto); construe and interpret the terms of our 2021 Plan and awards granted under it, including but not limited to determining whether and when a change in control has occurred; establish, amend, and rescind rules and regulations relating to our 2021 Plan, and adopt sub-plans relating to the 2021 Plan; interpret, modify or amend each award, including but not limited to the discretionary authority to extend the post-termination exercisability period of awards; allow participants to satisfy tax withholding obligations in any manner permitted by the 2021 Plan; delegate ministerial duties to any of our employees; authorize any person to take any steps and execute, on our behalf, any documents required for an award previously granted by the administrator to be effective; temporarily suspend the exercisability of an award if the administrator deems such suspension to be necessary or appropriate for administrative purposes, provided that, unless prohibited by applicable laws, such suspension shall be lifted in all cases not less than ten trading days before the last date that the award may be exercised; allow a participant to defer the receipt of payment of cash or the delivery of shares that would otherwise be due to such participant under an award; and make any determinations necessary or appropriate under the adjustment provisions of the 2021 Plan. The administrator also has the authority to allow participants the opportunity to transfer outstanding awards to a financial institution or other person or entity selected by the administrator and to institute an exchange program by which outstanding awards may be

surrendered or canceled in exchange for awards of the same type which may have a higher or lower exercise price and/or different terms, awards of a different type and/or cash, or by which the exercise price of an outstanding award is increased or reduced. The administrator's decisions, interpretations, and other actions will be final and binding on all participants to the full extent permitted by law.

Stock options. Our 2021 Plan permits the grant of options. The exercise price of options granted under our 2021 Plan must be at least equal to the fair market value of our common stock on the date of grant, except that options may be granted with a lower exercise price to a service provider who is not a U.S. taxpayer, or pursuant to certain transactions. The term of an option is determined by the administrator, provided that the term of an incentive stock option may not exceed ten years. With respect to any participant who owns more than 10% of the voting power of all classes of our outstanding stock, the term of an incentive stock option granted to such participant must not exceed five years and the exercise price must equal at least 110% of the fair market value on the grant date. The administrator determines the methods of payment of the exercise price of an option, which may include cash, check or wire transfer, cashless exercise, net exercise, promissory note, shares, or other consideration or method of payment acceptable to the administrator, to the extent permitted by applicable law. After the termination of service of an employee, director, or consultant, he or she may exercise his or her option for the period of time stated in his or her option agreement. In the absence of a specified time in an award agreement, if termination is due to death or disability, the option will remain exercisable for six months. In all other cases, in the absence of a specified time in an award, the option will remain exercisable for thirty days. These exercise periods may be tolled in certain circumstances, for example if exercise prior to the end of the applicable period is not permitted because of applicable laws. However, in no event may an option be exercised later than the expiration of its term.

Stock appreciation rights. Our 2021 Plan permits the grant of stock appreciation rights. Stock appreciation rights allow the recipient to receive the appreciation in the fair market value of our common stock between the exercise date and the date of grant. The term of stock appreciation rights is determined by the administrator. After the termination of service of an employee, director, or consultant, he or she may exercise his or her stock appreciation right for the period of time stated in his or her stock appreciation rights agreement. In the absence of a specified time in an award agreement, if termination is due to death or disability, the stock appreciation rights will remain exercisable for six months. In all other cases, in the absence of a specified time in an award agreement, the stock appreciation rights will remain exercisable for thirty days following the termination of service. These exercise periods may be tolled in certain circumstances, for example if exercise prior to the end of the applicable period is not permitted because of applicable laws. However, in no event may a stock appreciation right be exercised later than the expiration of its term. Subject to the provisions of our 2021 Plan, the administrator determines the other terms of stock appreciation rights, including when such rights become exercisable and whether to pay any increased appreciation in cash or with shares of our common stock, or a combination thereof, except that the per share exercise price for the shares to be issued pursuant to the exercise of a stock appreciation right must be no less than 100% of the fair market value per share on the date of grant.

Restricted stock. Our 2021 Plan permits the grant of restricted stock. Restricted stock awards are grants of shares of our common stock that vest in accordance with terms and conditions established by the administrator. The administrator determines the number of shares of restricted stock granted to any employee, director, or consultant and, subject to the provisions of our 2021 Plan, determines the terms and conditions of such awards. The administrator has the authority to impose whatever conditions to vesting it determines to be appropriate (for example, the administrator will be able to set restrictions based on the achievement of specific performance goals or continued service to us); provided, however, that the administrator, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock awards generally have voting and dividend rights with respect to such shares upon grant without regard to vesting, unless the administrator provides otherwise. Shares of restricted stock that do not vest will be subject to our right of repurchase or forfeiture.

Restricted stock units. Our 2021 Plan permits the grant of restricted stock units. The administrator determines the terms and conditions of restricted stock units, including the vesting criteria and the form and timing of payment. The administrator may set vesting criteria based upon the achievement of company-wide, divisional, business unit or individual goals (such as continued employment or service), or any other basis determined by the administrator in its discretion. The administrator, in its sole discretion, may settle earned restricted stock units in the form of cash, shares, or some combination of both. The administrator, in its sole discretion, may reduce or waive the criteria that must be met for vesting, of the restricted stock units to earn the restricted stock units.

Performance Awards. Our 2021 Plan permits the grant of performance awards. Performance awards are awards that will result in a payment to a participant only if performance goals established by the administrator are achieved or the awards otherwise vest. The administrator may establish performance objectives or other vesting criteria in its discretion, which, depending on the extent to which they are met, will determine the number and/or the value of performance awards to be paid out to participants. The administrator has the authority to set performance objectives based on the achievement of company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), or any other basis determined by the administrator in its discretion. Each performance award's threshold, target, and maximum payout values are established by the administrator on or before the grant date. After the grant of a performance award, the administrator, in its sole discretion, may reduce or waive any performance criteria or other vesting provisions for such performance award. The administrator, in its sole discretion, may pay earned performance awards in the form of cash, in shares, or in some combination thereof.

Non-Employee Directors. Our 2021 Plan provides that all outside (non-employee) directors will be eligible to receive all types of awards (except for incentive stock options) under our 2021 Plan. In order to provide a maximum limit on the awards that can be made to our non-employee directors, our 2021 Plan provides that in any given fiscal year, a non-employee director will not be issued or granted cash retainer fees or awards with an aggregate value greater than $1,000,000 in connection with his or her initially joining our board of directors (in each case, excluding awards granted to him or her as a consultant or employee). The maximum limits do not reflect the intended size of any potential grants or a commitment to make grants to our outside directors under our 2021 Plan in the future.

Non-transferability of awards. Unless the administrator provides otherwise, our 2021 Plan generally does not allow for the transfer of awards and only the recipient of an award may exercise an award during his or her lifetime. If the administrator makes an award transferrable, such award will contain such additional terms and conditions as the administrator deems appropriate.

Certain adjustments. If any extraordinary dividend or other extraordinary distribution (whether in cash, shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, reclassification, repurchase, or exchange of shares of our common stock or other of our securities, other change in our corporate structure affecting the shares, or any similar equity restructuring transaction affecting our shares occurs (including a change in control), the administrator, to prevent diminution or enlargement of the benefits or potential benefits intended to be provided under the 2021 Plan, will adjust the number and class of shares that may be delivered under the 2021 Plan and/or the number, class, and price of shares covered by each outstanding award, and the numerical share limits set forth in our 2021 Plan. The conversion of any of our convertible securities and ordinary course repurchases of our shares or other securities will not be treated as an event that will require adjustment under the 2021 Plan.

Dissolution or liquidation. In the event of our proposed liquidation or dissolution, the administrator will notify participants as soon as practicable and, to the extent not exercised, all awards will terminate immediately prior to the consummation of such proposed transaction.

Merger or change in control. Our 2021 Plan provides that in the event of a merger or change in control, as defined under our 2021 Plan, each outstanding award will be treated as the administrator determines, without a

requirement to obtain a participant's consent, including, without limitation, that such award will be continued by the successor corporation or a parent or subsidiary of the successor corporation. An award generally will be considered continued if, following the transaction, (i) the award gives the right to purchase or receive the consideration received in the transaction by holders of our shares or (ii) the award is terminated in exchange for an amount of cash and/or property, if any, equal to the amount that would have been received upon the exercise or realization of the award at the closing of the transaction, which payment may be subject to any escrow applicable to holders of our common stock in connection with the transaction or subjected to the award's original vesting schedule. The administrator will not be required to treat all awards or portions thereof the vested and unvested portions of an award, or all participants similarly.

In the event that a successor corporation or its parent or subsidiary does not continue an outstanding award, then such award will fully vest, all restrictions on such award will lapse, all performance goals or other vesting criteria applicable to such award will be deemed achieved at 100% of target levels, and such award will become fully exercisable, if applicable, for a specified period prior to the transaction, unless specifically provided for otherwise under the applicable award agreement or other written agreement with the participant. The award will then terminate upon the expiration of the specified period of time. If an option or stock appreciation right is not continued, the administrator will notify the participant in writing or electronically that such option or stock appreciation right will be exercisable for a period of time determined by the administrator in its sole discretion and the option or stock appreciation right will terminate upon the expiration of such period.

With respect to awards granted to an outside director, in the event of a change in control, all of his or her options and stock appreciation rights, if any, will vest fully and become immediately exercisable, all restrictions on his or her restricted stock and RSUs will lapse, and all performance goals or other vesting requirements for his or her performance awards will be deemed achieved at 100% of target levels, and all other terms and conditions met.

Clawback. Awards will be subject to any clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our stock is listed or as otherwise required by applicable laws, and the administrator will also be able to specify in an award agreement that the participant's rights, payments, and/or benefits with respect to an award will be subject to reduction, cancellation, forfeiture, and/or recoupment upon the occurrence of certain specified events.

Amendment; termination. The administrator will have the authority to amend, alter, suspend, or terminate our 2021 Plan, provided we will obtain stockholder approval of any amendment to the extent necessary or desirable to comply with applicable laws. However, no amendment, alteration, suspension or termination of our 2021 Plan or an Award under it may, taken as a whole, materially impair the existing rights of any participant without the participant's consent. Our 2021 Plan will continue in effect until it is terminated, provided that incentive stock options may not be granted after the ten year anniversary of the date our board of directors approved the 2021 Plan, and the automatic annual share increase will end on the ten year anniversary of the date our board of directors approved the 2021 Plan.

2021 Employee Stock Purchase Plan

Prior to the effectiveness of this offering, we expect that our board of directors will adopt, and our stockholders will approve, our ESPP. Our ESPP will be effective on the business day immediately prior to the effective date of the registration statement of which this prospectus forms a part. We believe that allowing our employees to participate in our ESPP will provide them with a further incentive towards promoting our success and accomplishing our corporate goals.

Authorized shares. A total of 696,102 shares of our common stock will be available for sale under our ESPP. The number of shares of our common stock that will be available for sale under our ESPP also includes an

annual increase on the first day of each fiscal year following the fiscal year in which the first offering period under the ESPP commences, equal to the least of:

- 1,392,204 shares;
- one percent (1%) of the outstanding shares of our common stock as of the last day of the immediately preceding fiscal year; or
- such other amount as the administrator may determine.

ESPP administration. We expect that the compensation committee of our board of directors will administer our ESPP and will have full and exclusive discretionary authority to construe, interpret, and apply the terms of the ESPP, delegate ministerial duties to any of our employees, designate separate offerings under the ESPP, designate our subsidiaries and affiliates as participating in the ESPP, determine eligibility, adjudicate all disputed claims filed under the ESPP, and establish procedures that it deems necessary for the administration of the ESPP, including, but not limited to, adopting such procedures and sub-plans as are necessary or appropriate to permit participation in the ESPP by employees who are foreign nationals or employed outside the United States. The administrator's findings, decisions and determinations are final and binding on all participants to the full extent permitted by law.

Eligibility. Generally, all of our employees will be eligible to participate if they are customarily employed by us, or any participating subsidiary or affiliate, for at least 20 hours per week and more than five months in any calendar year. The administrator, in its discretion, may, prior to an enrollment date, for all options to be granted on such enrollment date in an offering, determine that an employee who (1) has not completed at least two years of service (or a lesser period of time determined by the administrator) since his or her last hire date, (2) customarily works not more than 20 hours per week (or a lesser period of time determined by the administrator), (3) customarily works not more than five months per calendar year (or a lesser period of time determined by the administrator), (4) is a highly compensated employee within the meaning of Section 414(q) of the Code, or (5) is a highly compensated employee within the meaning of Section 414(q) of the Code with compensation above a certain level or is an officer or subject to disclosure requirements under Section 16(a) of the Exchange Act, is or is not eligible to participate in such offering period.

However, an employee may not be granted rights to purchase shares of our common stock under our ESPP if such employee:

- immediately after the grant would own capital stock and/or hold outstanding options to purchase such stock possessing 5% or more of the total combined voting power or value of all classes of capital stock of ours or of any parent or subsidiary of ours; or
- holds rights to purchase shares of our common stock under all employee stock purchase plans of ours or any parent or subsidiary of ours that accrue at a rate that exceeds $25,000 worth of shares of our common stock for each calendar year in which such rights are outstanding at any time.

Offering periods. Our ESPP will include a component that allows us to make offerings intended to qualify under Section 423 of the Code and a component that allows us to make offerings not intended to qualify under Section 423 of the Code to designated companies, as described in our ESPP. Our 2021 ESPP will provide for offering periods as may be determined by the administrator in its discretion, in each case on a uniform and nondiscriminatory basis.

Contributions. Our ESPP will permit participants to purchase shares of our common stock through contributions (in the form of payroll deductions or otherwise to the extent permitted by the administrator) in an amount that the administrator may establish from time to time, in its discretion and on a uniform and nondiscriminatory basis. Unless otherwise determined by the administrator, a participant may not change the rate of his or her contributions during an offering period.

Exercise of purchase right. Amounts contributed and accumulated by the participant will be used to purchase shares of our common stock at the end of each offering. A participant may purchase a maximum of shares of our common stock during an offering period. The purchase price of the shares will be 85% of the lower of the fair market value of our common stock on the first trading day of the offering period or on the exercise date. Participants may end their participation at any time during an offering period and will be paid their accrued contributions that have not yet been used to purchase shares of our common stock. Participation ends automatically upon termination of employment with us.

Non-transferability. A participant may not transfer contributions credited to his or her account nor any rights granted under our ESPP other than by will, the laws of descent and distribution or as otherwise provided under our ESPP.

Merger or change in control. Our ESPP will provide that in the event of a merger or change in control, as defined under our ESPP, a successor corporation (or a parent or subsidiary of the successor corporation) will assume or substitute each outstanding purchase right. If the successor corporation refuses to assume or substitute for the outstanding purchase right, the offering period with respect to which the purchase right relates will be shortened, and a new exercise date will be set that will be before the date of the proposed merger or change in control. The administrator will notify each participant that the exercise date has been changed and that the participant's option will be exercised automatically on the new exercise date unless prior to such date the participant has withdrawn from the offering period.

Amendment; termination. The administrator will have the authority to amend, suspend or terminate our ESPP. Our ESPP automatically will terminate in 2041, unless we terminate it sooner.

2010 Equity Incentive Plan, as Amended

Our 2010 Plan was originally adopted by our board of directors and approved by our stockholders in June 2010. Our 2010 Plan was most recently amended in 2021. Our 2010 Plan allows us to provide incentive stock options, within the meaning of Section 422 of the Code, to our employees and any of our parent and subsidiary corporations' employees, and nonstatutory stock options, restricted stock awards, and restricted stock units (each, together with incentive stock options, an "award" and the recipient of such award, a "participant") to eligible employees, directors and consultants, including employees and consultants of any of our affiliate companies. It is expected that as of one business day prior to the effectiveness of the registration statement of which this prospectus forms a part, our 2010 Plan will terminate, and we will not grant any additional awards under our 2010 Plan thereafter. However, our 2010 Plan will continue to govern the terms and conditions of the outstanding awards previously granted under our 2010 Plan.

As of September 22, 2021, stock options covering 7,779,935 shares of our common stock were outstanding under our 2010 Plan and 875,760 restricted stock units were outstanding under our 2010 Plan.

Plan administration. Our 2010 Plan is administered by our board of directors or a committee appointed by our board of directors. The administrator has all authority and discretion necessary or appropriate to administer our 2010 Plan and to control its operation, including the authority to construe and interpret the terms of our 2010 Plan and the awards granted under our 2010 Plan. The administrator's decisions are final and binding on all participants and any other persons holding awards.

The administrator's powers include the power to (i) make or select the manner of making all determinations with respect to each award to be granted under the 2010 Plan including the employee, consultant or director to receive the award and the form of award, (ii) institute and determine the terms and conditions of an exchange program, (iii) prescribe, amend and rescind rules and regulations relating to the 2010 Plan, (iv) determine the terms and provisions of the respective award agreements (which need not be identical), and (v) make all other determinations necessary or advisable for the administration of the 2010 Plan.

Eligibility. Employees, directors and consultants, including employees and consultants of any of our affiliate companies, are eligible to receive awards. Only our employees or employees of our parent or subsidiary companies are eligible to receive incentive stock options.

Stock options. Stock options have been granted under our 2010 Plan. Subject to the provisions of our 2010 Plan, the administrator determines the term of an option, the number of shares subject to an option, and the time period in which an option may be exercised.

The term of an option is stated in the applicable award agreement, but the term of an option may not exceed 10 years from the grant date. The administrator determines the exercise price of options, which generally may not be less than 100% of the fair market value of our common stock on the grant date, except as provided for in the 2010 Plan. However, an incentive stock option granted to an individual who directly or by attribution owns more than 10% of the total combined voting power of all of our classes of stock or of any our parent or subsidiary companies will have a term of no longer than five years from the grant date and will have an exercise price of at least 110% of the fair market value of our common stock on the grant date. In addition, to the extent that the aggregate fair market value of the shares with respect to which incentive stock options are exercisable for the first time by an employee during any calendar year (under all plans of ours and any of our parent or subsidiary companies) exceeds $100,000, such options will be treated as nonstatutory stock options.

The administrator determines how a participant may pay the exercise price of an option. If a participant's status as an employee or other association with the Company and its affiliates terminates, that participant may exercise the vested portion of his or her option for the period of time stated in the applicable award agreement. Vested options generally will remain exercisable for 90 days or such other period of time as set forth in the applicable award agreement or provided by the administrator if a participant's employment or other association terminates for a reason other than death or disability. If a participant's employment or other association terminates due to death or disability, vested options generally will remain exercisable for 365 days from the date of termination or such other period as provided by the administrator. In no event will an option remain exercisable beyond its original term. If a participant does not exercise his or her option within the time specified in the award agreement, the option will terminate.

Restricted Stock. Prior to the completion of this offering, we may grant restricted stock under our 2010 Plan. Restricted stock awards are grants of shares of our common stock that may be subject to various restrictions, including restrictions on transferability and forfeiture provisions. Subject to the terms of our 2010 Plan, the administrator will determine the number of shares of restricted stock granted and other terms and conditions of such awards. The administrator may impose whatever conditions to vesting it determines to be appropriate, and may, in its sole discretion, accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock will have voting and dividend rights with respect to such shares upon grant without regard to vesting, unless the administrator provides otherwise. Shares of restricted stock that have not vested are subject to our right of repurchase or forfeiture.

Restricted Stock Units. Prior to the completion of this offering, we may grant restricted stock units under our 2010 Plan. Subject to the terms of our 2010 Plan, the administrator will determine the terms and conditions of restricted stock units, including the vesting criteria and the form and timing of payment. The administrator may set vesting criteria based upon the achievement of company-wide, divisional, business unit or individual goals (such as continued employment or service), applicable federal or state securities laws or any other basis determined by the administrator in its discretion. The administrator, in its sole discretion, may settle earned restricted stock units in the form of cash, shares, or some combination of both. The administrator, in its sole discretion, may reduce or waive the criteria that must be met for vesting, of the restricted stock units to receive a payout.

Non-transferability of awards. Unless determined otherwise by the administrator, awards may not be sold, transferred, pledged, assigned or otherwise alienated or hypothecated in any manner other than by will or by the laws of descent and distribution.

Certain adjustments. In the event that any dividend or other distribution (whether in the form of cash, shares of common stock, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of shares of common stock or other securities of the Company, or other change in the corporate structure of the Company affecting the shares of common stock occurs, the administrator, in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the 2010 Plan, will adjust the number and class of shares of stock that may be delivered under the 2010 Plan and/or the number, class, and price of shares of stock covered by each outstanding award.

Dissolution or liquidation. In the event of our proposed dissolution or liquidation, the administrator will notify each participant as soon as practicable prior to the effective date of such proposed transaction. To the extent it has not been previously exercised, an award will terminate immediately prior to the consummation of such proposed action.

Merger and change in control. Subject to any provisions of then outstanding awards granting greater rights to the holders thereof, in the event of an acquisition of the Company, (i) any then outstanding options shall accelerate in full if not assumed by the acquiring entity or replaced by comparable options to purchase shares of the capital stock of the successor or acquiring entity or parent thereof, and to the extent not assumed or replaced on the acquisition shall then terminate to the extent not exercised, (ii) any then outstanding restricted stock shall accelerate in full if the Company's rights to reacquire such shares of restricted stock on occurrence of the applicable risk of forfeiture with respect to those shares are not assigned to the acquiring entity, and (iii) any then outstanding restricted stock units shall accelerate in full if not assumed or replaced by comparable restricted stock units to receive shares of the capital stock of the successor or acquiring entity or parent thereof. As to any one or more outstanding awards which are not otherwise accelerated in full by reason of the acquisition, the administrator may also, either in advance of an acquisition or at the time thereof and upon such terms as it may deem appropriate, provide for the acceleration of such outstanding options, restricted stock and restricted stock units in the event that the employment of the participants should subsequently terminate following the acquisition. Each outstanding option that is assumed in connection with an acquisition, or is otherwise to continue in effect subsequent to the acquisition, will be appropriately adjusted, immediately after the acquisition, as to the number and class of securities and the price at which it may be exercised in accordance with the adjustment provisions of the 2010 Plan. In addition to or in lieu of the foregoing, with respect to outstanding options, in the event of an acquisition the board of directors may provide that one or more options then outstanding shall become immediately exercisable in full and shall be terminated in exchange for a cash payment equal to the excess of the fair market value (as determined by the board of directors in its sole discretion) of the shares subject to such options over the exercise price thereof.

Amendment and termination. Our board of directors may, at anytime, terminate the 2010 Plan or make such modifications of the 2010 Plan as it shall deem advisable. Unless the board of directors otherwise expressly provides, no amendment of the 2010 Plan shall affect the terms of any award outstanding on the date of such amendment. In any case, no termination or amendment of the 2010 Plan may, without the consent of any recipient of an award granted hereunder, adversely affect the rights of the recipient under such award. The administrator may amend the terms of any award theretofore granted prospectively or retroactively, provided that the award as amended is consistent with the terms of the 2010 Plan, but no such amendment shall impair the rights of the recipient of such award without his or her consent.

As noted above, it is expected that as of one business day prior to the effectiveness of the registration statement of which this prospectus forms a part, our 2010 Plan will be terminated, and we will not grant any additional awards under our 2010 Plan thereafter.

Restated 2020 Onegevity Health Equity Plan

In connection with our acquisition of Onegevity Health, LLC in 2021, our board of directors approved the assumption of the Onegevity Health LLC 2020 Unit Plan and outstanding options thereunder to purchase

LLC units of Onegevity. We amended and restated such plan into the Restated 2020 Onegevity Health Equity Plan (the Onegevity Plan), and converted options to purchase LLC units of Onegevity into options to purchase shares of our common stock.

Our Onegevity Plan allows us to provide stock options and restricted stock awards (each an "award" and the recipient of such award, a "participant") to eligible employees, directors and consultants, including employees and consultants of any of our affiliate companies. It is expected that as of one business day prior to the effectiveness of the registration statement of which this prospectus forms a part, our Onegevity Plan will terminate, and we will not grant any additional awards under our Onegevity Plan thereafter. However, our Onegevity Plan will continue to govern the terms and conditions of the outstanding awards previously granted under our Onegevity Plan.

As of September 22, 2021, stock options covering 1,959,335 shares of our common stock were outstanding under our Onegevity Plan and there were no restricted stock awards outstanding under our Onegevity Plan.

Plan administration. Our Onegevity Plan is administered by our board of directors or a committee appointed by our board of directors. The administrator has all authority and discretion necessary or appropriate to administer our Onegevity Plan and to control its operation, including the authority to construe and interpret the terms of our Onegevity Plan and the awards granted under our Onegevity Plan. The administrator's decisions are final and binding on all participants and any other persons holding awards.

The administrator's powers include the power to (i) make or select the manner of making all determinations with respect to each award to be granted under the Onegevity Plan including the employee, consultant or director to receive the award and the form of award, (ii) prescribe, amend and rescind rules and regulations relating to the Onegevity Plan, (iii) determine the terms and provisions of the respective award agreements (which need not be identical), and (iv) make all other determinations necessary or advisable for the administration of the Onegevity Plan.

Eligibility. Employees, directors and consultants, including employees and consultants of any of our affiliate companies, are eligible to receive awards.

Stock options. Stock options have been granted under our Onegevity Plan. Subject to the provisions of our Onegevity Plan, the administrator determines the term of an option, the number of shares subject to an option, and the time period in which an option may be exercised.

The term of an option is stated in the applicable award agreement, but the term of an option may not exceed 10 years from the grant date. The administrator determines the exercise price of options, which generally may not be less than 100% of the fair market value of our common stock on the grant date, except as provided for in the Onegevity Plan.

The administrator determines how a participant may pay the exercise price of an option. If a participant's status as an employee or other association with the Company and its affiliates terminates, that participant may exercise the vested portion of his or her option for the period of time stated in the applicable award agreement. Vested options generally will remain exercisable for three months if a participant's employment or other association terminates for a reason other than death or disability. If a participant's employment or other association terminates due to death or disability, respectively, vested options generally will remain exercisable for 12 or 6 months, respectively, from the date of such termination. If a participant's employment or other association terminates due to cause, vested options generally will immediately terminate. In no event will an option remain exercisable beyond its original term. If a participant does not exercise his or her option within the time specified in the award agreement, the option will terminate.

Restricted Stock. Prior to the completion of this offering, we may grant restricted stock under our Onegevity Plan. Restricted stock awards are grants of shares of our common stock that may be subject to various

restrictions, including restrictions on transferability and forfeiture provisions. Subject to the terms of our Onegevity Plan, the administrator will determine the number of shares of restricted stock granted and other terms and conditions of such awards. The administrator may impose whatever conditions to vesting it determines to be appropriate, and may, in its sole discretion, accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock will have voting and dividend rights with respect to such shares upon grant without regard to vesting, unless the administrator provides otherwise. Shares of restricted stock that have not vested are subject to our right of repurchase or forfeiture.

Non-transferability of awards. Unless determined otherwise by the administrator, awards may not be sold, transferred, pledged, assigned or otherwise alienated or hypothecated in any manner other than by will or by the laws of descent and distribution.

Certain adjustments. Subject to any action required under applicable laws by the holders of our securities, (i) the numbers and class of shares or other securities: (x) available for future awards under the Onegevity Plan and (y) covered by each outstanding award, (ii) the exercise price per share of each outstanding option, and (iii) any repurchase price per share applicable to shares issued pursuant to any award under the Onegevity Plan, shall be automatically proportionately adjusted in the event of a stock split, reverse stock split, stock dividend, combination, consolidation, reclassification of the shares, subdivision of the shares or any other increase or decrease in the number of issued shares effected without receipt of consideration by us; provided, however, that such adjustments shall only be made in respect of shares that are the subject of the splits and other actions. In the event of a declaration of an extraordinary dividend payable in a form other than shares in an amount that has a material effect on the fair market value, a recapitalization (including a recapitalization through a large nonrecurring cash dividend), a rights offering, a reorganization, merger, a spin-off, split-up, change in entity structure or a similar occurrence, the administrator of the Onegevity Plan may make appropriate adjustments in one or more of (1) the numbers and class of shares or other securities: (x) available for future awards under the Onegevity Plan and (y) covered by each outstanding award, (2) the exercise price per share of each outstanding option, and (3) any repurchase price per share applicable to shares issued pursuant to any award under the Onegevity Plan, and any such adjustment by the administrator shall be made in the administrator's sole and absolute discretion and shall be final, binding and conclusive.

Dissolution or liquidation. In the event of our proposed dissolution or liquidation, an award will terminate immediately prior to the consummation of such proposed action unless determined otherwise by the administrator.

Merger and change in control. In the event of a sale of all or substantially all of our assets, or a merger, consolidation or other capital reorganization or business combination transaction of ours with or into another corporation, entity or person and, except as otherwise provided in the applicable award agreement, each outstanding award under the Onegevity Plan, and/or shares acquired pursuant to an award that are unvested as of the consummation of the transaction, shall be subject to the applicable merger or purchase agreement. Such agreement may provide, without limitation, for the assumption or substitution of outstanding awards and/or unvested shares by the surviving entity or its parent, for the replacement of outstanding awards and/or, subject to compliance with applicable laws, unvested shares with a cash incentive program of the surviving entity which preserves the value of such awards and/or shares and provides for subsequent payout in accordance with the same vesting provisions applicable to those awards and/or shares, for accelerated vesting of outstanding awards and/or unvested shares, for the cancellation of outstanding awards or for the repurchase of unvested shares at the original purchase price paid for the unvested shares, with or without consideration and, in all cases, without the consent of the participant. In the event that the successor or a parent or subsidiary of such successor does not agree to assume any outstanding option, each such option shall terminate upon the consummation of the corporate transaction.

Amendment and termination. Our board of directors may, at any time, amend or terminate the Onegevity Plan, but no amendment or termination may adversely affect the rights of a participant under any outstanding award without such participant's consent.

As noted above, it is expected that as of one business day prior to the effectiveness of the registration statement of which this prospectus forms a part, our Onegevity Plan will be terminated, and we will not grant any additional awards under our Onegevity Plan thereafter.

Employee Incentive Compensation Plan

We expect our board of directors to approve our Employee Incentive Compensation Plan (Incentive Compensation Plan), which will become effective on the date it is approved.

Our board of directors or a committee appointed by our board of directors will administer the Incentive Compensation Plan, provided that unless and until our board of directors determines otherwise, our compensation committee will administer the Incentive Compensation Plan. The Incentive Compensation Plan allows the administrator to provide awards to employees selected for participation, who may include our named executive officers, which awards may be based upon performance goals established by the administrator. The administrator, in its sole discretion, may establish a target award for each participant under the Incentive Compensation Plan, which may be expressed as a percentage of the participant's average annual base salary for the applicable performance period, a fixed dollar amount, or such other amount or based on such other formula as the administrator determines to be appropriate.

Under the Incentive Compensation Plan, the administrator determines the performance goals, if any, applicable to any target award (or portion thereof) for a performance period, which may include, without limitation, goals related to: attainment of research and development milestones; sales bookings; business divestitures and acquisitions; capital raising; cash flow; cash position; contract awards or backlog; corporate transactions; customer renewals; customer retention rates from an acquired company, subsidiary, business unit or division; earnings (which may include any calculation of earnings, including but not limited to earnings before interest and taxes, earnings before taxes, earnings before interest, taxes, depreciation and amortization and net taxes); earnings per share; expenses; financial milestones; gross margin; growth in stockholder value relative to the moving average of the S&P 500 Index or another index; internal rate of return; leadership development or succession planning; license or research collaboration arrangements; market share; net income; net profit; net sales; new product or business development; new product invention or innovation; number of customers; operating cash flow; operating expenses; operating income; operating margin; overhead or other expense reduction; patents; procurement; product defect measures; product release timelines; productivity; profit; regulatory milestones or regulatory-related goals; retained earnings; return on assets; return on capital; return on equity; return on investment; return on sales; revenue; revenue growth; sales results; sales growth; savings; stock price; time to market; total stockholder return; working capital; unadjusted or adjusted actual contract value; unadjusted or adjusted total contract value; loans and loan originations; and individual objectives such as peer reviews or other subjective or objective criteria. As determined by the administrator, the performance goals may be based on GAAP or non GAAP results and any actual results may be adjusted by the administrator for one-time items or unbudgeted or unexpected items and/or payments of awards under the Incentive Compensation Plan when determining whether the performance goals have been met. The performance goals may be based on any factors the administrator determines relevant, including without limitation on an individual, divisional, portfolio, project, business unit, segment or company-wide basis. Any criteria used may be measured on such basis as the administrator determines, including without limitation: (a) in absolute terms, (b) in combination with another performance goal or goals (for example, but not by way of limitation, as a ratio or matrix), (c) in relative terms (including, but not limited to, results for other periods, passage of time and/or against another company or companies or an index or indices), (d) on a per-share basis, (e) against our performance as a whole or a segment and/or (f) on a pre-tax or after-tax basis. The performance goals may differ from participant to participant and from award to award. Failure to meet the applicable performance goals will result in a failure to earn the target award, subject to the administrator's discretion to modify an award. The administrator also may determine that a target award (or portion thereof) will not have a performance goal associated with it but instead will be granted, if at all, as determined by the administrator.

The administrator may, in its sole discretion and at any time, increase, reduce or eliminate a participant's actual award, and/or increase, reduce or eliminate the amount allocated to the bonus pool for a particular performance period. The actual award may be below, at or above a participant's target award, in the administrator's discretion. The administrator may determine the amount of any increase, reduction, or elimination based on such factors as it deems relevant, and it is not required to establish any allocation or weighting with respect to the factors it considers.

Actual awards under the Incentive Compensation Plan generally will be paid in cash (or its equivalent) in a single lump sum only after they are earned and approved by the administrator, provided that the administrator reserves the right, in its sole discretion, to settle an actual award with a grant of an equity award with such terms and conditions, including vesting requirements, as determined by the administrator in its sole discretion. Unless otherwise determined by administrator, to earn an actual award, a participant must be employed by us (or an affiliate of us, as applicable) through the date the bonus is paid. Payment of bonuses occurs as soon as administratively practicable after the end of the applicable performance period, but in no case after the later of (i) the 15th day of the third month of the fiscal year immediately following the fiscal year in which the bonuses vest and (ii) March 15 of the calendar year immediately following the calendar year in which the bonuses vest.

Awards under our Incentive Compensation Plan will be subject to reduction, cancellation, forfeiture, or recoupment in accordance with any clawback policy that we adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable laws. In addition, the administrator may impose such other clawback, recovery or recoupment provisions with respect to an award under the Incentive Compensation Plan as the administrator determines necessary or appropriate, including without limitation a reacquisition right in respect of previously acquired cash, stock, or other property provided with respect to an award.

The administrator will have the authority to amend or terminate the Incentive Compensation Plan. However, such action may not materially alter or materially impair the existing rights of any participant with respect to any earned bonus without the participant's consent. The Incentive Compensation Plan will remain in effect until terminated in accordance with the terms of the Incentive Compensation Plan.

401(k) plan

We maintain a 401(k) retirement savings plan for the benefit of our employees, including our named executive officers who remain employed with us, and who satisfy certain eligibility requirements. Under the 401(k) plan, eligible employees may elect to defer a portion of their compensation, within the limits prescribed by the Code, on a pre-tax or after-tax (Roth) basis, through contributions to the 401(k) plan. The 401(k) plan authorizes employer matching and discretionary contributions. The 401(k) plan is intended to qualify under Sections 401(a) and 501(a) of the Code. As a tax-qualified retirement plan, pre-tax contributions to the 401(k) plan and earnings on those pre-tax contributions are not taxable to the employees until distributed from the 401(k) plan, and earnings on Roth contributions are not taxable when distributed from the 401(k) plan.

Deferred Compensation Plan

We maintain a Nonqualified Deferred Compensation Plan (NDCP), for the benefit of certain of our employees, including our named executive officers. Under the NDCP, participants are permitted to defer up to 75% of their applicable base salary, performance-based compensation and commissions, and an amount equivalent to 100% of any 401(k) Plan refund. Compensation amounts that are deferred under the NDCP are 100% vested in the applicable participant on the date we submit such amounts to the NDCP provider, currently Principal Life Insurance Company. Elections to defer compensation under the NDCP must be made prior to the start of the plan year and will continue in effect until modified.

We may also provide additional credit amounts under the NDCP with respect to each participant that will vest based on a participant's continued employment over a multi-year schedule. We have never provided additional credit amounts under the NDCP.

Participants may elect to receive deferred compensation either upon the occurrence of a qualifying event or pursuant to a defined distribution date, provided that if a qualifying event occurs prior to a defined distribution date, distributions under the NDCP will commence on the date of such qualifying event.

Qualifying events under the NDCP consist of the following:

- separation from service;
- separation from service upon a change in control of our company;
- change in control of our company;
- unforeseeable emergency;
- disability; and
- death.

Participants may elect different payment methods with respect to certain qualifying events and with respect to distribution dates. Distribution payments must be made as a lump sum upon a separation from service upon a change in control of our company, a change in control of our company, an unforeseeable emergency, or the participant's death. With respect to separation from service or the participant's disability, participants may elect to receive distribution payments in lump sum or as annual installments up to 10 years following the applicable qualifying event. With respect to fixed distribution dates, participants may elect to receive distribution payments in lump sum or as annual installments up to 5 years following the qualifying event.

Loans are not allowed from the NDCP and rollovers to an IRA or other qualified account are not available.

Participants may not change their deferral amounts during a plan year. However, participants may change deferral amounts at the end of each plan year with respect to future deferrals for the next plan year.

Participants may elect to have deferred amounts under the plan invested in various investment alternatives selected by the NDCP.

As of December 31, 2020, the following executives have deferred the following balances of their salary:

Paul F. Jacobson	$	0
Thomas P. McKenna	$	171,059
Will C. McCamy	$	0

Limitation of Liability and Indemnification

Our amended and restated certificate of incorporation and amended and restated bylaws, each to be effective upon the completion of this offering, will provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by Delaware law. Delaware law

prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or to our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated certificate of incorporation does not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under our amended and restated bylaws, we will also be empowered to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we intend to enter into an indemnification agreement with each member of our board of directors and each of our officers prior to the completion of the offering. These agreements provide for the indemnification of our directors and officers for certain expenses and liabilities incurred in connection with any action, suit, proceeding or alternative dispute resolution mechanism or hearing, inquiry or investigation that may lead to the foregoing, to which they are a party, or are threatened to be made a party, by reason of the fact that they are or were a director, officer, employee, agent or fiduciary of our company, or any of our subsidiaries, by reason of any action or inaction by them while serving as an officer, director, agent or fiduciary, or by reason of the fact that they were serving at our request as a director, officer, employee, agent or fiduciary of another entity. In the case of an action or proceeding by or in the right of our company or any of our subsidiaries, no indemnification will be provided for any claim where a court determines that the indemnified party is prohibited from receiving indemnification. We believe that these charter and bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. Moreover, a stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than compensation arrangements, including employment, termination of employment and change in control arrangements, with our directors and executive officers, including those discussed in the sections titled "Management" and "Executive Compensation" and the registration rights described in the section titled "Description of Capital Stock—Registration Rights," the following is a description of each transaction since January 1, 2018 and each currently proposed transaction in which:

- we have been or are to be a participant;
- the amount involved exceeded or exceeds $120,000; and
- any of our directors, executive officers or holders of more than 5% of our outstanding capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities, had or will have a direct or indirect material interest.

Series E Convertible Preferred Stock Financing

In July 2018, we issued and sold an aggregate of 27,011,500 shares of our series E convertible preferred stock to Mitsui & Co., Ltd. (Mitsui), and Kirin Holdings Company, Limited (Kirin), at a purchase price of $5.12 per share for aggregate gross proceeds of approximately $138.4 million (the Series E Financing). In connection with the Series E Financing, all outstanding shares of series D preferred stock held by Mitsui were converted to series E convertible preferred stock and the accruing series D dividends totaling $3,266,918 were subsequently paid in cash in February 2020. In addition, the remaining outstanding shares of convertible preferred stock, including series A, B, and C convertible preferred stock, were either redeemed for cash or converted to common stock and the series B convertible preferred stock dividend totaling $11,999,798 was paid out through the issuance of 2,342,035 shares of common stock. In addition, 4,041,935 outstanding warrants issued in connection with previous financings were redeemed from stockholders not participating in the Series E Financing as part of the transaction. The following table presents the number of shares and total purchase price paid by these entities.

Name of Seller	Sellers' Equity Redeemed	Percent of Total Company Equity Redeemed	Redemption Amount Paid
WestView Capital Partners II, L.P.	21,500 Series A Preferred 375 Series C Preferred	31.5%	$59,659,091
Tudor Ventures III L.P.	11,000 Series A Preferred 125 Series C Preferred	16.0%	30,340,909
Diversified Natural Products, Inc.	Warrants to Purchase 3,481,235 Shares of Common Stock	11.3%	5,498,675
ELUS Holdings Corporation	Warrants to Purchase 560,700 Shares of Common Stock	1.8%	804,838
Al Czap	500 Series A Preferred	*	1,363,636
Jim Gilbert	200 Shares Series C Preferred	*	456,006

* represents less than 1% of total company equity redeemed

Merger with Onegevity

Our board of directors approved, with an effective date of January 6, 2021, the merger with Onegevity Health, LLC (Onegevity) with Onegevity becoming a wholly owned subsidiary of Thorne. Paul Jacobson, our Chief Executive Officer, is also the Chief Executive Officer of Onegevity and owned 5,712 (4.0%) of Onegevity's outstanding shares. This merger was approved by a majority of each of our and Onegevity's board's independent board members. The transaction exchanged all outstanding Onegevity equity for 14.1% of the

outstanding equity of the combined Thorne and Onegevity entity. This transaction increased Paul Jacobson's ownership in our company to 4.4% based on our common stock outstanding as of June 30, 2021. The transaction was completed on March 3, 2021.

Merger with Drawbridge

During the three months ended June 30, 2021, we entered into a Merger Agreement with Drawbridge to acquire the majority of outstanding shares of Drawbridge, a healthcare technology company. Prior to the merger, we owned approximately 11.2% of the outstanding shares of Drawbridge and accounted for our investment in Drawbridge as an equity method investment, as we determined it had significant influence over Drawbridge. Our net equity investment was approximately $3.2 million at March 31, 2021. Under the Merger Agreement, we increased our ownership of Drawbridge by 76.3 percentage points to a total ownership of 87.5%. The Merger Agreement calls for the payment of approximately $1.4 million in cash and the assumption of certain liabilities of Drawbridge.

Loans for Executive Option Exercises

On April 30, 2019, we provided loans to officers Paul Jacobson, Tom McKenna, Will McCamy, Scott Wheeler and Kim Pearson in amounts that would allow them to exercise option grants expiring on July 16, 2020. These notes were issued at a 5% interest rate and were all repaid upon the issuance of the optioned shares on July 16, 2020. Outstanding principal and interest on the notes, as well as applicable taxes, were deducted from the number of shares granted to them. Loan amounts, options purchased, loan repayment amounts, and total share issuance values are noted in the table below. All loans to officers have been repaid to our company.

Name	Amount Borrowed	Shares and Options Purchased	Amount Repaid	Total Value Received
Paul Jacobson	$ 525,160	801,000	$ 556,813	$ 7,166,010
Tom McKenna	525,160	801,000	556,813	7,237,420
Will McCamy	334,020	667,500	354,152	6,117,339
Scott Wheeler	101,460	135,280	107,575	1,264,622
Kim Pearson	45,980	56,515	48,751	517,894

Supply Agreement with NR Therapeutics

We are party to an exclusive supply agreement dated June 5, 2020 (NR Supply Agreement) with NR Therapeutics, LLC (NR Therapeutics) pursuant to which we purchase inventory of Nicotinamide riboside (NR) from NR Therapeutics. Paul Jacobson, our Chief Executive Officer, is a member of NR Therapeutics board of directors, and we hold a 49% interest in NR Therapeutics. As of June 30, 2021, we have approximately $3.7 million in outstanding purchase orders with NR Therapeutics.

Kirin and Mitsui Feasibility Review Agreement

On March 19, 2019, Onegevity Health, LLC (Onegevity) entered into a feasibility review agreement (Feasibility Agreement) with Kirin Holdings Company, Limited (Kirin) and Mitsui & Co., Ltd. (Mitsui). Entities affiliated with Kirin hold more than 5% of our capital stock and entities affiliated with Mitsui also hold more than 5% of our capital stock. Pursuant to the Feasibility Agreement, we are required to conduct a feasibility study for the successful commercialization of Onegevity's Gutbio product (Gutbio Product) and in return each of Kirin and Mitsui paid the company $500,000 (Feasibility Payment Amount). Under the Feasibility Agreement, Kirin and Mitsui may, acting jointly, anytime prior to March 19, 2022, make the decision to commercialize the Gutbio Product. If they choose to commercialize the Gutbio Product, then we are required to enter into a definitive license agreement to license the Gutbio Product to Kirin and Mitsui for their exclusive use in Japan. If they do not choose to commercialize the Gutbio Product, the Feasibility Agreement requires us to issue equity securities of Onegevity to each of Kirin and Mitsui in equal amounts in consideration for the Feasibility Payment Amount.

Kirin and Mitsui Letter Agreements

On July 5, 2018, we entered into a letter agreement with Kirin and Mitsui (the Thorne Japan Agreement) in connection with the Company's Series E convertible preferred stock financing which designates Kirin and Mitsui as our and our affiliates' exclusive strategic partners in Japan, including with respect to the commercialization in Japan of any products and services designed, developed, manufactured, marketed, provided, licensed, sold or bought by us or our affiliates from time to time. This agreement further appoints Kirin and Mitsui as the exclusive marketers and distributors of our products in Japan and provides Kirin and Mitsui with the exclusive right to conduct research and development activities related to our products in Japan, as well as manage any regulatory approvals required to market or distribute our products in Japan. This agreement also provides Kirin and Mitsui with an exclusive right of first negotiation with respect to marketing of our products in any country in Asia, including China, ASEAN member countries, Australia, New Zealand and any other countries in which Kirin and Mitsui have an interest. This agreement expires on July 5, 2028.

Also on July 5, 2018, we and Onegevity entered into a letter agreement with Kirin and Mitsui (the Onegevity Agreement) in connection with our Series E convertible stock financing which provided for certain exclusive commitments between us and Onegevity. Kirin and Mitsui also received a right of first negotiation with respect to any business collaboration, including with respect to Onegevity products, intellectual property, services or technology, in or with respect to Japan. The agreement also provides Kirin and Mitsui a right of first refusal over any agreement, arrangement or understanding with any third party regarding a business collaboration in the Asia Pacific region other than Japan. This agreement does not expire.

Kirin and Mitsui Amendment Agreement

On June 8, 2021, we entered into an Amendment Agreement with Kirin and Mitsui in order to amend the Feasibility Agreement, the Thorne Japan Agreement and the Onegevity Agreement. This Amendment Agreement removed the requirement from the Thorne Japan Agreement that the parties enter into separate agreements related to the exclusivity provisions discussed above and also removed any provisions regarding the establishment of a joint venture in Japan. The Amendment Agreement further removed certain obsolete intercompany commitments between us and Onegevity, in light of our merger with Onegevity. The Amendment Agreement also amended the Onegevity Agreement to replace Onegevity with us as a party to the agreement. Finally, the Amendment Agreement amended the Feasibility Agreement discussed above to obligate us (rather than Onegevity) to issue equity securities to each of Kirin and Mitsui in consideration for any Feasibility Payment Amount and providing for a mechanism upon which such shares would be valued for the purpose of such issuance.

Kirin Juntendo Agreement

On October 16, 2020, Onegevity Health, LLC entered into a service agreement (Juntendo Agreement) with Juntendo University and Kirin. Pursuant to the Juntendo Agreement, we shall provide DNA analysis services for up to 600 samples and in return may receive up to $129,000. As of June 30, 2021 we have received a total of $2,400 under the agreement.

Equity Investment in Tecton Group, LLC

We are a 43% holder in Tecton Group, LLC (formerly Thorne OPS-FUEL Joint, LLC) (Tecton), as of December 31, 2020, a veteran owned business focused on brain health for our military, athletes, and the general public. In collaboration with Tecton, we are in the process of commercializing a revolutionary nutrition technology developed by the U.S. Department of Defense that provides soldiers and athletes improved cognitive and physical performance in addition to fueling the brain to protect against concussion and secondary damage of traumatic brain injury. Tecton is also party to a letter agreement between us, Tecton, Kirin and Mitsui (Tecton Letter Agreement) providing us with, amongst other things, a right of first offer to commercialize any Tecton

product or service. The Tecton Letter Agreement also provides Kirin and Mitsui, with a right of first negotiation for any commercialization of Tecton products or services in Japan. Paul Jacobson, our Chief Executive Officer, also is a member of Tecton's board of directors. In 2020, we paid certain fees on behalf of Tecton, totaling approximately $615,000, in exchange for a 3.5% additional equity interest in Tecton.

Kirin Loan to Company

On July 24, 2019, Kirin provided us with a one-time loan of $3.0 million. We repaid this loan in 2020, including accrued interest of $128,219 from proceeds under our revolving line of credit with Sumitomo Mitsui Banking Corporation.

Kirin and Mitsui Employee Secondments

We are party to a secondment agreement with Kirin's employee, Mr. Yasuhiro Oki, dated March 18, 2019 (Kirin Secondment Agreement), and a secondment agreement with Mitsui's employee, Mr. Shuntaro Yamamoto, dated February 28, 2019 (Mitsui Secondment Agreement), under which they provide full-time services to Thorne and Thorne reimburses Kirin and Mitsui for such services. Under the Kirin Secondment Agreement and the Mitsui Secondment Agreement, we reimburse each of Kirin and Mitsui $120,000 annually for such services.

Alternative Minimum Tax (AMT) Loans to Officers

In 2020, the Company issued loans to certain executive officers to pay the AMT associated with the exercise of stock options in 2019. The loans were issued on February 18, 2020 and were repaid on July 14, 2020. As of December 31, 2020, there were no outstanding loans to our officers. The amount of the loans are as follows:

	Less AMT tax borrowed
Paul Jacobson	$ 320,000
Tom McKenna	250,000
Will McCamy	130,000
Scott Wheeler	—
Kim Pearson	10,000
Total	$ 710,000

The loans carried a 5% interest rate on them. Interest repaid to the company was $14,297.

Registration Rights Agreement

We are party to a registration rights agreement, as amended, with certain holders of our capital stock. Under our registration rights agreement, certain holders of our capital stock, including Mitsui and Kirin, have the right to demand that we file a registration statement or request that their shares of our capital stock be covered by a registration statement that we are otherwise filing. See the section titled "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights.

Stockholder Agreement

We are party to a stockholder agreement, with certain holders of our capital stock. Our existing certificate of incorporation contains provisions regarding election of members of the board of directors that

correspond to the stockholder agreement; however, such provisions will be removed in the amended and restated certificate of incorporation that will be effective at the closing of this offering and the parties intend to terminate the stockholder agreement in connection with this offering and the execution of the nominating agreement described below.

Nominating Agreement

Immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, we intend to enter into a nominating agreement with Mitsui and Kirin which will provide that, subject to certain minimum stock ownership requirements, that the Company will include a designee of Mitsui and Kirin (as applicable) in the slate of nominees recommended to the Company's stockholders for election at the Company's annual stockholder meetings if the current Mitsui or Kirin (as applicable) designee's term is expiring at such meeting. This agreement also provides for certain information, board observer and secondment rights.

Indemnification Agreements

We have entered into separate indemnification agreements with each of our directors and executive officers, in addition to the indemnification provided for in our amended and restated certificate of incorporation and bylaws. The indemnification agreements and our amended restated certificate of incorporation and bylaws that will be in effect upon the closing of this offering require us to indemnify our directors, executive officers and certain controlling persons to the fullest extent permitted by Delaware law. See the section titled "Executive Compensation—Limitation of Liability and Indemnification" for additional information.

Related Party Transaction Policy

Our audit committee will have the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. The charter of our audit committee will provide that our audit committee shall review and approve in advance any related party transaction.

Prior to the effectiveness of the registration statement of which this prospectus forms a part, we intend to adopt a formal written policy providing that we are not permitted to enter into any transaction that exceeds $120,000 and in which any related person has a direct or indirect material interest without the consent of our audit committee. In approving or rejecting any such transaction, our audit committee is to consider the relevant facts and circumstances available and deemed relevant to our audit committee, including whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction.

PRINCIPAL STOCKHOLDERS

The following table sets forth the beneficial ownership of our common stock as of June 30, 2021, by:

- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock;
- each of the named executive officers;
- each of our directors; and
- all of our current executive officers and directors as a group.

We have determined beneficial ownership in accordance with the rules of the SEC, and thus it represents sole or shared voting or investment power with respect to our securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Sections 13(d) and 13(g) of the Exchange Act.

We have based our calculation of the percentage of beneficial ownership prior to this offering on 45,514,600 shares of our common stock outstanding as of June 30, 2021, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into shares of our common stock immediately prior to the completion of this offering. We have based our calculation of the percentage of beneficial ownership after this offering on 52,514,600 shares of our common stock outstanding immediately after the completion of this offering, assuming no exercise by the underwriters of their option to purchase additional shares. The table below does not reflect any shares of our common stock that may be purchased through the reserved share program, as described under "Underwriting—Reserved Share Program." We have deemed shares of our common stock subject to stock options that are currently exercisable or exercisable within 60 days of June 30, 2021, to be outstanding and to be beneficially owned by the person holding the stock option for the purpose of computing the percentage ownership of that person. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Thorne HealthTech, Inc., 152 W. 57th Street, New York, New York 10019.

	Shares Beneficially Owned Prior To This Offering		Shares Beneficially Owned After This Offering	
Name of Beneficial Owner	Shares	Percentage	Shares	Percentage
5% and Greater Stockholders:				
Mitsui & Co, Ltd.(1)	15,730,750	34.5%	15,730,750	29.9%
Kirin Holdings Company, Limited(2)	15,730,750	34.5%	15,730,750	29.9%
ELUS Holdings Corporation(3)	5,878,005	12.8%	5,878,005	11.1%
Diversified Natural Products, Inc.(4)	4,134,495	8.6%	4,134,495	7.5%
Named Executive Officers and Directors:				
Paul F. Jacobson(5)	6,059,120	12.2%	6,059,120	10.7%
Tom P. McKenna(6)	858,405	1.9%	858,405	1.6%
William C. McCamy(7)	927,825	2.0%	879,320	1.7%
Riccardo C. Braglia(8)	5,878,005	12.8%	5,878,005	11.1%
Yasuhiro Oki(9)	15,730,750	34.5%	15,730,750	29.9%
Toru Yoshimura(10)	15,730,750	34.5%	15,730,750	29.9%
Toshitaka Inuzuka(11)	15,730,750	34.5%	15,730,750	29.9%
Tetsu Watanabe(12)	15,730,750	34.5%	15,730,750	29.9%
All current executive officers and directors as a group (8 persons)(13)	45,184,855	98.0%	45,184,855	85.0%

* Represents beneficial ownership of less than 1% of the outstanding shares of our common stock.

(1) Consists of (i) 15,674,235 shares of common stock held of record by Mitsui & Co., Ltd. (Mitsui) and (ii) 56,515 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021. The address for Mitsui is 2-1, Otemachi 1-chome, Chiyoda-ku, Tokyo, 100-8631, Japan.

(2) Consists of (i) 15,674,235 shares of common stock held of record by Kirin Holdings Company, Limited (Kirin) and (ii) 56,515 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021. The address for Kirin is Nakano Central Park South, 10-2 Nakano, Nakano-ku, Tokyo, 164-0001, Japan.

(3) Consists of (i) 5,424,550 shares of common stock held of record by ELUS Holdings Corporation (ELUS) and (ii) 453,455 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021. The address for ELUS is 170 Wood Avenue South, 5th Floor, Iselin, New Jersey 08830.

(4) Consists of (i) 1,602,445 shares of common stock held of record by Diversified Natural Products, Inc. (DNP) and (ii) 2,532,050 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021. Voting and dispositive decisions with respect to the shares held by DNP are made by Mr. Jacobson, the Chief Executive Officer of the Company

(5) Consists of (i) 501,515 shares of common stock held by Mr. Jacobson, (ii) 1,423,110 shares of common stock subject to outstanding options that are exercisable within 60 days of June 30, 2021, (iii) 1,602,445 shares of common stock held of record by DNP, as noted in footnote (4), and (iv) 2,532,050 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021, held of record by DNP, as noted in footnote (4).

(6) Consists of (i) 84,550 shares of common stock held by Mr. McKenna, (ii) 773,855 shares of common stock subject to outstanding options that are exercisable within 60 days of June 30, 2021.

(7) Consists (i) 84,550 shares of common stock held of record by Mr. McCamy and (ii) of 927,825 shares of common stock subject to outstanding options that are exercisable within 60 days of June 30, 2021.

(8) Consists of (i) 5,424,550 shares of common stock and (ii) 453,455 shares of common stock subject to warrants that are exercisable within 60 days of June 30, 2021, held by ELUS, as noted in footnote (3).

(9) Consists of 15,674,235 shares of common stock held by Kirin as noted in footnote (2). Mr. Oki disclaims beneficial ownership of the shares of common stock held by Kirin.

(10) Consists of 15,674,235 shares of common stock held by Kirin as noted in footnote (2). Mr. Yoshimura disclaims beneficial ownership of the shares of common stock held by Kirin.

(11) Consists of 15,674,235 shares of common stock held by Mitsui as noted in footnote (1). Mr. Inuzuka disclaims beneficial ownership of the shares of common stock held by Mitsui.

(12) Consists of 15,674,235 shares of common stock held by Mitsui as noted in footnote (1). Mr. Watanabe disclaims beneficial ownership of the shares of common stock held by Mitsui.

(13) Consists of 39,046,080 shares of common stock beneficially owned by our executive officers and directors and (ii) 6,090,270 shares of common stock subject to warrants or options that are exercisable within 60 days of June 30, 2021, beneficially owned by our executive officers and directors.

DESCRIPTION OF CAPITAL STOCK

The following descriptions of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws that will be in effect upon completion of this offering. Copies of these documents will be filed with the SEC as exhibits to our registration statement of which this prospectus forms a part. The descriptions of the common stock and preferred stock reflect changes to our capital structure that will occur upon the completion of this offering.

Immediately prior to the completion of this offering and the filing of our amended and restated certificate of incorporation to be effective upon completion of this offering, our authorized capital stock will consist of 200,000,000 shares of common stock, par value $0.01 per share, and 10,000,000 shares of preferred stock, par value $0.01 per share.

Immediately prior to the completion of this offering, all the outstanding shares of our convertible preferred stock will automatically convert into an aggregate of 27,011,500 shares of our common stock.

Based on shares of common stock outstanding as of June 30, 2021, and after giving effect to the automatic conversion of all of our outstanding convertible preferred stock into an aggregate of shares of common stock immediately prior to the completion of this offering and the issuance of 7,000,000 shares of common stock in this offering, there will be 52,514,600 shares of common stock outstanding upon the completion of this offering. As of June 30, 2021, we had 54 stockholders of record.

On September 10, 2021, we approved and effected a 445-for-1 forward stock split of our Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the stock split. We also increased the authorized number of shares of our Class A common stock to 63,800,000 shares, our Class B common stock to 6,200,000 shares and our Series E convertible preferred stock to 27,011,500 shares.

All share and per share have been retroactively adjusted in our financial statements and the related notes appearing elsewhere in this prospectus for all periods presented to reflect the 445-for-1 forward stock split. Further, other related information, including shares of common stock underlying our warrants, stock options and restricted stock units and their respective exercise prices have been retroactively adjusted for all periods presented to reflect the 445-for-1 forward stock split.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our amended and restated certificate of incorporation and amended and restated bylaws to be in effect upon the completion of this offering do not provide for cumulative voting rights. Because of this, the holders of a plurality of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. With respect to matters other than the election of directors, at any meeting of the stockholders at which a quorum is present or represented, the affirmative vote of a majority of the voting power of the shares present in person or represented by proxy at such meeting and entitled to vote on the subject matter shall be the act of the stockholders, except as otherwise required by law. The holders of a majority of the stock issued and outstanding and entitled to vote, present in person or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering, upon payment and delivery in accordance with the underwriting agreement, will be fully paid and nonassessable.

Preferred Stock

Upon the completion of this offering, our board of directors will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, redemption rights, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in our control or other corporate action. Upon the completion of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Options

As of June 30, 2021, we had outstanding options to purchase an aggregate of 9,771,310 shares of our common stock, with a weighted-average exercise price of $5.26 per share.

Registration Rights

After the completion of this offering, under our registration rights agreement, as amended, the holders of up to 42,045,380 shares of common stock or their transferees, will have the right to require us to register the offer and sale of their shares or to include their shares in any registration statement we file, in each case as described below.

Demand Registration Rights

After the completion of this offering, the holders of up to 42,045,380 shares of our common stock will be entitled to certain demand registration rights. Beginning 180 days following the date of effectiveness of the registration statement of which this prospectus forms a part, the holders of at least 50% of the shares having registration rights then outstanding can request that we file a registration statement to register the offer and sale of their shares. We are only obligated to effect up to two such registrations. Each such request for registration

must register and sell at least 80% of the securities requested to be registered. These demand registration rights are subject to specified conditions and limitations, including determining the priority of which such shares having registration rights will be sold if the underwriters advise that our company should limit the number of shares included in any such registration. If we determine that it would be materially detrimental to us and our stockholders to effect such a demand registration, we have the right to defer such registration, not more than once in any twelve month period, for a period of up to 90 days.

Piggyback Registration Rights

After the completion of this offering, the holders of up to 42,045,380 shares of our common stock will be entitled to certain "piggyback" registration rights. If we propose to register the offer and sale of shares of our common stock under the Securities Act, the holders of these shares can request that we include their shares in such registration, subject to certain marketing and other limitations, including the right of the underwriters to limit the number of shares included in any such registration statement under certain circumstances. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to (1) a registration solely either to the sale of securities to employees of the Company pursuant to a stock purchase, stock option or similar plan, and (2) a merger, recapitalization or reorganization, the holders of these shares are entitled to notice of the registration and have the right, subject to certain limitations, to include their shares in the registration.

Form S-3 Registration Rights

After the completion of this offering, the holders of up to 42,045,380 shares of our common stock will be entitled to certain Form S-3 registration rights. At any time after the completion of this offering when we are eligible to file a registration statement on Form S-3, the holders of the shares having these rights then outstanding can request that we register the offer and sale of their shares of our common stock on a registration statement on Form S-3 so long as the request covers securities the anticipated aggregate public offering price of which is at least $3 million. These stockholders may make an unlimited number of requests for registration on a registration statement on Form S-3. However, we will not be required to affect a registration on Form S-3 if we have affected two such registrations within the twelve-month period preceding the date of the request. These Form S-3 registration rights are subject to specified conditions and limitations, including determining the priority of which such shares having registration rights will be sold if the underwriters advise that our company should limit the number of shares included in any such registration. Additionally, if we determine that it would be seriously detrimental to us and our stockholders to effect such a demand registration, we have the right to defer such registration, not more than twice in any twelve month period.

Expenses of Registration

We will pay all expenses relating to any demand registrations, Form S-3 registrations and piggyback registrations, subject to specified exceptions.

Termination

The registration rights terminate upon the earliest of (1) the closing of certain liquidation events and (2) as to a given holder of registration rights, the date after the closing of this offering when such holder of registration rights can sell all of such holder's registrable securities during any 90-day period pursuant to Rule 144 promulgated under the Securities Act.

Anti-takeover Effects of Certain Provisions of Delaware Law, Our Amended and Restated Certificate of Incorporation and Our Amended and Restated Bylaws

Certain provisions of Delaware law and certain provisions that will be included in our amended and restated certificate of incorporation and amended and restated bylaws summarized below may be deemed to have

an anti-takeover effect and may delay, deter or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Preferred Stock

Our amended and restated certificate of incorporation will contain provisions that permit our board of directors to issue, without any further vote or action by the stockholders, shares of preferred stock in one or more series and, with respect to each such series, to fix the number of shares constituting the series and the designation of the series, the voting rights (if any) of the shares of the series and the powers, preferences or relative, participation, optional and other special rights, if any, and any qualifications, limitations or restrictions, of the shares of such series.

Classified Board

Our amended and restated certificate of incorporation will provide that our board of directors is divided into three classes, designated Class I, Class II and Class III. Each class will be an equal number of directors, as nearly as possible, consisting of one third of the total number of directors constituting the entire board of directors. The term of initial Class I directors shall terminate on the date of the 2022 annual meeting, the term of the initial Class II directors shall terminate on the date of the 2023 annual meeting, and the term of the initial Class III directors shall terminate on the date of the 2024 annual meeting. At each annual meeting of stockholders beginning in 2022, the class of directors whose term expires at that annual meeting will be subject to reelection for a three-year term.

Removal of Directors

Our amended and restated certificate of incorporation will provide that stockholders may only remove a director for cause by a vote of no less than a majority of the shares present in person or by proxy at the meeting and entitled to vote.

Director Vacancies

Our amended and restated certificate of incorporation will authorize only our board of directors to fill vacant directorships.

No Cumulative Voting

Our amended and restated certificate of incorporation will provide that stockholders do not have the right to cumulate votes in the election of directors.

Special Meetings of Stockholders

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that, except as otherwise required by law, special meetings of the stockholders may be called only by an officer at the request of a majority of our board of directors, by the Chair of our board of directors or by our Chief Executive Officer.

Advance notice procedures for director nominations

Our amended and restated bylaws will provide that stockholders seeking to nominate candidates for election as directors at an annual or special meeting of stockholders must provide timely notice thereof in writing. To be timely, a stockholder's notice generally will have to be delivered to and received at our principal executive offices before notice of the meeting is issued by the secretary of the company, with such notice being served not less than 90 nor more than 120 days before the meeting. Although the amended and restated bylaws

will not give the board of directors the power to approve or disapprove stockholder nominations of candidates to be elected at an annual meeting, the amended and restated bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of our company.

Action by Written Consent

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that any action to be taken by the stockholders must be affected at a duly called annual or special meeting of stockholders and may not be affected by written consent.

Amending our Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation may be amended or altered in any manner provided by the Delaware General Corporation Law (DGCL). Our amended and restated bylaws may be adopted, amended, altered or repealed by stockholders only upon approval of at least majority of the voting power of all the then outstanding shares of the common stock, except for any amendment of the above provisions, which would require the approval of a two-thirds majority of our then outstanding common stock. Additionally, our amended and restated certificate of incorporation will provide that our bylaws may be amended, altered or repealed by the board of directors.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuances without stockholder approval, except as required by the listing standards of Nasdaq, and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of the company by means of a proxy contest, tender offer, merger or otherwise.

Exclusive Jurisdiction

Our amended and restated bylaws will provide that, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of fiduciary duty, any action asserting a claim arising pursuant to the DGCL, any action regarding our amended and restated certificate of incorporation or amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine. This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the U.S. federal courts have exclusive jurisdiction. Our amended and restated bylaws further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these provisions. Although we believe these provisions benefit us by providing increased consistency in the application of law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers. There is uncertainty as to whether a court would enforce such provisions, and the enforceability of similar choice of forum provisions in other companies' charter documents has been challenged in legal proceedings. We also note that stockholders cannot waive compliance (or consent to noncompliance) with the federal securities laws and the rules and regulations thereunder. See the section titled "Risk Factors— Our amended and restated bylaws designate a state or federal court located within the State of Delaware as the exclusive forum for substantially all disputes between us and our stockholders, and also provide that the federal district courts will be the exclusive forum for resolving any

complaint asserting a cause of action arising under the Securities Act of 1933, as amended, each of which could limit our stockholders' ability to choose the judicial forum for disputes with us or our directors, officers, stockholders, or employees."

Business Combinations with Interested Stockholders

We are governed by Section 203 of the DGCL. Subject to certain exceptions, Section 203 of the DGCL prohibits a public Delaware corporation from engaging in a business combination (as defined in such section) with an "interested stockholder" (defined generally as any person who beneficially owns 15% or more of the outstanding voting stock of such corporation or any person affiliated with such person) for a period of three years following the time that such stockholder became an interested stockholder, unless (1) prior to such time the board of directors of such corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (2) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of such corporation at the time the transaction commenced (excluding for purposes of determining the voting stock of such corporation outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (a) by persons who are directors and also officers of such corporation and (b) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or (3) at or subsequent to such time the business combination is approved by the board of directors of such corporation and authorized at a meeting of stockholders (and not by written consent) by the affirmative vote of at least 66 2/3% of the outstanding voting stock of such corporation not owned by the interested stockholder.

Our amended and restated certificate of incorporation and our amended and restated bylaws will provide that we must indemnify our directors and officers to the fullest extent authorized by the DGCL. We are expressly authorized to, and do, carry directors' and officers' insurance providing coverage for our directors, officers and certain employees for some liabilities. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation on liability and indemnification provisions in our certificate of incorporation and bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duty. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Listing

We have applied to list our common stock on Nasdaq under the symbol "THRN."

Transfer Agent and Registrar

Upon completion of this offering, the transfer agent and registrar for our common stock will be Computershare Trust Company, N.A. The transfer agent and registrar's address is 250 Royal Street, Canton, Massachusetts 02021.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock, and although we expect that our common stock will be approved for listing on the Nasdaq, we cannot assure investors that there will be an active public market for our common stock following this offering. We cannot predict what effect, if any, sales of our shares in the public market or the availability of shares for sale will have on the market price of our common stock. Future sales of substantial amounts of common stock in the public market, including shares issued upon exercise of outstanding options, or the perception that such sales may occur, however, could adversely affect the market price of our common stock and also could adversely affect our future ability to raise capital through the sale of our common stock or other equity-related securities of ours at times and prices we believe appropriate.

Upon completion of this offering, based on our shares outstanding as of June 30, 2021, and after giving effect to the conversion of all outstanding shares of our convertible preferred stock, 52,514,600 shares of our common stock will be outstanding, or 53,564,600 shares of common stock if the underwriters exercise their option to purchase additional shares in full. All of the shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act unless held by our "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining outstanding shares of our common stock will be deemed "restricted securities" as that term is defined under Rule 144. Restricted securities may be sold in the public market only if their offer and sale is registered under the Securities Act or if the offer and sale of those securities qualify for an exemption from registration, including exemptions provided by Rules 144 and 701 under the Securities Act, which are summarized below.

As a result of the lock-up agreements and market stand-off provisions described below and the provisions of Rules 144 or 701, the shares of our common stock that will be deemed "restricted securities" will be available for sale in the public market following the completion of this offering as follows:

- no shares will be eligible for sale on the date of this prospectus; and
- 45,514,600 shares will be eligible for sale upon expiration of the lock-up agreements and market stand-off provisions described below, following the date that is 180 days after the date of this prospectus.

Lock-up Agreements and Market Stand-Off Agreements

Our officers, directors and the holders of substantially all of our capital stock and options have entered into market stand-off agreements with us and have entered into or will enter into lock-up agreements with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date that is 180 days following the date of this prospectus without the consent of BofA Securities, Inc., Cowen and Company, LLC and Evercore Group L.L.C. See the section titled "Underwriting" for additional information.

Rule 144

Rule 144, as currently in effect, generally provides that, once we have been subject to the public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, a stockholder who is not deemed to have been one of our affiliates at any time during the preceding 90 days and who has beneficially owned the shares of our capital stock proposed to be sold for at least six months is entitled to sell such shares in reliance upon Rule 144 without complying with the volume limitation, manner of sale or notice conditions of Rule 144. If such stockholder has beneficially owned the shares of our capital stock proposed to be sold for at least one year, then such person is entitled to sell such shares in reliance upon Rule 144 without complying with any of the other conditions of Rule 144.

Rule 144 also provides that a stockholder who is deemed to have been one of our affiliates at any time during the preceding 90 days and who has beneficially owned the shares of our common stock proposed to be sold for at least six months is entitled to sell such shares in reliance upon Rule 144 within any three month period beginning 90 days after the date of this prospectus a number of such shares that does not exceed the greater of the following:

- 1% of the number of shares of our capital stock then outstanding, which will equal 525,146 shares immediately after the completion of this offering, assuming no exercise by the underwriters of their option to purchase additional shares; or
- the average weekly trading volume of our common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales of our capital stock made in reliance upon Rule 144 by a stockholder who is deemed to have been one of our affiliates at any time during the preceding 90 days are also subject to the current public information, manner of sale and notice conditions of Rule 144.

Rule 701

Rule 701 generally provides that, once we have been subject to the public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, a stockholder who purchased shares of our common stock pursuant to a written compensatory benefit plan or contract and who is not deemed to have been one of our affiliates at any time during the preceding 90 days may sell such shares in reliance upon Rule 144 without complying with the current public information or holding period conditions of Rule 144. Rule 701 also provides that a stockholder who purchased shares of our common stock pursuant to a written compensatory benefit plan or contract and who is deemed to have been one of our affiliates during the preceding 90 days may sell such shares under Rule 144 without complying with the holding period condition of Rule 144. However, all stockholders who purchased shares of our common stock pursuant to a written compensatory benefit plan or contract are required to wait until 90 days after the date of this prospectus before selling such shares pursuant to Rule 701.

Registration Rights

After the completion of this offering, the holders of up to 42,045,380 shares of our common stock will be entitled to certain rights with respect to the registration of such shares under the Securities Act. The registration of these shares of our common stock under the Securities Act would result in these shares becoming eligible for sale in the public market without restriction under the Securities Act immediately upon the effectiveness of such registration. See the section titled “Description of Capital Stock—Registration Rights” for a description of these registration rights.

Registration Statement

After the completion of this offering, we intend to file a registration statement on Form S-8 under the Securities Act to register all of the shares of our common stock subject to equity awards outstanding or reserved for issuance under our equity compensation plans. The shares of our common stock covered by such registration statement will be eligible for sale in the public market without restriction under the Securities Act immediately upon the effectiveness of such registration statement, subject to vesting restrictions, the conditions of Rule 144 applicable to affiliates, and any applicable market stand-off agreements and lock-up agreements. See the section titled “Executive Compensation—Employee Benefit and Stock Plans” for a description of our equity compensation plans.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK

The following is a summary of the material U.S. federal income tax considerations of the ownership and disposition of our common stock acquired in this offering by a "non-U.S. holder" (as defined below), but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (Code), Treasury Regulations promulgated thereunder, administrative rulings and judicial decisions, all as of the date hereof. These authorities may be changed, possibly retroactively, so as to result in U.S. federal income tax consequences different from those set forth below. We have not sought, and do not intend to seek, any ruling from the Internal Revenue Service (IRS), with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This summary also does not address the tax considerations arising under the laws of any non-U.S., state or local jurisdiction, under U.S. federal gift and estate tax rules or under any applicable tax treaty. In addition, this discussion does not address any potential application of the Medicare contribution tax on net investment income or any tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies, regulated investment companies, real estate investment trusts or other financial institutions;
- tax-exempt organizations or accounts;
- pension plans and tax-qualified retirement plans;
- controlled foreign corporations, passive foreign investment companies and corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- U.S. expatriates and certain other former citizens or long-term residents of the United States;
- partnerships (or entities or arrangements classified as such for U.S. federal income tax purposes), other pass-through entities, and investors therein;
- persons subject to the alternative minimum tax;
- persons who hold our common stock as a position in a hedging transaction, "straddle," "conversion transaction" or other risk reduction transaction;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to our common stock being taken into account in an "applicable financial statement" as defined in Section 451(b) of the Code;

- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment); or

- persons deemed to sell our common stock under the constructive sale provisions of the Code.

In addition, if a partnership, entity or arrangement classified as a partnership or flow-through entity for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner or beneficial owner generally will depend on the status of the partner or beneficial owner, the activities of the partnership or other entity, and certain determinations made at the partner or beneficial owner level. A partner or beneficial owner in a partnership or other such entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of the purchase, ownership and disposition of our common stock through a partnership or other such entity, as applicable.

You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the purchase, ownership and disposition of our common stock arising under the U.S. federal gift or estate tax rules or under the laws of any state, local, non-U.S. or other taxing jurisdiction or under any applicable tax treaty.

Non-U.S. Holder Defined

For purposes of this discussion, you are a "non-U.S. holder" if you are a beneficial owner of our common stock that, for U.S. federal income tax purposes, is not a partnership (including any entity or arrangement treated as a partnership and the equity holders therein) or:

- an individual who is a citizen or resident of the United States;

- a corporation or other entity taxable as a corporation created or organized in the United States or under the laws of the United States or any political subdivision thereof, or otherwise treated as such for U.S. federal income tax purposes;

- an estate whose income is subject to U.S. federal income tax regardless of its source; or

- a trust (1) whose administration is subject to the primary supervision of a U.S. court and that has one or more U.S. persons who have the authority to control all substantial decisions of the trust or (2) that has made a valid election under applicable Treasury Regulations to be treated as a U.S. person.

Distributions

As described in the section titled "Dividend Policy," we have never declared or paid any cash dividends on our common stock, and we do not expect to pay any dividends in the foreseeable future. However, if we do make distributions on our common stock, those payments will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, the excess will constitute a return of capital and will first reduce your basis in our common stock (determined separately with respect to each share of our common stock), but not below zero, and then will be treated as gain from the sale of stock as described below in the section titled "—Gain on Disposition of Common Stock").

Subject to the discussions below on effectively connected income and in the sections titled "—Backup Withholding and Information Reporting" and "—Foreign Account Tax Compliance Act (FATCA)," any dividend paid to you generally will be subject to U.S. federal withholding tax either at a rate of 30% of the gross amount

of the dividend or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. In order to receive a reduced treaty rate, you must provide us with a properly executed IRS Form W-8BEN or W-8BEN-E or other appropriate version of IRS Form W-8 certifying qualification for the reduced rate. Under applicable Treasury Regulations, we may withhold up to 30% of the gross amount of the entire distribution even if the amount constituting a dividend, as described above, is less than the gross amount. If you are eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty and do not timely provide us with such documentation, you may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If you hold our common stock through a financial institution or other agent acting on your behalf, you will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries.

Dividends received by you that are treated as effectively connected with your conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, are attributable to a permanent establishment or fixed base maintained by you in the United States) are generally exempt from the 30% U.S. federal withholding tax, subject to the discussion below in the sections titled "—Backup Withholding and Information Reporting" and "—Foreign Account Tax Compliance Act (FATCA)." In order to obtain this exemption, you must provide us with a properly executed IRS Form W-8ECI or other appropriate form properly certifying such exemption. Such effectively connected dividends, although not subject to U.S. federal withholding tax, are taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits, subject to an applicable income tax treaty providing otherwise. In addition, if you are a corporate non-U.S. holder, dividends you receive that are effectively connected with your conduct of a U.S. trade or business (and, if an income tax treaty applies, are attributable to a permanent establishment or fixed base maintained by you in the United States) may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. You should consult your tax advisor regarding the tax consequences of the ownership and disposition of our common stock, including any applicable tax treaties that may provide for different rules.

Gain on Disposition of Common Stock

Subject to the discussion in the section titled "—Backup Withholding and Information Reporting," you generally will not be required to pay U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with your conduct of a U.S. trade or business (and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by you in the United States);

- you are an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met; or

- our common stock constitutes a United States real property interest by reason of our status as a "United States real property holding corporation," (USRPHC) for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding your disposition of, or your holding period for, our common stock, unless our common stock is regularly traded on an established securities market and you hold no more than 5% of our outstanding common stock, directly, indirectly and constructively, at all times, during the shorter of the five-year period ending on the date of the taxable disposition or your holding period for our common stock.

We believe that we are not currently and will not become a USRPHC for U.S. federal income tax purposes, and the remainder of this discussion so assumes. However, because the determination of whether we

are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our U.S. and worldwide real property plus our other business assets, there can be no assurance that we will not become a USRPHC in the future. If we are a USRPHC and either our common stock is not regularly traded on an established securities market or you hold, or are treated as holding, more than 5% of our outstanding common stock, directly or indirectly, during the applicable testing period, you will generally be taxed on any gain in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax generally will not apply. If we are a USRPHC and our common stock is not regularly traded on an established securities market, your proceeds received on the disposition of shares will also generally be subject to withholding at a rate of 15%. You are encouraged to consult your own tax advisors regarding the possible consequences to you if we are, or were to become, a URSPHC.

If you are a non-U.S. holder described in the first bullet above, you will be required to pay tax on the gain derived from the sale (net of certain deductions and credits) under regular graduated U.S. federal income tax rates, and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty. If you are an individual non-U.S. holder described in the second bullet above, you will be subject to tax on such gain at 30% (or such lower rate specified by an applicable income tax treaty) on the gain derived from the sale, which gain may be offset by U.S. source capital losses for the year, provided you have timely filed U.S. federal income tax returns with respect to such losses. You should consult your tax advisor regarding any applicable income tax or other treaties that may provide for different rules.

Backup Withholding and Information Reporting

Generally, we must report annually to the IRS the amount of dividends paid to you, your name and address and the amount of tax withheld, if any. A similar report will be sent to you. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in your country of residence.

Payments of dividends on or of proceeds from the disposition of our common stock made to you may also be subject to backup withholding at a current rate of 24% and information reporting unless you establish an exemption, for example, by properly certifying your non-U.S. status on a properly completed IRS Form W-8BEN or W-8BEN-E or another appropriate version of IRS Form W-8. Notwithstanding the foregoing, backup withholding may apply if either we or our paying agent has actual knowledge, or reason to know, that you are a U.S. person. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that you are a United States person or you otherwise establish an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act (FATCA)

The Foreign Account Tax Compliance Act, Treasury Regulations issued thereunder and official IRS guidance (collectively FATCA) generally impose a U.S. federal withholding tax of 30% on dividends on, and, subject to the discussion of certain proposed Treasury Regulations below, the gross proceeds from a sale or other disposition of our common stock, paid to a “foreign financial institution” (as specially defined under these rules), unless such institution enters into an agreement with the U.S. government to, among other things, withhold on

certain payments and to collect and provide to the U.S. tax authorities substantial information regarding the U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or otherwise establishes an exemption. FATCA also generally imposes a U.S. federal withholding tax of 30% on dividends on and, subject to the discussion of certain proposed Treasury Regulations below, the gross proceeds from a sale or other disposition of our common stock paid to a "non-financial foreign entity" (as specially defined under these rules) unless such entity provides the withholding agent with a certification identifying the substantial direct and indirect U.S. owners of the entity, certifies that it does not have any substantial U.S. owners or otherwise establishes an exemption. The withholding tax will apply regardless of whether the payment otherwise would be exempt from U.S. nonresident and backup withholding tax, including under the other exemptions described above. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this section. Prospective investors should consult with their own tax advisors regarding the application of FATCA withholding to their investment in, and ownership and disposition of, our common stock.

The Treasury Secretary has issued proposed Treasury Regulations that, if finalized in their present form, would eliminate withholding under FATCA with respect to payment of gross proceeds from a sale or other disposition of our common stock. In the preamble to such proposed Treasury Regulations, the U.S. Treasury stated that taxpayers may generally rely on the proposed Treasury Regulations until final regulations are issued.

The preceding discussion of U.S. federal tax considerations is for general information only. It is not tax advice to investors in their particular circumstances. Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state and local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed change in applicable laws.

UNDERWRITING

BofA Securities, Inc., Cowen and Company, LLC and Evercore Group L.L.C. are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
Cowen and Company, LLC	
Evercore Group L.L.C.	
RBC Capital Markets, LLC	
Total	7,000,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, are estimated at $5,305,616 and are payable by us. We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $35,000.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to 1,050,000 additional shares at the initial public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of BofA Securities, Inc., Cowen and Company, LLC and Evercore Group L.L.C. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly

- offer, pledge, sell or contract to sell any common stock;
- sell any option or contract to purchase any common stock;
- purchase any option or contract to sell any common stock;
- grant any option, right or warrant for the sale of any common stock;
- lend or otherwise dispose of or transfer any common stock;
- request or demand that we file or make a confidential submission of a registration statement related to the common stock; or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Listing

We expect the shares to be approved for listing on the Nasdaq, subject to notice of issuance, under the symbol "THRN."

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us;
- our financial information;

- the history of, and the prospects for, our company and the industry in which we compete;
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues;
- the present state of our development; and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Reserved Share Program

At our request, an affiliate of BofA Securities, Inc., a participating underwriter, has reserved for sale, at the initial public offering price, up to 5% of the shares offered by this prospectus for sale to our directors, officers and selected senior managers. Any shares purchased by our directors, officers or selected senior managers pursuant to our reserved share program will be subject to the lock-up agreements described above. If these persons purchase reserved shares, it will reduce the number of shares available for sale to the general public. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares offered by this prospectus.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Select Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each a "Relevant State"), no Shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the Shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of Shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of underwriters for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any Shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

The above selling restriction is in addition to any other selling restrictions set out below.

Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom (UK), no Shares have been offered or will be offered pursuant to the offering to the public in the UK prior to the publication of a prospectus in relation to the Shares which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the FSMA, except that offers of Shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

a. to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of representatives for any such offer; or

c. at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented,

acknowledged and agreed that the Shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any Shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018, and the expression "FSMA" means the Financial Services and Markets Act 2000.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended (FSMA)) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX), or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority (DFSA). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and

has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (Corporations Act), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (Exempt Investors), who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial

guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (SFA)) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law; or

(d) as specified in Section 276(7) of the SFA.

Singapore SFA Product Classification—In connection with Section 309B of the SFA and the CMP Regulations 2018, unless otherwise specified before an offer of shares of our common stock, we have determined, and hereby notify, all relevant persons (as defined in Section 309A(1) of the SFA), that shares of our common stock are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of

the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Israel

We have not taken any action to permit a public offering of our shares outside the United States. Solicitation of our shares, however, will be made in certain countries in a manner that will not require the publication of a prospectus under the laws of the country. Persons outside the United States who come into possession of this prospectus must inform themselves about and observe any restrictions relating to the offering of our shares and the distribution of this prospectus outside the United States.

Notwithstanding the above, the offering of our shares is available to investors listed in the First Supplement of the Israeli Securities Law of 1968, as amended. A prospectus has not been prepared or filed, and will not be prepared or filed, in Israel relating to the shares offered hereunder. The shares cannot be resold in Israel other than to investors listed in the First Supplement of the Israeli Securities Law of 1968, as amended, purchasing for their own account and not for distribution or resale purposes. No action will be taken in Israel that would permit an offering of the shares offered hereunder, or the distribution of any offering document or any other material to the public in Israel. This registration statement has not been reviewed or approved by the Israel Securities Authority. Any materials provided to an investor in Israel may not be reproduced or used for any other purpose, nor be furnished to any other person other than those to whom copies have been provided directly by the Issuer or the Dealer(s). The shares will not be traded on the TASE. Nothing in the above should be considered as the rendering of a recommendation or advice, including investment advice or investment marketing under the Israeli Law For Regulation of Investment Advice, Investment Marketing and Investment Portfolio Management, 1995, to purchase any shares and in purchasing the shares, the investors acknowledge that they have expertise and experience in financial and business matters so as to be capable of evaluating the risks and merits of the purchase of the shares.

LEGAL MATTERS

The validity of the issuance of our common stock offered in this prospectus will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Latham & Watkins LLP, New York, New York, is acting as counsel for the underwriters.

EXPERTS

The financial statements as of December 31, 2020 and 2019 and for each of the two years in the period ended December 31, 2020, included in this prospectus and in the registration statement have been so included in reliance on the report of BDO USA, LLP, an independent registered public accounting firm appearing elsewhere herein and in the registration statement, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document is not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The SEC also maintains an Internet website that contains the registration statement of which this prospectus forms a part, as well as the exhibits thereto. These documents, along with future reports, proxy statements and other information about us, are available at the SEC's website, www.sec.gov.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.thorne.com where these materials are available. Upon the completion of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on, or that can be accessible through, our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

FINANCIALS

Thorne HealthTech, Inc.

Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm	F-2
Consolidated Financial Statements	
Consolidated Balance Sheets	F-3-4
Consolidated Statements of Operations	F-5
Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit	F-6
Consolidated Statements of Cash Flows	F-7-8
Notes to Consolidated Financial Statements	F-9-42
Unaudited Condensed Consolidated Financial Statements	
Consolidated Balance Sheets	F-43-44
Consolidated Statements of Operations	F-45
Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit	F-46
Consolidated Statements of Cash Flows	F-47-48
Notes to Unaudited Consolidated Financial Statements	F-49-70

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
Thorne HealthTech, Inc.
New York, New York

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Thorne HealthTech, Inc. (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, convertible preferred stock and stockholders' deficit, and cash flows for the years then ended, and the related notes (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for the years then ended**,** in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

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

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

/s/ BDO USA, LLP

We have served as the Company's auditor since 2019.

Raleigh, North Carolina

April 19, 2021, except for the disclosure regarding disaggregated revenues by sales channel within Note 2, as to which the date is June 4, 2021, and except for the effects of the stock split discussed in Note 21, as to which the date is September 13, 2021.

Thorne HealthTech, Inc.

Consolidated Balance Sheets

	December 31, 2020	December 31, 2019
Assets		
Current Assets		
Cash	$ 15,262,094	$ 463,648
Accounts receivable, net	2,378,994	4,901,145
Related party receivables	135,399	51,059
Inventories, net	28,066,024	27,732,984
Prepaid expenses and other current assets	886,328	764,829
Total current assets	46,728,839	33,913,665
Property and equipment, net	23,189,730	23,335,256
Operating lease right-of-use asset, net	17,740,816	15,310,882
Finance right-of-use asset	767,237	283,407
Intangible assets, net	7,635,253	8,570,833
Goodwill	14,440,683	14,440,683
Investments	1,150,000	400,000
Equity method investments	3,382,147	4,276,836
Other assets	454,429	474,431
Total assets	$ 115,489,134	$ 101,005,993

Thorne HealthTech, Inc.

Consolidated Balance Sheets

	December 31, 2020	December 31, 2019
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current Liabilities		
Cash overdraft	$ —	$ 1,372,355
Accounts payable	8,691,430	6,686,698
Accrued payroll	2,592,143	1,570,771
Other accrued expenses	891,018	756,159
Dividend payable	—	3,000,000
Stock-based compensation liability	—	14,769,154
Related party payable	809,080	3,436,249
Current portion of operating lease liability	2,603,930	866,249
Current portion of finance lease liability	269,212	77,390
Current portion of long-term debt	223,400	—
Total current liabilities	16,080,213	32,535,025
Long-term Liabilities		
Revolving line of credit	20,000,000	11,204,732
Operating lease liability, net of current portion	27,284,356	26,929,349
Finance lease liability, net of current portion	454,857	135,917
Long-term debt, net of current portion	469,471	—
Warrant liability	3,930,930	2,018,443
Other long-term liabilities	621,115	1,615,581
Total liabilities	68,840,942	74,439,047
Commitments and Contingencies (Notes 11 and 18)		
Series E convertible preferred stock, $0.01 par value per share 27,011,500 authorized; 27,011,500 issued and outstanding in 2020 and 2019; aggregate liquidation preference of $134,449,035 as of December 31, 2020 and 2019	133,484,531	133,484,531
Stockholders' Deficit		
Common stock; par value $0.01, 63,190,000 authorized in 2020 and 2019, respectively; 12,323,830 issued and outstanding in 2020; 9,642,705 issued and outstanding in 2019	123,238	96,427
Additional paid-in capital	52,451,862	28,443,614
Accumulated deficit	(132,964,365)	(129,606,619)
Total stockholders' deficit—Thorne Healthtech, Inc.	(80,389,265)	(101,066,578)
Non-controlling interest	(6,447,074)	(5,851,007)
Total stockholders' deficit	(86,836,339)	(106,917,585)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 115,489,134	$ 101,005,993

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Consolidated Statements of Operations

	Years Ended December 31,	
	2020	2019
Net Sales	$ 138,454,924	$ 102,532,171
Cost of sales	73,667,333	57,788,787
Gross profit	64,787,591	44,743,384
Operating expenses:		
Research and development	4,224,891	3,898,507
Selling, general, and administrative	59,547,933	54,750,911
Income (loss) from operations	1,014,767	(13,906,034)
Other expense (income):		
Interest expense, net	1,125,472	406,418
Guarantee fees	243,040	297,920
Change in fair value of warrant liability	1,912,487	1,992,250
Other expense (income), net	1,119	(43,554)
Total other expense, net	3,282,118	2,653,034
Loss before income taxes and loss from equity interest in unconsolidated affiliates	(2,267,351)	(16,559,068)
Income tax expense	176,758	33,424
Net loss before loss from equity interest in unconsolidated affiliates	(2,444,109)	(16,592,492)
Loss from equity interest in unconsolidated affiliates	(1,509,704)	(1,623,445)
Net loss	(3,953,813)	(18,215,937)
Net loss—non-controlling interest	(596,067)	(1,492,067)
Net loss attributable to Thorne HealthTech, Inc.	(3,357,746)	(16,723,870)
Deemed dividends	—	(4,813,681)
Net loss attributable to common stockholders	$ (3,357,746)	$ (21,537,551)
Net loss per share, basic and diluted	$ (0.34)	$ (2.74)
Weighted average common share equivalent, basic and diluted	9,985,800	7,848,910

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance, January 1, 2019.	27,011,500	$ 133,484,531	7,848,910	$ 78,489	$ 22,684,666	$ (108,069,068)	$ (4,359,190)	$ (89,665,103)
Contribution.	—	—	—	—	—	—	250	250
Exercise of stock options for promissory note.	—	—	1,793,795	17,938	(17,938)	—	—	—
Deemed dividend — warrant modification	—	—	—	—	4,813,681	(4,813,681)	—	—
Net loss	—	—	—	—	—	(16,723,870)	(1,492,067)	(18,215,937)
Stock-based compensation.	—	—	—	—	963,205	—	—	963,205
Balance, December 31, 2019.	27,011,500	$ 133,484,531	9,642,705	$ 96,427	$ 28,443,614	$ (129,606,619)	$ (5,851,007)	$ (106,917,585)
Exercise of stock options.	—	—	137,950	1,379	849,302	—	—	850,681
Exercise of stock options.	—	—	667,500	6,675	(6,675)	—	—	—
Repurchase of common stock	—	—	(2,461,295)	(24,613)	24,613	—	—	—
Exercise of common stock warrants.	—	—	4,336,970	43,370	22,177,803	—	—	22,221,173
Net loss	—	—	—	—	—	(3,357,746)	(596,067)	(3,953,813)
Stock-based compensation.	—	—	—	—	963,205	—	—	963,205
Balance, December 31, 2020	27,011,500	$ 133,484,531	12,323,830	$ 123,238	$ 52,451,862	$ (132,964,365)	$ (6,447,074)	$ (86,836,339)

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Consolidated Statements of Cash Flows

	Years Ended December 31,	
	2020	2019
Cash Flows from Operating Activities		
Net loss	$ (3,953,813)	$ (18,215,937)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities		
Depreciation and amortization	4,295,840	4,598,203
Change in fair value of warrant liability	1,912,487	1,992,250
Non-cash lease expense	5,272,409	2,783,558
Stock-based compensation	10,037,396	12,226,286
Change in inventory and receivable reserves	291,619	(156,731)
Loss (gain) on sale of equipment	1,129	(13,108)
Loss from equity interest in unconsolidated affiliate	1,509,704	1,623,445
Change in operating assets and liabilities		
Accounts receivable	2,607,011	(1,561,122)
Related party receivable	(84,340)	(51,059)
Related party payables	372,831	—
Inventories	(709,519)	(7,103,989)
Prepaid expenses and other assets	(107,336)	(275,470)
Accounts payable and accrued liabilities	1,061,060	(590,184)
Operating lease liabilities	(5,399,423)	(2,877,016)
Net cash provided by (used in) operating activities	17,107,055	(7,620,874)
Cash Flows from Investing Activities		
Proceeds from sale of equipment	—	13,108
Purchase of investment in equity method investments	(615,015)	—
Purchase of investment in unconsolidated subsidiaries	(750,000)	(1,300,281)
Purchase of property and equipment	(1,193,642)	(1,654,671)
Purchase of license agreements	(1,128,621)	(1,250,000)
Net cash used in investing activities	$ (3,687,278)	$ (4,191,844)

Thorne HealthTech, Inc.

Consolidated Statements of Cash Flows

	Years Ended December 31,	
	2020	**2019**
Cash Flows Provided by Financing Activities		
Payoff of line of credit	$ (11,204,731)	$ —
Proceeds from revolving line of credit	20,000,000	8,786,122
Payments on long-term debt and finance leases	(378,191)	(97,539)
Dividends paid on convertible preferred stock	(3,266,918)	—
Proceeds from loan from related party	—	3,000,000
Repayment of loan from related party	(3,000,000)	—
Proceeds from exercise of stock options	127,249	—
Proceeds from exercise of common stock warrants	22,221,173	—
Repurchase of common stock	(23,119,913)	—
Payments for loans to management	(710,000)	—
Proceeds from repayment of loans to management	710,000	—
Capital contribution	—	250
Net cash provided by financing activities	1,378,669	11,688,833
Net Increase (Decrease) in Cash	14,798,446	(123,885)
Cash, beginning of the year	463,648	587,533
Cash, end of the year	$ 15,262,094	$ 463,648
Supplemental Disclosure of Cash Flows Information		
Cash paid during the year for interest	$ 1,136,731	$ 672,813
Income tax paid (refunded)	$ 40,007	$ (26,989)
Noncash Investing and Financing Activities		
Equipment acquired through finance lease obligations	$ 694,108	$ 376,569
Equipment acquired through debt obligations	$ 893,600	$ —
Right-of-use assets obtained in exchange for lease liabilities	$ 4,259,688	$ 15,809,629
Leasehold improvements paid by lessor	$ —	$ 12,193,360
Promissory notes issued in exchange for common stock	$ —	$ 1,531,779

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

1. Organization and Nature of Operations

Thorne Holding Corp. (the Company) was incorporated under the laws of the state of Delaware on June 17, 2010, to acquire 100% of the stock of Thorne Research, Inc. (Thorne Research). On November 13, 2020, the Company changed its name to Thorne HealthTech, Inc.

The Company is a science-driven wellness company pioneering innovative solutions and personalized approaches to health and wellness. The Company is building a new health category to deliver better health outcomes through a proactive, empowered approach. Its unique, vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health over their lifetime. By combining its proprietary multi-omics database, artificial intelligence (AI) and digital health content with its science-backed nutritional supplements, the Company delivers a total system for wellness.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The accompanying consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (U.S. GAAP). The consolidated financial statements include the operations of the Company and all of its wholly-owned subsidiaries, as well as majority-owned subsidiaries over which it exercises control and, when applicable, entities for which it has a controlling financial interest or variable interest for which it is the primary beneficiary. All significant intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting periods. Actual results could differ from those estimates.

Key estimates relate primarily to determining the net realizable value and demand for inventory, future value of intangible assets, long lived assets and goodwill, useful lives associated with property and equipment, valuation allowances with respect to deferred tax assets, contingencies, warrant liability, impairment of equity method investments, evaluation of sales and use tax positions, and the valuation and assumptions underlying share-based compensation. On an ongoing basis, management evaluates its estimates compared to historical experience and trends, which form the basis for making judgments about the carrying value of assets and liabilities.

Cash

Cash includes all cash balances. At times, cash balances may exceed the amount insured by the Federal Deposit Insurance Corporation. The Company has not experienced any losses resulting from these excess deposits.

Accounts Receivable

Accounts receivable consist of balances due from customers and are recorded at net realizable value. Past due balances that are delinquent beyond the acceptable terms of credit for each customer are reviewed individually for collectability. The allowance for doubtful accounts was $34 thousand and $119 thousand as of December 31, 2020 and 2019, respectively.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Inventories

Inventories are stated at the lower of cost, determined on the first-in, first-out method, or net realizable value. Finished goods and work-in-process include the inventory costs of raw materials, direct labor and normal manufacturing overhead. The Company uses an inventory reserve to adjust our inventory costs down to a net realizable value and to reserve for estimated obsolescence of both raw materials and finished goods. At the point of loss recognition, a new, lower-cost basis for that inventory is established, and any subsequent improvements in facts and circumstances do not result in the restoration or increase in that newly established cost basis.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets include annual insurance premiums and annual equipment and software maintenance expense, paid on a non-calendar year basis such that portions of the advance payments relate to future periods.

Property and Equipment

Property and equipment are stated at historical cost, less accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Amortization of leasehold improvements is computed using the straight-line method over the shorter of the remaining lease term (including renewals that are reasonably certain to occur) or the estimated useful lives of the improvements. The estimated useful lives of property and equipment are as follows:

Machinery and equipment	3 to 15 years
Furniture and fixtures	3 to 7 years
Office equipment	3 to 7 years
Leasehold improvements	3 to 20 years
Vehicles	7 years
Lab equipment	5 to 10 years

Leases

The Company has operating and finance lease agreements for its production, shipping and customer service centers and corporate offices. At inception, the Company determines whether an agreement represents a lease and, at commencement, the Company evaluates each lease agreement to determine whether the lease constitutes an operating or financing lease. Some of our lease agreements have renewal options, tenant improvement allowances, rent holidays and rent escalation clauses.

The Company adopted the Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2016-02 - Leases as of January 1, 2019 using the cumulative-effect adjustment method and elected the package of practical expedients permitted in Accounting Standards Codification (ASC) Topic 842. Accordingly, the Company accounted for our existing leases as operating or finance leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC Topic 842, (b) whether classification of the leases would be different in accordance with ASC Topic 842, or (c) whether the unamortized initial direct costs before transition adjustments would have met the definition of initial direct costs in ASC Topic 842 at lease commencement. The Company also elected not to separate lease components from non-lease components for all fixed payments.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Adoption of ASU 2016-02 did not have a material impact on the Company's cash flows from operations and had no impact on the Company's operating results. The most significant impact was the recognition of operating lease right-of-use assets and operating lease obligations on its consolidated balance sheet. Right-of-use lease assets represent the Company's right to use the underlying asset for the lease term, and the operating lease obligation represents its commitment to make the lease payments arising from the lease. The Company has elected not to recognize on the consolidated balance sheet leases with terms of one-year or less. Lease liabilities and their corresponding right-of-use assets are recorded based on the present value of lease payments over the expected lease term. The interest rate implicit in lease contracts is typically not readily determinable. As such, the Company utilizes the appropriate incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. Certain adjustments to the right-of-use asset may be required for items such as initial direct costs paid or incentives received. The lease term may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Operating lease expense is recognized on a straight-line basis over the lease term, subject to any changes in the lease or expectations regarding the terms.

Other Assets

Other assets are primarily deposits required by contractual obligations for real estate leases.

Impairment of Long-lived Assets

The long-lived assets of the Company are reviewed for impairment in accordance with ASC 360, "Property, Plant and Equipment" (ASC 360), whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. During the years ended December 31, 2020 and 2019, no impairment losses were identified.

Investments

The Company has investments in various other entities. The equity method of accounting is used for entities in which the Company exercises significant influence, but does not have a controlling interest or a variable interest in which it is the primary beneficiary. Investments not accounted for using the equity method do not have readily determinable fair values and do not qualify for the practical expedient to measure the investment using a net asset value per share. These investments are recorded using the measurement alternative in which the Company's equity interests are recorded at cost, less impairments, adjusted for observable price changes in orderly transactions for an identical or similar investment of the same issuer. At each reporting period, the Company assesses if these investments continue to qualify for this measurement alternative. An impairment is recorded when there is evidence that the expected fair value of the investment has declined to below the recorded cost. Adjustments to the carrying value are recorded in other expense (income), net in the consolidated statements of operations.

Equity Method Investments

The Company reports investments in unconsolidated entities, over whose operating and financial policies it has the ability to exercise significant influence but not control, under the equity method of accounting.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Under this method of accounting, the Company's pro rata share of the applicable entity's earnings or losses are included in the consolidated statements of operations. Initially the investments are recorded based on assets contributed or the cash invested.

The Company evaluates its equity-method investments for impairment whenever events or changes in circumstances indicate that the carrying value of the investments may exceed the fair value. If it is determined that a decline in the fair value of the investments is not temporary, and if such reduced fair value is below its carrying value, an impairment is recorded. Determining fair value involves significant judgment. Estimates consider available evidence including the present value of the expected future cash flows discounted at market rates, general economic conditions and other relevant factors. No impairments were recorded related to our equity-method investments for the years ended December 31, 2020 and 2019.

Intangible Assets, net

Intangible assets are initially recorded at fair value and amortized over the estimated period of benefit on a straight line basis and include customer relationships with estimated useful lives of 20 years, trade names with estimated useful lives ranging from 5 to 15 years, existing technology and reformulations with estimated useful lives ranging from 3 to 15 years, research formulas with estimated useful lives of 10 years and license agreements with estimated useful lives of 3 to 15 years. Amortization expense is generally recognized in selling, general and administrative expense. The carrying value of definite life intangibles is reviewed at each balance sheet date if indication of impairment exists.

The Company's intangible assets include intangible assets acquired through the Thorne Research acquisition in 2010. As of December 31, 2020, the net book value of such intangible assets was to $6.1 million. Intangible assets also include payments under license agreements related to trademarks and content, which had a net book value as of December 31, 2020 of $1.5 million.

Goodwill

Goodwill, which represents the excess of the purchase price paid over the fair value of the identifiable net assets acquired, is carried at cost. Goodwill is not amortized; rather, it is subject to a periodic assessment for impairment by applying a fair value-based test. The Company is organized in one reporting unit and evaluates the goodwill for the Company as a whole. Goodwill is assessed for impairment on an annual basis annual basis at December 31st or more frequently if events or changes in circumstances indicate that the asset might be impaired. Under the authoritative guidance issued by the FASB, the Company has the option to first assess the qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform a quantitative goodwill impairment test. If the Company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then the goodwill impairment test is performed. The goodwill impairment test requires the Company to estimate the fair value of the reporting unit and to compare the fair value of the reporting unit with its carrying amount. If the fair value exceeds the carrying amount, then no impairment is recognized. If the carrying amount recorded exceeds the fair value calculated, then an impairment charge is recognized for the difference, limited to the amount of goodwill recorded. The judgments made in determining the projected cash flows used to estimate the fair value can materially impact the Company's financial condition and results of operations. There was no impairment of goodwill for the years ended December 31, 2020 and 2019.

In June 2010, the Company acquired all of the outstanding shares of capital stock of Thorne Research, which is now a wholly owned subsidiary of the Company.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The Company accounted for the transaction as a business combination in accordance with the provisions of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 805, Business Combinations, and recorded the consideration transferred and assets acquired, and liabilities assumed at their fair values, resulting in the recording of goodwill of $14.4 million.

Defined Contribution Plan

The Company maintains a 401(k) defined contribution plan which covers all employees who meet minimum requirements and elect to participate. The Company is currently matching employee contributions, up to specified percentages of those contributions.

Warrant Liability

The Company determines the accounting classification of a warrant, as either liability or equity, by first assessing whether the warrant meets liability classification in accordance with ASC 480, *Distinguishing Liabilities from Equity* (ASC 480), and then in accordance with ASC 815-40, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock* (ASC 815-40). If the warrant does not meet liability classification under ASC 480, the Company assesses the requirements under ASC 815-40, including whether the warrant is indexed to its common stock and whether the warrant meets the other requirements to be classified as equity under ASC 815-40. After all relevant assessments are made, the Company concludes whether the warrant should be classified as liability or equity.

The Company has warrants that are classified as a liability on the consolidated balance sheet. The warrants classified as a liability are measured at fair value using the Black-Scholes pricing model which takes into account, as of the valuation date, factors including the current exercise price, the contractual life of the warrant, the current fair value of the underlying stock, its expected volatility, and the risk-free interest rate for the term of the warrant. The warrant liability is revalued at each reporting period and changes in fair value are recognized in the consolidated statements of operations. The selection of the appropriate valuation model and the inputs and assumptions that are required to determine the valuation requires significant judgment and requires management to make estimates and assumptions that affect the reported amount of the related liability and reported amounts of the change in fair value. Actual results could differ from those estimates, and changes in these estimates are recorded when known. As the warrant liability is required to be measured at fair value at each reporting date, it is reasonably possible that these estimates and assumptions could change in the near term.

Equity-Classified Warrants

The Company has common stock warrants that are equity-classified on the consolidated balance sheet (see Note 15). The Company has concluded that these warrants do not meet the requirements to be accounted for as liability under ASC 480 as they are for a fixed number of shares and do not contain provisions that require the Company to cash-settle the warrants. Additionally, the Company determined that these warrants are indexed to the Company's stock as they do not contain exercise contingencies or adjustments to exercise price that are not an input to a fixed-for-fixed model. The warrants also meet the other equity-classification criteria under ASC 815-40. Equity classified warrants are accounted for at fair value on the issuance date and are not remeasured every reporting period.

Revenue Recognition

On January 1, 2019, the Company adopted Financial Accounting Standards Board (FASB) Topic 606, "*Revenue from Contracts with Customers*," (ASC 606) using the modified retrospective method for all contracts

not completed as of the date of adoption. Revenues for the years ended December 31, 2020 and 2019 are presented under ASC 606.

Under ASC 606, the Company accounts for revenue using the following steps:

- identify the contract, or contracts, with a customer;
- identify the performance obligations in the contract;
- determine the transaction price;
- allocate the transaction price to the identified performance obligations; and
- recognize revenue when, or as, the Company satisfies the performance obligations.

The Company recognizes revenues at a point in time when it satisfies a performance obligation by transferring control over a product and other promised goods and services to a customer. Significant judgments made in the application of ASC 606 include determining the transaction price, the timing of transfer of control of the performance obligation (i.e., sale of product). The Company considers several factors in determining the point in time when control transfers to the customer. These factors include that legal title transfers to the customer, the Company has a present right to payment, and the customer has assumed the risks and rewards of ownership.

Professional/B2B Sales: The Company sells to wholesale customers that include health professionals, retail stores and through various online sites operated by authorized resellers, such as Emerson Ecologics, LLC. Certain customers resell Company products in online marketplaces, however, no inventories are held on consignment; revenue is recognized when control of the goods is transferred to these customers which is typically at the time of shipment. For a few specific customers, revenue is recognized at time of delivery. The terms of payment over the recognized receivables from distributors are less than one year and therefore these sales do not have any significant financing components. The Company uses standard price lists in determining the transaction price, adjusted for estimates of variable consideration. Any discounts stated or implied are allocated entirely to the sole performance obligation.

DTC Transaction Sales: The Company also sells direct to consumers online through a Company owned and operated website. Revenue from online sales is recognized at time of shipment of the product. In addition, the Company sells testing services and test kits. Testing services and testing kits are recorded as revenue when the testing results are provided to the customer. Shipping and handling costs are considered a fulfillment activity and are expensed as incurred.

DTC Subscription Sales: The Company offers its customers the ability to opt into recurring automatic refills on both Thorne.com and Amazon.com. Revenue is recognized under the subscription program when product is shipped to the consumer. No funds are collected at the time a consumer signs up for a subscription and the customer can cancel or modify a subscription at any time at no cost to the customer. On the Company website, customers are allowed to subscribe at a frequency of monthly, every 45 days, every 2 months, every 3 months, or every 4 months. For all frequencies, a 10% discount is offered on retail refill orders. On Amazon, the discount ranges from 5 to 10% depending on the number of products to which a customer is subscribed; the average discount on Amazon for the Company’s subscriptions is approximately 8%. The Company records revenues, net of estimated discounts.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

If a customer is not satisfied for any reason with a product purchased, the customer can return it to the place of purchase to receive a refund, a credit, or a replacement product. The return or refund request must be submitted within 60 days of the date of purchase. The Company estimates returns and accrues for potential returns based on historical data.

There are no material differences in our revenue recognition policy between the DTC subscription program and the DTC transaction program.

The Company primarily sells to customers throughout the United States but also sells to international markets. Regardless of customer location, all customers are invoiced and payments are required to be made in U.S. dollars.

The Company has elected to exclude sales and use taxes for non-exempt customers from the transaction price and, therefore, sales and use taxes are excluded from revenue.

Product Returns, Sales Incentives and Other Forms of Variable Consideration

In measuring revenue and determining the consideration the Company is entitled to as part of a contract with a customer, the Company takes into account the related elements of variable consideration. Such elements of variable consideration element include product return rights, discounts, rebates, volume discounts and rebates and promotional offers and other marketing offers that may impact net sales.

For the sale of goods with a right of return, the Company only recognizes revenue for the consideration it expects to be entitled to (considering the products to be returned) and records a sales return accrual within accrued liabilities for the amount it expects to credit back its customers. Given that most product returns cannot be resold to another customer, the Company does not recognize an asset in inventory or a corresponding adjustment to cost of sales for the right to recover goods from customers associated with the estimated returns.

The sales return accrual include estimates that directly impact reported net sales. These estimates are calculated based on a history of actual returns and estimated future returns. In addition, as necessary, sales return accruals may be established for significant future known or anticipated events. The types of known or anticipated events that are considered, and will continue to be considered, include the Company's decision to continue to support new and existing products.

Returns are handled on a case-by-case basis, but generally all returns are accepted if the customer is unsatisfied with the product. The Company has accrued an estimate for returns related to a future period. Sales returns accrued for the years ended December 31, 2020 and 2019 were approximately $63 thousand and $44 thousand, respectively, and reduced net sales.

The Company estimates sales incentives and other variable consideration using the expected value method and records accruals within accrued liabilities when the liability becomes identifiable and quantifiable. Under this method, certain forms of variable consideration are based on volumes of sales to the customer, which requires subjective estimates. These estimates are supported by historical results as well as specific facts and circumstances related to the current period. A select few customers, because of their size, are offered a discount for early payment.

The Company also enters into transactions and makes payments to certain of its customers related to advertising, some of which involve cooperative relationships with customers. These activities may be arranged

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

either with unrelated third parties or in conjunction with the customer. To the extent that the Company receives a distinct good or service in exchange for consideration and the fair value of the benefit can be reasonably estimated, the Company's share of the costs of these transactions (regardless of to whom they were paid) are reflected as selling, general and administrative expenses in the accompanying consolidated statements of operations. The Company also enters into other advertising activities arranged with customers. These activities cannot be arranged with unrelated third parties, no distinct good or service is received in exchange for consideration and the fair value of the benefit is not reasonably estimated. The Company's share of the costs for these transactions paid to customers are reflected as a reduction in the transaction price within net sales in the accompanying consolidated statements of operations.

For certain sales, the Company incurs incremental costs of obtaining the contract through the form of sales commissions. The sales commissions incurred are directly correlated to the sales generated and are therefore expensed as incurred.

The following table presents revenue disaggregated by geography, as determined by the country products were shipped to:

	2020		2019	
	Amount	Percentage of Total	Amount	Percentage of Total
Domestic	$129,061,117	93.2%	$ 94,729,882	92.4%
Foreign	9,393,807	6.8%	7,802,289	7.6%
Total sales	$138,454,924	100.0%	$102,532,171	100.0%

The following table presents disaggregated revenues based upon sales channel:

	2020		2019	
	Amount	Percentage of Total	Amount	Percentage of Total
DTC subscription sales	$ 15,406,597	11.1%	$ 10,271,615	10.0%
DTC transaction sales	38,246,752	27.6%	24,599,322	24.0%
Professional/B2B	84,801,575	61.2%	67,661,234	66.0%
Total	$138,454,924	100.0%	$102,532,171	100.0%

Cost of Goods Sold

Cost of goods sold includes the cost of inventory sold and includes all direct and indirect costs to bring the product to its saleable condition, including, inbound freight costs associated with inventory, inventory shrinkage costs, labor associated with manufacturing, lab testing, depreciation and amortization of assets used in the manufacturing process, costs to maintain production equipment, quality assurance costs and other costs associated with manufacturing.

Selling, General and Administrative

Selling, general and administrative expenses consist of payroll and related expenses for employees involved in general corporate functions, including accounting, finance, legal, marketing, selling and human resources; costs associated with use by these functions of facilities and equipment, such as depreciation expense

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

and rent, share-based compensation expense, professional fees and other general corporate costs. It also includes shipping costs incurred in operating and staffing distribution operations, including costs attributable to picking, packaging and preparing customer orders for shipment, payment processing and related transaction costs, and responding to inquiries from customers.

Shipping and Handling

The costs of out-bound freight are included in selling, general and administrative expenses and totaled approximately $6.2 million and $4.0 million for the years ended December 31, 2020 and 2019, respectively.

Advertising

The cost of advertising is expensed as incurred. Advertising expense was approximately $7.8 million and $2.1 million for the years ended December 31, 2020 and 2019, respectively.

Research and Development

Research and development costs, which are expensed as incurred, totaled approximately $4.2 million and $3.9 million for the years ended December 31, 2020 and 2019, respectively. Research and development costs include research payroll and payroll related costs, new product development and line extensions, clinical trials, product efficacy research, product shelf-life validation and new dietary ingredient research, among other things.

Stock-based Awards

The Company follows ASC 718 “Stock Compensation”, which provides guidance in accounting for share-based awards exchanged for services rendered and requires companies to expense the estimated fair value of these awards over the requisite service period. The Company recognizes as expense, the grant-date fair value of stock options and other stock-based compensation issued to employees and non-employee directors over the requisite service periods, which are typically the vesting periods. The Company uses the Black-Scholes-Merton model to estimate the fair value of our stock-based payments. The volatility assumption used in the Black-Scholes-Merton model is based on the calculated historical volatility based on an analysis of reported data for a peer group of companies. The expected term of options granted has been determined based upon the simplified method, because the Company does not have sufficient historical information regarding its options to derive the expected term. Under this approach, the expected term is the mid-point between the weighted average of vesting period and the contractual term. The risk-free interest rate is based on U.S. Treasury rates whose term is consistent with the expected life of the stock options. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock; therefore, the expected dividend yield is assumed to be zero. The Company estimates forfeitures based on its historical experience and adjust the estimated forfeiture rate based upon actual experience.

Common Stock Valuation

Due to the absence of an active market for the Company’s common stock, the Company utilized methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants’ Audit and Accounting Practice Guide: Valuation of Privately-Held Company Equity Securities Issued as Compensation to estimate the fair value of its common stock. In determining the exercise prices for options granted, the Company has considered the fair value of the common stock as of the grant date. The fair

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

value of the common stock has been determined based upon a variety of factors, including the prices at which the Company sold shares of its convertible preferred stock to outside investors in arms-length transactions, if any, and the superior rights, preferences and privileges of the preferred stock relative to the common stock at the time of each grant; the Company's historical and forecasted performance and operating results and the lack of an active public market for the Company's common stock. Significant changes to the key assumptions underlying the factors used could result in different fair values of common stock at each valuation date.

Variable Interest Entities

The Company consolidates variable interest entities where the Company is determined to be the primary beneficiary, under ASC 810, *Consolidation*. The Company consolidates into its consolidated financial statements two legal entities (Health Elements, LLC and Onegevity Health, LLC) in which it holds a controlling interest. The Company presents non-controlling interest as a component of stockholders' deficit on its consolidated balance sheet and reports net loss-non-controlling interest in the consolidated statements of operations. The Company's acquisition or disposal of ownership interests in the variable interest entities is a reconsideration event that requires a reassessment of whether the entity continues to be a variable interest entity and whether the primary beneficiary has changed. If after making these reassessments, the primary beneficiary remains the same (i.e., a controlling financial interest is maintained), and the transaction is in the scope of ASC 810, the Company accounts for the acquisition or disposal of a noncontrolling interest as an equity transaction, consistent with the principles of ASC 810-10. Any difference between the price paid and the carrying amount of the noncontrolling interest is not be reflected in net income, but instead reflected directly in equity.

Health Elements, LLC (Health Elements). Health Elements is consolidated within the Company's consolidated financial statements. At January 1, 2016, the Company owned approximately 178.5 million Class A units, 7.7 million Series A Preferred units and 109.4 million Class B units of Health Elements, representing an ownership interest of approximately 48%. On November 15, 2016, the Company converted $5.6 million of its outstanding advance and unpaid interest to Health Elements into approximately 235.4 million Series C Preferred units.

During the year ended December 31, 2018, the Company acquired an additional approximately 1.0 million Series A Preferred units from Health Elements for $0.1 million from another investor, bringing the Company's total ownership to approximately 60.1%. The Company has determined that it is the primary beneficiary of Health Elements as it has the power to direct activities most significantly impacting Health Elements' economic performance. Therefore, the Company has consolidated the assets and liabilities of Health Elements in accordance with ASC 810, *Consolidations* as of December 31, 2019.

On July 31, 2020, the Company exchanged its interest in Health Elements for additional shares of Onegevity Health, LLC (Onegevity) which eliminated the Company's direct investment in Health Elements. This transaction increased the number of shares owned by the Company in Onegevity from 50,000 shares to 58,252. See below for further discussion of Onegevity.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Summary information for Health Elements, excluding intercompany activity with the Company and Onegevity, is included in the consolidated balance sheets and statements of operations as follows, as of and for the years ended December 31:

	2020	2019
Total assets	$ 0	$ 277,000
Less liabilities	0	214,000
Net assets (liabilities)	$ 0	$ 63,000
Revenue	$ 566,000	$1,382,000
Net loss	$(112,000)	$ (364,000)

For the year ended December 31, 2019, the Company, consolidated both Health Elements, LLC (Health Elements) and Onegevity into its consolidated financial statements. Health Elements has been consolidated into the Company's financial statements since its inception in 2011 and Onegevity has been consolidated into the Company's financial statements since its inception in 2018. The Company owned approximately 60% of the outstanding shares of Health Elements and approximately 50% of the outstanding shares of Onegevity immediately prior to the transaction on July 31, 2020. Both entities were consolidated under ASC 810 as the Company determined that it is the primary beneficiary of both entities.

The exchange of Health Elements shares for Onegevity shares in 2020 by the Company did not change the Company's ability to control the variable interest entities and therefore the transaction was recorded in equity. The noncontrolling interest in Heath Elements converted to a noncontrolling interest in Onegevity.

Onegevity Health, LLC. Onegevity is consolidated within the Company's consolidated financial statements.

The Company owned 50,000 shares of Onegevity capital stock, which equated to approximately 45% ownership at December 31, 2019. As discussed above, on July 31, 2020, the Company exchanged its 60% investment in Health Elements for an additional 8,252 shares of Onegevity. During the cashless tax-free exchange, Onegevity obtained a 100% ownership in Health Elements, and as a result all assets and liabilities have been consolidated into Onegevity's financial information. This transaction increased the Company's ownership in Onegevity to 58,252 shares, or approximately 50% ownership, at December 31, 2020. After evaluating relevant factors, the Company determined that it is the primary beneficiary of Onegevity and has accordingly consolidated the assets and liabilities of Onegevity in accordance with ASC 810, *Consolidations* as of and for the years ended December 31, 2020 and 2019.

Summary information for Onegevity, excluding intercompany activity with the Company and Health Elements, is included in the consolidated balance sheets and statements of operations as follows, as of and for the years ended December 31:

	2020	2019
Total assets	$ 1,728,000	$ 1,144,000
Less liabilities	545,000	1,592,000
Net assets (liabilities)	$ 1,183,000	$ (448,000)
Revenue .	$ 2,776,000	$ 1,049,000
Net loss	$ (881,000)	$ (2,693,000)

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Income Taxes

Income taxes are accounted for using an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date. We evaluate both the positive and negative evidence that is relevant in assessing whether we will realize the deferred tax assets. A valuation allowance is provided when it is more likely than not that some portion or all of the net deferred tax assets will not be realized. This projected realization is directly related to our future projections of the performance of our business and management's planning initiatives at any point in time. As a result, valuation allowances are subject to change as proven business trends and planning initiatives develop.

In accordance with the accounting standard for uncertainty in income taxes, liabilities for uncertain tax positions are recognized based on the two-step process prescribed by the accounting standards. The first step is to recognize the tax benefit from uncertain tax positions if it is more likely than not the tax positions will be sustained on examination by the tax authorities, based on the technical merits of the position. The second step is that the tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company recognizes interest and penalties related to income tax matters in income tax expense.

Health Elements, LLC made a previous election to be taxed as a Subchapter C corporation. As such, a provision for income taxes has been made for this entity and is included in the consolidated financial statements. See Note 15.

Segments

The Company operates in one reportable segment: the selling of innovative solutions and personalized approaches to health and wellness. The Company's chief operating decision maker (determined to be the Chief Executive Officer) does not manage any part of the Company separately, and the allocation of resources and assessment of performance are based on the Company's consolidated operating results and where the best future opportunities arise.

Loss Contingencies

Certain conditions may exist which may result in a loss to the Company, but which will only be resolved when one or more future events occur or fail to occur. The Company's management assesses such contingent liabilities and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against the Company, or unasserted claims that may result in such proceedings, the Company evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought therein.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability is estimable, the liability would be accrued in the Company's consolidated financial statements. If the assessment indicates that a potentially material loss contingency is not probable but is reasonably possible, or is probable but cannot be estimated, the nature of the contingent liability, together with an estimate of the range of possible loss, if determinable and material, would be disclosed.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Loss contingencies considered remote are generally not disclosed. Unasserted claims that are not considered probable of being asserted and those for which an unfavorable outcome is not reasonably possible have not been disclosed.

Fair Value Measurements

ASC 820*, Fair Value Measurements and Disclosures,* establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

- *Level 1:* Quoted prices (unadjusted) for identical assets or liabilities in active markets that the entity has the ability to access as of the measurement date.

- *Level 2:* Significant other observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

- *Level 3:* Significant unobservable inputs that reflect a reporting entity's own assumptions about the assumptions that market participants would use in pricing an asset or liability.

The carrying amounts of certain financial instruments, which include cash, receivables, accounts payable, accrued expenses, long-term debt and the line of credit approximate their fair values at December 31, 2020 and 2019 due to their short-term nature and management's belief that their carrying amounts approximate the amount for which the assets could be sold or the liabilities could be settled.

Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, Revenue from *Contracts with Customers*: (Topic 606). This ASU affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards (e.g., insurance contracts or lease contracts). This ASU will supersede the revenue recognition requirements in Topic 605, *Revenue Recognition*, and most industry-specific guidance. In addition, the existing requirements for the recognition of a gain or loss on the transfer of nonfinancial assets that are not in a contract with a customer (e.g., assets within the scope of Topic 360, *Property, Plant, and Equipment*, and intangible assets within the scope of Topic 350, *Intangibles-Goodwill and Other*) are amended to be consistent with the guidance on recognition and measurement (including the constraint on revenue) in this ASU. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The amendments in this ASU are effective for annual reporting periods beginning after December 15, 2018. The Company adopted this ASU as of January 1, 2019 using the modified retrospective method. The Company concluded there was no material impact to the beginning retained earnings as of January 1, 2019.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments*, which requires equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. However, entities may choose to measure equity investments that do not have readily determinable fair values at

cost minus impairment, if any. The Company adopted the ASU on January 1, 2019, and in accordance with the amended guidance of ASC 321, *Equity Securities*, elected to measure their equity investments without readily determinable fair values at cost minus impairment, if any. The ASU also requires separate presentation of financial assets and liabilities by measurement category (see Note 3) and form of financial asset (i.e. securities or loans and receivables). The adoption of ASU 2016-01 did not have a material impact on the Company's consolidated financial statements.

On January 1, 2019, the Company adopted the new accounting standard for leases, ASU 2016-02 and 2018-11 (collectively ASU 842) and changed its lease policies accordingly. Under the new standard, the most significant change is the requirement of balance sheet recognition of right-of-use (ROU) assets and lease liabilities by lessees for those leases classified as operating leases. The Company adopted the new accounting standard utilizing the modified retrospective method using a simplified transition approach. The Company has elected the package of practical expedients for transition which are permitted in the new standard. Accordingly, the Company did not reassess whether (i) any expired or existing contracts are or contain leases under the new standard, (ii) classification of leases as operating leases or capital leases would be different under the new standard, or (iii) any initial direct costs would have met the definition of initial direct costs under the new standard. Additionally, the Company did not elect to use hindsight in determining the lease term for existing leases as of January 1, 2019.

Adoption of the new lease standard on January 1, 2019 had a material impact on the Company's financial statements. The most significant impacts related to the recognition of right-of-use assets of $14.9 million and lease liabilities of $27.5 million for operating leases on the consolidated balance sheet as of January 1, 2019. The Company also reclassified deferred rent balance of $496,000 related to existing lease arrangements as of December 31, 2019 and into the ROU asset balance as of January 1, 2019. ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. The standard did not materially impact the statement of operations and statement of cash flows during implementation on January 1, 2019.

In January 2017, the FASB issued ASU 2017-04, *Intangibles – Goodwill and Other (Topic 250): Simplifying the Test for Goodwill Impairment*. These amendments eliminate Step 2 from the goodwill impairment test. The annual, or interim, goodwill impairment test is performed by comparing the fair value of a reporting unit with its carrying amount. An impairment charge should be recognized for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. This ASU is effective for public companies for fiscal years beginning after December 15, 2019; however, early adoption is permitted for annual goodwill impairment tests performed on testing dates after January 1, 2017. This update became effective at the beginning of the Company's 2020 fiscal year. The adoption of this ASU did not have any impact on the consolidated financial statements.

ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement. In August 2018, the FASB issued this ASU to align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This update was effective at the beginning of the Company's 2020 fiscal year. The Company currently has capitalized implementation costs related to a cloud-based lab software. As this is essentially a service contract arrangement, only development stage costs have been capitalized. This software is still in the development stage and as such, the software asset has not been placed in service. Although both internal and external implementation costs are eligible for capitalization, the Company has only capitalized

external costs. Ongoing service costs are being expensed as incurred. Total costs capitalized at December 31, 2020 and 2019 were $0.4 million and $0.3 million, respectively. It is anticipated that the software will be fully implemented during the second quarter of 2021.

Recent Accounting Pronouncements

ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. In December 2019, the FASB issued this ASU to simplify the accounting for income taxes by eliminating certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of deferred tax liabilities for outside basis differences. This ASU also clarifies and simplifies other aspects of the accounting for income taxes. This update is effective at the beginning of the Company's 2021 fiscal year, with early adoption permitted. The Company is currently evaluating the impact that the adoption of this standard will have on its consolidated financial statements.

ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. In June 2016, the FASB issued this ASU to amend the current accounting guidance which requires the measurement of all expected losses to be based on historical experience, current conditions and reasonable and supportable forecasts. For trade receivables, loans, and other financial instruments, the Company will be required to use a forward-looking expected loss model that reflects probable losses rather than the incurred loss model for recognizing credit losses. This ASU was amended by ASU 2019-10 to be effective for smaller reporting companies beginning after December 15, 2022. The Company does not believe the adoption of this ASU will have a material impact on its consolidated financial statements and disclosures.

ASU 2020-04, Reference Rate Reform (Topic 848). In March 2020, the FASB issued guidance providing optional expedients and exceptions to account for the effects of reference rate reform to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued. The optional guidance, which became effective on March 12, 2020 and can be applied through December 21, 2022, has not impacted the Company's consolidated financial statements. The Company has various contracts that reference LIBOR and is assessing how this standard may be applied to specific contract modifications through December 31, 2022.

No other new accounting pronouncement issued or effective during the fiscal year had, or is expected to have, a material impact on our consolidated financial statements.

COVID-19 Pandemic and CARES Act

On January 30, 2020, the World Health Organization (WHO) announced a global health emergency because of a new strain of coronavirus (COVID-19) and the risks to the international community as the virus spreads globally. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic.

The Company is a manufacturer of nutritional supplement products, a category of food that is regulated by the U.S. Food and Drug Administration. Based on guidance issued by the U.S. Department of Homeland Security and the Cybersecurity and Infrastructure Security Agency, and in particular, specific guidance therein regarding the food and agriculture industries, the Company's manufacturing facility has been designated as "Essential Critical Infrastructure Workers" and would therefore be exempt from any "shelter in place" restrictions that might be imposed by the State of South Carolina.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The full impact of the COVID-19 outbreak continues to evolve as of the date of this report. As such, it is uncertain as to the impact this pandemic on the Company's financial condition. Management is actively monitoring the impact of this virus on its financial condition, liquidity, operations, suppliers, customers and workforce.

On March 27, 2020, President Trump signed into law the "Coronavirus Aid, Relief, and Economic Security (CARES) Act." The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions, and technical corrections to tax depreciation methods for qualified improvement property. The Company deferred the employer portion of payroll taxes during the year ended December 31, 2020. The total amount deferred at year end was approximately $1.0 million and will be payable over the next two years.

The Company's consolidated financial statements presented herein reflect the latest estimates and assumptions made by management that affect the reported amounts of assets and liabilities and related disclosures as of the date of the consolidated financial statements and reported amounts of revenue and expenses during the reporting periods presented.

3. Inventories, net

Inventories consist of the following:

	December 31,	
	2020	2019
Raw materials	$ 13,751,348	$ 9,719,993
Work in process	7,224	201,993
Finished goods	14,808,931	17,935,998
Reserve for slow moving and obsolete inventory	(501,479)	(125,000)
Inventory, net	$ 28,066,024	$ 27,732,984

Raw materials consist primarily of powders, softgels, and packaging components such as bottles, lids and labels. Work in process consists of premixed powders and encapsulated powders not yet bottled.

4. Investments - Equity Method

Drawbridge Health, Inc. (Drawbridge). During the year ended December 31, 2017, the Company purchased 2,857,142 shares of Series B Preferred Stock of Drawbridge for $5.0 million. The shares have voting rights, are convertible into common stock and have preferential payment considerations. Holders of this stock are entitled to a $0.14 per share dividend when and if declared. Dividends on the preferred stock are not mandatory or cumulative. In July 2019, an additional $0.5 million was paid for 285,714 shares of Series B Preferred Stock. The Company had an ownership percentage of approximately 12.4% in Drawbridge at December 31, 2019. Drawbridge raised additional capital in 2020 at the same price as what the Company historically paid which reduced the Company's ownership in Drawbridge to 11.2% as of December 31, 2020. Management has determined it does have the ability to exercise significant influence over Drawbridge's operating and financial activities due to its equity ownership and board representation, which began in 2019. The investment, therefore,

is accounted for using the equity method, and the Company's proportionate share of the net loss of the investee is reported under the line item captioned "loss from equity interest in unconsolidated affiliates" in the consolidated statements of operations. During the years ended December 31, 2020 and 2019, the Company's proportionate share of the investee's net loss was $0.9 million and $1.2 million, respectively. The Company's net investment in Drawbridge as of December 31, 2020 and 2019 was $3.4 million and $4.3 million, respectively.

Tecton Group LLC (Tecton). During the year ended December 31, 2017, the Company and OPS-FUEL, Inc. formed Tecton Group LLC, with each party initially receiving 1,000,000 common shares, representing 50% ownership. After evaluating the relevant factors, the Company determined that it had significant influence with respect to Tecton, and accounted for the investment using the equity method, with the investee's proportionate share of the net loss of the investee reported under the line item captioned "loss from equity interest in unconsolidated affiliates" in the consolidated statements of operations. During the year ended December 31, 2018, the Company and other third-party investors purchased additional shares in Tecton. The Company's new ownership interest in Tecton was approximately 49%. During the year ended December 31, 2018, as the Company's proportionate share of the investee's net loss exceeded the carrying value of the purchased shares, the carrying value of this investment at December 31, 2018 was zero.

During the year ended December 31, 2019, the Company increased its investment in Tecton, however its ownership percentage decreased to approximately 48% due to additional third parties investing in Tecton. During the year ended December 31, 2019, as the Company's proportionate share of the investee's net loss and suspended losses from the prior year again exceeded the total investment, the carrying value of this investment at December 31, 2019 was zero. The total suspended loss in the Tecton investment was approximately $754,761 at December 31, 2019, for which the Company has no further obligation.

During the year ended December 31, 2020, the Company further increased its investment, however its ownership percentage decreased due to additional investment by other investors, resulting in an approximately 43% interest in Tecton. During the year ended December 31, 2020, as the Company's proportionate share of the investee's net loss and suspended losses from the prior year again exceeded the total investment, the carrying value of this investment was zero at December 31, 2020. The total suspended loss in the investee was approximately $462,243 at December 31, 2020, for which the Company has no further obligation.

Tecton in conjunction with the Company is in the process of commercializing a revolutionary nutrition technology developed by the U.S. Department of Defense that provides soldiers and athletes improved cognitive and physical performance in addition to fueling the brain to protect against concussion and secondary damage of traumatic brain injury. The Company is also party to a letter agreement between us, Tecton, Kirin and Mitsui (Tecton Letter Agreement) providing us with, amongst other things, a right of first offer to commercialize any Tecton product or service. The Tecton Letter Agreement also provides Kirin and Mitsui, with a right of first negotiation for any commercialization of Tecton products or services in Japan. Paul Jacobson, our Chief Executive Officer, also is a member of Tecton's board of directors. In 2020, we paid certain fees on behalf of Tecton, totaling approximately $615,000, in exchange for a 3.5% additional equity interest in Tecton.

NR Therapeutics LLC (NR). During the year ended December 31, 2020, the Company purchased 49 common units for $750,000 from NR Therapeutics Holdings, Inc., representing 49% ownership in NR Therapeutics LLC. The Company invested in NR in order to purchase an exclusive ingredient that will be included in products available for sale beginning in 2021. Management concluded that no impairment was necessary for the year ended December 31, 2020.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

5. Investments – Equity securities

Oova. During the year ended December 31, 2019, the Company invested $400,000 in Oova, representing a 3.15% equity interest. As management has determined it does not have the ability to exercise significant influence over the operating and financial activities of the investee, and the fair value of the investment is not readily determinable, the Company's investment in Oova is accounted for at cost minus impairment, in accordance with ASC 321, Equity Securities. As there were not any observable price changes in identical or similar securities to Oova, the Company has not adjusted the value of this investment upward or downward, either on a cumulative basis or in the current year ended December 31, 2020. Since Oova is a startup company, it is difficult to identify the risks associated with this investment and whether the investment, if sold, would be sold at a different amount than the net asset value per share as currently recorded as the fair value of this investment. Since the Company invested in Oova, the investee has successfully brought its product to market. Although there are no restrictions on the Company's ability to sell this investment, the timing of when or if the Company would sell this asset is unknown at this time. There are no unfunded commitments related to the Company's investment. Management concluded that no impairment was necessary for the years ended December 31, 2020 or 2019.

6. Property and Equipment, net

The components of property and equipment are as follows:

	December 31,	
	2020	2019
Machinery and equipment	$ 7,248,706	$ 5,807,760
Furniture and fixtures	351,935	326,064
Office equipment	2,748,380	2,646,562
Leasehold improvements	18,858,225	18,590,789
Vehicles	98,282	98,282
Lab equipment	1,755,985	1,672,808
Total property and equipment	31,061,513	29,142,265
Less accumulated depreciation and amortization	(8,603,098)	(6,379,804)
In-process assets including deposits on new equipment	731,315	572,795
Property and equipment, net	$ 23,189,730	$ 23,335,256

In-process assets are stated at cost, which includes the cost of construction and other directly attributable costs. No provision for depreciation is made on in-process assets until the relevant assets are completed and available for intended use. The Company's leasehold improvements include approximately $12.2 million in improvements at its Summerville facility that were paid for by the lessor. Management concluded the Company is the accounting owner of the leasehold improvements, and accordingly, has recorded the leasehold improvements as part of property and equipment on the consolidated balance sheets.

Depreciation and amortization expense of property and equipment was $2.2 million and $2.1 million for the years ended December 31, 2020 and 2019, respectively.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

7. Intangible Assets, net

Intangible assets, other than goodwill, and the associated accumulated amortization consist of the following:

	2020	2019	Weighted average Amortization (Years)
Customer relationships	$ 6,500,000	$ 6,500,000	20
Trade names	8,640,000	8,640,000	14
Existing technology/reformulations	3,207,923	3,207,923	13
Research and development formulas	800,000	800,000	10
License agreements	7,841,365	6,712,743	5
Total intangible assets	26,989,288	25,860,666	
Accumulated amortization	(19,354,035)	(17,289,833)	
Intangible assets, net	$ 7,635,253	$ 8,570,833	

Amortization expense totaled $2.1 million and $2.5 million for the years ended December 31, 2020 and 2019, respectively.

Following is a table of estimated amortization expense for the next five years and thereafter as of December 31, 2020:

Year Ending December 31,	Amount
2021	$ 1,637,029
2022	1,387,029
2023	1,166,195
2024	1,012,029
2025	685,363
Thereafter	1,747,608
Total	$ 7,635,253

8. Line of Credit

Line of Credit. In December 2018, the Company entered into an asset-based line of credit. The amount of the loans available to the Company cannot exceed $20.0 million and is limited to the amount of qualified current receivables and inventory owned by the Company. The interest rate paid is 0.25% on any unused line of credit and LIBOR plus 1.75% on the used portion of the line of credit. Interest payments are due monthly, and the principal balance is due upon maturity in December 2023. Accounts receivable totaling $1.6 million served as collateral for borrowings on an asset-based line of credit at December 31, 2019. This loan was paid off and closed out during March 2020 and therefore no receivables served as collateral at December 31, 2020. As of December 31, 2020 and 2019, the Company had borrowings of $0 and $11.2 million, respectively, on the line of credit.

Letter of Credit. In 2018, an irrevocable standby letter of credit was issued by a bank on the Company's behalf as required by the landlord of the Summerville, South Carolina production facility, and

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

guarantees were issued by related parties. This letter of credit is for $4.9 million and had an original expiration date of December 3, 2019 with automatic renewals until October 31, 2037. The letter of credit has an annual fee of $20 thousand. Each shareholder guaranteed 50% of the total amount of the standby letter of credit and requires an annual guarantee fee. The guarantee fee expense for the years ended December 31, 2020 and 2019 were $0.2 million and $0.2 million, respectively and were paid 50% to each of the shareholders. The guarantee fee is based on the 12-month U.S. dollar rate plus 3% on the amount of the guarantee. All of these fees are included in guarantee fees in the consolidated statements of operations.

On February 14, 2020, the Company secured a new revolving line of credit with a new financial institution. There were no debt issuance costs incurred to secure this financing. The line of credit was guaranteed by two significant shareholders in the Company. Each shareholder guaranteed 50% of the total amount of the loan. Funds were drawn up to the maximum $20.0 million limit in February 2020, and remained outstanding as of December 31, 2020. The primary uses of the funds were to paydown and close the previous line of credit, and pay off the dividend payable and related party payable, all of which were outstanding liabilities at December 31, 2019. The loan expired in February 2021. On February 14, 2021, as a subsequent event, the loan was extended until February 2022 and accordingly, the line of credit was classified as a long-term liability on the consolidated balance sheet as of December 31, 2020. The guarantee fees of 2.0% accrued during the year ended December 31, 2020 related to this line of credit were $0.4 million and is included in the guarantee fees in the consolidated statements of operations. The interest paid to the bank on the loan is a variable interest rate based on rates quoted by the bank. The Company can choose an interest rate, based on current market rates and on the number of days it chooses to lock in the interest rate. The number of days range from 30 days to 365 days. On December 15, 2020, the Company locked in an interest rate for 90 days through March 15, 2021 at a rate of 0.715%.

9. Long-Term Debt

During the year ended December 31, 2020, the Company entered into two financing agreements in order to obtain two encapsulation machines through financing arrangements. The long-term debt is as follows:

	December 31, 2020
Note payable with quarterly principal and interest payments of $30,917 per quarter, with fixed interest of 6.943%. The loan matures August 12, 2024.	$ 346,436
Note payable with quarterly principal and interest payments of $30,917 per quarter, with fixed interest of 6.943%. The loan matures July 15, 2023	346,435
	692,871
Less current maturities	(223,400)
Long-term debt	$ 469,471

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The loans above are collateralized by the encapsulation machines acquired. Aggregate maturities of long-term debt as of December 31 are as follows:

Year Ending December 31,	Amount
2021	$ 223,400
2022	219,046
2023	203,740
2024	46,685
Total	$ 692,871

10. Related Party Payable

The Company obtained a loan from one if its largest shareholders in the amount of $3.0 million in July 2019. This loan bears fixed interest at the rate of 7.5%. The loan did not have any maturity date. The terms of the loan required that it could not be repaid until the Company mets certain liquidity threshold. This loan was paid in full in February 2020, with interest accrued of $0.1 million also paid at that time. The interest expense is included in interest expense in the consolidated statements of operations. The Company also had a related party payable to multiple shareholders totaling $0.8 million and $0.4 million at December 31, 2020 and 2019, respectively, related to inventory purchases (see Note 19).

11. Leases

On January 1, 2019, the Company adopted a new accounting standard for leases, as outlined in recently adopted accounting standards in Note 2 – Summary of Significant Accounting Policies.

The Company leases real estate, vehicle, and equipment for use in its operations. The Company's leases generally have lease terms of 1 to 30 years, some of which include options to terminate, or to extend leases. The Company includes options that are reasonably certain to be exercised as part of the determination of lease terms. The Company may negotiate termination clauses in anticipation of any changes in market conditions, but generally these termination options are not exercised. Residual value guarantees are generally not included within operating leases. In addition to base rent payments, the leases may require the Company to pay directly for taxes and other non-lease components, such as insurance, maintenance and other operating expenses, which may be dependent on usage or vary month-to-month. The Company elected the practical expedient in the new standard to not separate non-lease components from lease components in calculating the amounts of right-of-use (ROU) assets and lease liabilities for all underlying asset classes. The Company determined if an arrangement is a lease at inception of the contract in accordance with guidance detailed in the new standard and performed the lease classification test as of the lease commencement date. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. When leases do not provide an implicit rate, the Company used its estimated incremental borrowing rate based on the information available at commencement date in determining the present value of future payments.

Leases that are economically similar to the purchase of an asset are classified as finance leases. As of December 31, 2020 and 2019, finance lease assets are included separately within the consolidated balance sheets and the corresponding finance lease liabilities are included within current portion of long-term debt and finance leases for the current portion, and within long-term debt and finance leases, net of current portion for

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

the long-term portion. The finance lease classification under ASC 842 includes leases previously classified as capital leases under ASC 840.

The balances for the operating and finance leases where the Company is the lessee are presented as follows within the consolidated balance sheets:

	December 31, 2020	December 31, 2019
Operating lease:		
Operating lease right-of-use assets	$ 17,740,816	$ 15,310,882
Current portion of operating lease obligations	2,603,930	866,249
Operating lease obligations, net of current portion	27,284,356	26,929,349
Total operating lease liabilities	$ 29,888,286	$ 27,795,598
Finance lease:		
Finance right-of-use assets	$ 767,237	$ 283,407
Current portion of finance lease obligations	269,212	77,390
Finance lease obligation, net of current portion	454,857	135,917
Total finance lease liabilities	$ 724,069	$ 213,307

The components of lease expense are as follows within our statement of operations:

	Years ended December 31,	
	2020	2019
Operating lease expense:		
Operating lease cost(1)	$ 5,062,144	$ 2,690,396
Finance lease expense:		
Amortization of leased assets	210,262	93,162
Interest on lease liabilities	22,947	7,946
Total lease cost	$ 5,295,353	$ 2,791,504

(1) Includes short-term leases and variable lease costs, which are immaterial.

The weighted average remaining lease term and weighted average discount rate at December 31 were as follows:

	December 31, 2020	December 31, 2019
Weighted average remaining lease term (years)		
Operating leases	15.53 years	16.5 years
Finance leases	.02 years	.01 years
Weighted average discount rate applied		
Operating leases	12.1%	8.4%
Finance leases	4.7%	4.6%

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Supplemental cash flow information related to leases where the Company is the lessee is as follows:

	Years ended December 31,	
	2020	2019
Operating cash outflows from operating leases	$ 5,399,423	$ 2,877,016
Operating cash outflows from finance leases (interest payments)	22,947	7,946
Financing cash outflows from finance leases	177,461	97,539
Leased assets obtained in exchange for finance lease liabilities	694,108	246,314
Leased assets obtained in exchange for operating lease liabilities	$ 4,259,688	$ 938,197

As of December 31, 2020, the maturities of the operating and finance lease liabilities are as follows:

Period	Operating leases	Finance leases
2021	$ 5,563,360	$ 298,213
2022	4,484,766	265,205
2023	2,842,169	142,780
2024	2,915,006	69,732
2025	2,864,422	0
Thereafter	38,616,667	0
Total minimum lease payments	$ 57,286,390	$ 775,930
Less: imputed interest	27,398,104	51,861
Total present value of lease liabilities	$ 29,888,286	$ 724,069
Less: current portion	2,603,930	269,212
Long-term portion of lease liabilities	$ 27,284,356	$ 454,857

In 2016, the Company entered into a new lease agreement for office, warehouse and production space in Summerville, South Carolina. The Company began occupying the space in the summer of 2018, with the lease commencing April 2018. The lease requires monthly payments of $0.2 million, increasing by 2.5% annually, through January 31, 2037. At December 31, 2020, monthly payments were $0.2 million. The Company was required to provide the landlord with a $4.9 million irrevocable letter of credit as a security deposit (see Note 8). The required security deposit may be reduced upon the attainment of certain EBITDA levels.

12. Employee Compensation Plans

The Company maintains a qualified defined contribution profit sharing plan (Profit Sharing Plan) for all eligible employees. Employees age 21 or older are eligible to participate on the first day of the following month from their hire date. The amount of contribution is determined annually by the Board of Directors. Effective January 1, 2019, the Company began making safe harbor contributions to the Profit Sharing Plan. The contribution will match 100% of the elective deferrals for the first 3% contributed by the employee, with another 50% of deferrals over 3% up to 5% of the compensation. This safe harbor plan requires that all matching contributions are 100% vested at the time of contribution. The total employer safe harbor contributions to the Profit Sharing Plan during the years ended December 31, 2020 and 2019 were $0.7 million and $0.6 million, respectively. Any profit-sharing contributions would be fully vested at the end of six or more years of service, with 20% each year starting in the second year of service. There were no profit-sharing contributions to the Profit Sharing Plan in 2020 or 2019.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The Company has a non-qualified deferred compensation plan for select groups of management that was established in August 2015 (Deferred Compensation Plan). The purpose of the Deferred Compensation Plan is to attract and retain a select group of management or highly compensated employees and to provide them an opportunity to defer compensation on a pre-tax basis and accumulate tax-deferred earnings to achieve their financial goals. The Deferred Compensation Plan provides the following benefits:

- opportunity to defer compensation in excess of qualified retirement plan limits on a pre-tax basis;
- earnings accumulate tax-deferred;
- systematic savings through payroll deduction;
- various investment choices;
- ability to tailor benefit distribution options to meet personal needs; and
- unlike a qualified plan, the Deferred Compensation Plan is not required to fund the benefits payable under the Deferred Compensation Plan and the value in the trust is subject to the Company's general creditors.

Each participant in the Deferred Compensation Plan has a fully vested and non-forfeitable interest in each year's contribution, including interest credited thereto, and in any Company matching contributions, if applicable. The Company may make discretionary credits to the deferred compensation account of each participant in an amount determined each plan year by the Company. The Company has not made any discretionary credits to the Deferred Compensation Plan since inception.

13. Concentrations

Credit Risk. Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and accounts receivable. Although the Company places its cash with high quality institutions, these balances often exceed federally insured limits. Concentrations of credit risk primarily relate to unsecured trade receivables. Major customers who accounted for more than 10% of the Company's total receivables were as follows:

	Years ended December 31,	
	2020	2019
Emerson Ecologics, LLC	39.4%	24.2%
iHerb, Inc.	*	24.3%
Biote Medical, LLC	*	14.3%

* Represents less than 10%

Sales. Major customers who accounted for more than 10% of the Company's total sales were as follows:

	Years ended December 31,	
	2020	2019
iHerb, Inc.	11.3%	10.6%
Pattern Inc.	26.1%	27.8%

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

14. Convertible Preferred Stock and Stockholders' Deficit

On July 5, 2018, the Company issued 27,011,500 Series E convertible preferred stock to investors for $138.4 million. At December 31, 2020 and 2019, the Company had Series E convertible preferred stock outstanding of 27,011,500 shares which are recorded in the financial statements as temporary equity.

A summary of the significant rights and privileges of the Series E convertible preferred stock is as follows:

Conversion. Each share of Series E convertible preferred stock is convertible at the option of the holder into common stock on a one-for-one basis. Each share of Series E convertible preferred stock shall automatically be converted into shares of common stock at the then effective conversion price immediately after the consummation of a qualified public offering. Additionally, each share of preferred stock is automatically converted immediately upon the conversion or vote to convert by the holders of a majority of the then outstanding preferred stock.

Liquidation. Upon any liquidation, dissolution, or winding-up of the business, the assets of the Company available for distribution to its stockholders shall be distributed first to the holders of shares of Series E convertible preferred stock up to their original issue prices.

Voting Rights. The holder of each share of preferred stock shall be entitled to vote on all matters and shall be entitled to that number of votes equal to the total number of shares of common stock into which the preferred stock are convertible.

Dividends. In the event the Board of Directors declares the payment of dividends, they shall be distributed first to the holders of shares of Series E convertible preferred stock up to their original issue prices. Thereafter, the amounts remaining shall be distributed pro rata based on the number of shares of common stock then held by each shareholder (assuming conversion of all outstanding shares of Series E convertible preferred stock into common stock).

In conjunction with the issuance of Series E convertible preferred stock, the Company's board of directors declared dividends to holders of Series D preferred stock in 2018. All shares of Series D preferred stock were redeemed in 2018. These dividends were approved by the board and declared payable in 2018 and were accrued for as of December 31, 2018. The dividends were paid during the year ended December 31, 2020 along with accrued interest at the rate of 7.5% of $0.3 million.

The Company's Series E convertible preferred stock has been classified as temporary equity on the accompanying consolidated balance sheet in accordance with authoritative guidance for the classification and measurement of redeemable securities. Upon certain fundamental transaction events that are outside of the Company's control, including liquidation, sale or transfer of control of the Company, the Company may be required to redeem the Series E convertible preferred stock. The Company has determined not to adjust the carrying values of the Series E convertible preferred stock to the liquidation preferences of such shares because the Series E convertible preferred stock is not currently redeemable and not probable of becoming redeemable due to the uncertainty of whether or when the contingent events would occur.

15. Warrants

The Company's two largest shareholders each hold a warrant to purchase 2,225,000 shares of the Company's common stock, with an exercise price of $5.12 and an expiration date of October 11, 2028. These warrants are classified as equity on the consolidated balance sheets. In July 2020, each shareholder exercised 2,168,485 equity-based warrants for a total of $22.3 million in gross proceeds. As of December 31, 2020, there were 113,030 warrants outstanding.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

As of December 31, 2019 and 2020, the Company had 2,532,050 additional common stock warrants outstanding that were classified as equity with an exercise price of $6.74 and an expiration date of June 23, 2030.

The original expiration date of the 2,532,050 warrants was June 23, 2020. In May 2019, the Company extended the term of certain common stock warrants classified as equity on the consolidated balance sheets. The Company extended the expiration date of these warrants to June 23, 2030. The Company remeasured the warrants immediately before and after the modification in May 2019, and the resulting change in fair value of $4.8 million was recorded as a dividend to the warrant holders, who were stockholders of the Company.

In April 2011, the Company issued 453,455 warrants to purchase common stock to a related-party stockholder, with a strike price of $6.74 per warrant. The warrants were originally classified as liability awards. In May 2019, the Board of Directors extended the term of the warrants for an additional 10 years to June 23, 2030. The extension was determined by management to be a modification of the warrant and the change in fair value of the warrants as a result of the modification of $1.0 million was recorded as an expense within the consolidated statement of operations for the year ended December 31, 2019.

The warrant liability is remeasured at fair value at each reporting date and had a fair market value of $3.9 and $2.0 million as of December 31, 2020 and 2019, respectively. Equity-classified warrants are accounted for at fair value on the issuance date and are not remeasured at each reporting period. The Black-Scholes assumptions that were used in the valuation at the time of issuance include a volatility for the Company of 56%, a risk-free interest rate of 2.46% and the term length was the contractual term of the warrants issued.

In order to calculate the fair value of the warrants, certain assumptions were made, including the fair market value of the underlying common stock, risk-free interest rate, volatility, and remaining contractual life. Changes to the assumptions could cause significant adjustments to the valuation. Due to the Company's limited operating history and lack of company-specific historical or implied volatility as a private company, the expected volatility assumption was determined by examining the historical volatilities of a group of industry peers whose share prices are publicly available. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of the grant for treasury securities of similar maturity. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock; therefore, the expected dividend yield is assumed to be zero.

The Black-Scholes model was used to value the liability-classified warrants. The following assumptions were used:

	December 31,	
	2020	2019
Fair market value	$11.17	$6.67
Exercise Price	$ 6.74	$6.74
Term	9.5	10.5
Volatility	68%	56%
Annual Dividend	0	0
Risk-free interest rate	0.13%	1.83%

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The fair value of financial instruments measured on a recurring basis is as follows:

	As of December 31, 2020			
Description	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liability	$ 3,930,930	—	—	$ 3,930,930

	As of December 31, 2019			
Description	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liability	$ 2,018,443	—	—	$ 2,018,443

The following table summarizes the change in fair value, as determined by Level 3 inputs, for all assets and liabilities using unobservable Level 3 inputs for the year ended December 31, 2019 and December 31, 2020

	Warrant Liability
Balance at December 31, 2018	$ 26,193
Fair value assessment upon extension of warrant life for 10 years	985,334
Change in fair value for 2019	1,006,916
Balance at December 31, 2019	2,018,443
Change in fair value for 2020	1,912,487
Balance at December 31, 2020	$ 3,930,930

16. Stock Based Awards

Stock Options. In 2010, The Board of Directors created the 2010 Equity Incentive Plan (the 2010 Plan) and has been amended from time to time to grant additional options. The 2010 Plan provides granting of options to purchase shares of common stock. All options are granted at the discretion of the Company's Board of Directors and have a term of not greater than 10 years from issuance. Options are exercisable when vested. Vesting requires continuous employment up to the vesting date and the vesting schedule is determined by the 2010 Plan. Options generally vest over a four-year period. The Company has also granted 905,575 performance-based employee stock options, the exercise of which is dependent upon the exercise of certain warrants for common stock. In 2018, an additional 5,117,500 options were authorized to be issued to management with a strike price of $5.12. Total options authorized as of each of December 31, 2019 and 2020 were 8,900,000.

In 2018, certain members of management and the Company entered into an agreement whereby certain members of management received a put right from the Company, in which management could receive cash from the Company for the fair value of 2,538,280 common stock options, with an exercise price of $0.85 per share, were set to expire in 2020 and 2021. Per the terms of the Agreement, the fair value to be paid in cash equaled the fair value of the underlying common stock less the exercise price of the stock options.

On May 1, 2019, certain members of management exercised 1,793,795 of the 2,538,280 options, whereby promissory notes totaling $1.5 million, representing the exercise price of $0.85 per share, were executed in exchange for 1,793,795 shares of common stock. The promissory notes to management bear interest at 5.0%, with a maturity date of June 22, 2020. In addition, in May 2019, these same members of management and the Company entered into an additional put right agreement in which management could request the Company to purchase the 1,793,795 shares of common stock for cash.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

Due to the terms of the promissory notes with management and the put right on both the stock options and common stock, the Company determined the put rights represent a liability of the Company to management and is remeasured at each balance sheet date. The change in liability is charged to stock-based compensation expense within selling, general and administration expense in the consolidated statements of operations. As of December 31, 2019, the stock-based compensation liability was $14.8 million was recorded as a short term liability on the consolidated balance sheet. In June 2020, the Company agreed to purchase the common stock from these members of management at fair value. The stock-based compensation liability was again remeasured just prior to the exercise date. Stock compensation expense related to the remeasurement of these options was $9.1 million and $11.3 million in the years ended December 31, 2020 and 2019, respectively. The Company paid $23.1 million to management and relieved the liability on July 14, 2020 in the amount of $23.8 million, and one option holder elected to cash exercise 106,800 options.

In February 2020, promissory notes to key members of management of the Company were executed totaling $0.7 million. The notes bear interest at 5.0%, with a maturity date of June 30, 2020. The promissory notes were issued so that management would have the appropriate funds to pay taxes associated with the exercise of 1,793,795 stock options into common stock. These notes were paid off in July 2020. During the year ended December 31, 2020, management repaid all promissory notes upon maturity. Interest of $16 thousand was reported as interest income and included in the net interest expense shown on the consolidated statements of operation.

In June 2020, the Company issued promissory notes to key members of management totaling $6.3 million in connection with the buyout of management stock options and the repurchase of common stock. Subsequently, the common stock and stock options were canceled. The notes bore interest at 5.0%, with a maturity date of July 31, 2020. These notes were repaid by the Company at maturity during the year ended December 31, 2020 with interest expense of $22 thousand which was reporting as interest expense and included in the net interest expense shown on the consolidated statements of operation.

Additional related party transactions are discussed in Note 19.

Stock-based compensation expense for 2020 and 2019 was $10.0 million and $12.2 million, respectively. This amount is classified as selling, general and administrative expense on the consolidated statements of operations.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The following table summarizes the Company's stock option activity during the years ended December 31:

	Options Issued and Outstanding	Weighted-Average Exercise Price	Grant-Date Fair Value
January 1, 2019	10,411,220	$ 2.34	$ 0.39
Granted	—	—	—
Exercised	1,793,795	0.85	—
Cancelled/forfeited	—	—	—
Outstanding, December 31, 2019	8,617,425	4.31	0.58
Exercisable, December 31, 2019	6,917,525	$ 1.12	$ 0.26
January 1, 2020	8,617,425	$ 4.31	$ 0.58
Granted	—	—	—
Exercised	805,450	0.85	—
Cancelled/forfeited	—	—	—
Outstanding, December 31, 2020	7,811,975	4.66	0.58
Exercisable, December 31, 2020	5,253,225	$ 2.25	$ 0.30

The following information summarizes the Company's stock options outstanding at December 31, 2020:

Exercise Price ($)	Number of Options Outstanding	Weighted-Average Remaining Contractual Life (Years)	Number of Options Available for Exercise
1.16	424,975	2.70	424,975
1.35	716,450	4.12	716,450
4.49	767,625	4.12	767,625
6.74	785,425	2.71	785,425
5.12	5,117,500	7.78	2,558,750
	7,811,975		5,253,225

As of December 31, 2020, the unrecognized stock-based compensation expense related to outstanding options was $1.7 million and is expected to be recognized as expense over approximately two years.

17. Income Taxes

The components of income tax expense consist of the following:

	Years Ended December 31,	
	2020	2019
Current		
Federal	$ —	$ —
State	176,758	33,424
Net income tax expense	$ 176,758	$ 33,424

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31, 2020	December 31, 2019
Deferred tax assets:		
Net operating losses	$ 13,547,317	$ 13,809,479
State credits	2,031,797	1,577,942
Lease liability ASC 842	7,152,442	6,790,809
Disallowed interest expense	164,984	—
Stock options	—	465,080
Other	976,746	1,588,213
Total deferred tax assets	$ 23,873,286	$ 24,231,523
Deferred tax liabilities:		
Basis difference on fixed assets	$ (3,569,913)	$ (3,532,661)
Basis difference on intangibles	(1,066,468)	(543,941)
Prepaid expenses	(100,995)	(111,030)
Right-of-use asset ASC 842	(4,324,325)	(3,780,863)
Total deferred liabilities	(9,061,701)	(7,968,495)
Net deferred tax asset	14,811,585	16,263,028
Less valuation allowance	(14,811,585)	(16,263,028)
Net deferred tax asset (liability) post valuation allowance	$ —	$ —

The effective tax rate differs from the statutory federal tax rate as follows:

	Years Ended December 31, 2020		2019	
Federal income tax at the statutory rate U.S. federal rate	$ (835,808)	21.0%	$(3,818,327)	21.0%
State taxes, net of federal	128,075	(3.2%)	26,920	(0.2%)
Permanent items	2,571,620	(64.6%)	3,043,025	(16.7%)
Change in valuation allowance	(1,659,594)	41.7%	1,308,428	(7.2%)
Impact of prior period adjustments			(578,771)	3.2%
Nondeductible expenses and other	(27,535)	0.7%	52,149	(0.3%)
Income tax expense	$ 176,758		$ 33,424	
Effective income tax rate	(4.4%)		(0.2%)	

As discussed in Note 2, Health Elements made a federal election during 2013 to be taxed as a Subchapter C corporation. Since that time, Health Elements has filed a consolidated income tax return, which includes the activity of WellnessFX, Inc. The Company has continued to file a separate consolidated income tax return, which includes the activity of Thorne Research. As such, separate tax returns are filed and therefore net operating losses are unique to each tax group.

As of December 31, 2019, the Company had federal operating loss carryforwards of approximately $51.3 million and state operating loss carryforwards $51.3 million, including Health Elements. As of December 31, 2020, the Company had federal net operating loss carryforwards of approximately $50.1 million and state

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

operating loss carryforwards of $50.1 million, including Health Elements. If not utilized, the federal operating loss carryforwards incurred before January 1, 2019 will begin to expire in 2030. The federal operating losses incurred in 2019 and beyond do not expire. The state operating loss carrying forwards do not expire.

For the year ended December 31, 2018, management has not yet conducted a formal analysis to determine the impact of the Company's move from Idaho to South Carolina for purposes of its state apportionment. Management estimates that the combined Idaho and South Carolina operating loss for the year ended December 31, 2018 approximates $11,400,000. Under current law, the Idaho portion of the overall operating loss will expire December 31, 2038 whereas the South Carolina portion of the operating loss has an indefinite carryforward period. Management does not believe there are any uncertain tax positions.

The Company has net operating loss carryforwards in various other state jurisdictions that are not material to the consolidated financial statements.

Internal Revenue (Code) Section 382 can potentially limit the future utilization of net operating loss carryforwards when certain ownership changes occur. Management has not undertaken a Code Section 382 study for either the Company or Health Elements tax groups. As such, while a full valuation allowance has been recognized against the tax benefit associated with the above loss carryforwards, it is unknown whether the gross loss carryforwards are limited under Section 382. A formal study could potentially result in a decrease in the gross carryforwards and result in an increased future tax liability to us.

The Company is subject to taxation in the U.S. and various states. The Company does not have any unrecognized tax benefits. As of December 31, 2020 and 2019, there is no accrued interest or penalties recorded in the financial statements.

18. Commitments and Contingencies

Royalties and Other Agreements. The Company has entered into various agreements which require future payments. The agreement calls for future payments to a major hospital for use of their trademarks and tradenames in advertising the benefits of supplements and gives the Company access to research information owned by the hospital and provides for the hospital to perform clinical trials and to support the Company's products. As of December 31, 2020, future annual minimum commitments under these agreements are as follows:

Year Ending December 31,	Amount
2021	$ 1,860,500
2022	1,280,000
2023	750,000
Total	$ 3,890,500

The Company also has various royalty agreements, which are dependent on future sales. Total royalties paid during each of the years ended December 31, 2020 and 2019, were approximately $0.5 million.

Other. In 2017, the Company recognized grant revenue of $0.8 million from Berkeley County, South Carolina, which includes certain performance obligations that must be met over the next seven years and maintained by the company for five years once attained. The grant agreement includes the potential for repayment of proceeds in whole or in part for failure to satisfy the performance obligations. As of December 31, 2020, Berkeley County has not asked for repayment of these proceeds.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

The Company, like other manufacturers of products that are ingested, faces an inherent risk of exposure to product liability claims in the event that, among other things, the use of its product results in injury.

The Company maintains insurance to manage these risks. However, there can be no assurance the amount of insurance would be sufficient to cover all product liability claims.

In addition to the matter discussed below, occasionally the Company is involved in lawsuits arising in the ordinary course of its operations. The Company's management does not expect the ultimate resolution of pending legal action to have a material effect on the consolidated financial statements of the Company.

The Company is aware of third-party issued U.S. patents with claims relating to compositions of nicotinamide riboside, a component of some of the Company's products, owned by the Trustees of Dartmouth and licensed to ChromaDex Corporation (ChromaDex). The Company has filed petitions for *inter partes* review against these patents at the Patent Trial and Appeal Board to seek to invalidate these patents. The Trustees of Dartmouth and ChromaDex may initiate infringement proceedings against the Company. The Trustees of Dartmouth and ChromaDex have asserted their patents against other third parties, such as Elysium Health. The Company has not recorded a loss in connection with this matter as the Company believes that it is currently not probable nor estimable.

19. Related Party Transactions

Inventory Purchases. The Company purchases raw material from a stockholder. Purchases totaled $4.6 million and $3.8 million for the years ended December 31, 2020 and 2019, respectively. Amounts due to the related party, at December 31, 2020 and 2019, were approximately $0.8 million and $0.4 million, respectively.

Licensing Agreement. On March 19, 2019, Onegevity Health, LLC (Onegevity) entered into a feasibility review agreement (Feasibility Agreement) with Kirin Holdings Company, Limited (Kirin) and Mitsui & Co., Ltd. (Mitsui). Entities affiliated with Kirin hold more than 5% of our capital stock and entities affiliated with Mitsui also hold more than 5% of our capital stock. Pursuant to the Feasibility Agreement, we are required to conduct a feasibility study for the successful commercialization of Onegevity's Gutbio product (Gutbio Product) and in return each of Kirin and Mitsui paid the company $500,000 (Feasbility Payment Amount). Under the Feasibility Agreement, Kirin and Mitsui may, acting jointly, anytime prior to March 19, 2022, make the decision to commercialize the Gutbio Product. If they choose to commercialize the Gutbio Product, then we are required to enter into a definitive license agreement to license the Gutbio Product to Kirin and Mitsui for their exclusive use in Japan. If they do not choose to commercialize the Gutbio Product, the Feasibility Agreement requires us to issue equity securities of Onegevity to each of Kirin and Mitsui in equal amounts in consideration for the Feasibility Payment Amount.

Reimbursement of Costs. The Company paid $0.3 million and $0.1 million to stockholders for reimbursement of labor costs and attorney fees during the year ended December 31, 2020 and 2019, respectively.

Accounts Receivable. There was approximately $13 thousand in accounts receivable at December 31, 2019 from an officer, which was subsequently paid in January 2020. There were no accounts receivable from officers in 2020.

Other. See Notes 8, 10, 14, 15, 16 and 21 for additional discussion of the Company's related party transactions.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

20. Basic and Diluted Net Loss per Share

Basic net loss per share is computed by dividing net loss by the weighted average number of shares of common stock outstanding for the period. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period. Diluted net loss per share is the same as basic net loss per share, since the effects of potentially dilutive securities are anti-dilutive for all periods presented.

The following securities, presented on a common stock equivalent basis, have been excluded from the calculation of weighted average common shares outstanding for the years ended December 31, 2020 and 2019 because the effect is anti-dilutive due to the net loss reported in each of those periods. All share amounts presented in the table below represent the total number outstanding as of the end of each period.

Description	2020	2019
Convertible preferred stock	27,011,500	27,011,500
Equity warrants	2,645,080	6,982,050
Liability warrants	453,455	453,455
Stock options	7,811,975	8,617,425

21. Subsequent Events

The Company has evaluated subsequent events through April 19, 2021, which represents the date the consolidated financial statements were available to be issued and through September 13, 2021 with respect to the stock split discussed below.

On January 26, 2021, the Company entered into a five-year lease agreement for a 136,500 square foot building for the Company's shipping operations. The lease has two renewal options for three years each. Rent is abated for the first three months while the Company installs racking, packing stations and all other required equipment before shipping is relocated. Future rent payments are as follows:

Year Ending December 31,	Amount
2021	$ 467,775
2022	642,411
2023	661,683
2024	681,534
2025	701,980
Thereafter	180,760
Total	$ 3,336,143

In connection with relocating shipping operations, additional leases were signed for various equipment, such as forklifts and computers, which are not material.

On February 14, 2021, the Company renewed the revolving line of credit for an additional year to February 12, 2022. The line of credit continues to be guaranteed by two significant shareholders in the Company with a reduced guarantee fee of 1.2%. Funds were drawn up to the $20.0 million limit in February 2020, and remained outstanding at December 31, 2020. The current interest rate on the loan was renewed for a 90-day period through June 14, 2021 at a rate of 0.655%.

Thorne HealthTech, Inc.

Notes to Consolidated Financial Statements

On March 3, 2021, the Company and Onegevity merged per the terms of an Agreement and Plan of Merger by and between the companies (Merger Agreement).

The Merger Agreement calls for the issuance of one share of the Company's Series B common stock for every four shares owned by the Onegevity shareholders. The merger increased the number of shares of Company stock issued and outstanding from 39,335,330 shares to 45,426,935 shares. The Company is the surviving entity after the consummation of the merger.

The Company's Board of Directors and the stockholders authorized the issuance of Series B common stock. These shares do not have voting rights or rights to receive future dividends.

On September 10, 2021, the Company approved and effected a 445-for-1 forward stock split of the Company's Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the stock split. The Company also increased the authorized number of shares of its Class A common stock to 63,800,000 shares, its Class B common stock to 6,200,000 shares and its Series E convertible preferred stock to 27,011,500 shares.

All related share and per share amounts have been retroactively adjusted in these consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split. Further, other related information, including shares of common stock underlying the Company's warrants, stock options and restricted stock units and their respective exercise prices have been retroactively adjusted in these consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split.

There were no other subsequent events requiring recognition or disclosure in the accompanying consolidated financial statements.

Thorne HealthTech, Inc.

Condensed Consolidated Balance Sheets

	June 30, 2021 (unaudited)	December 31, 2020
Assets		
Current Assets		
Cash	$ 9,719,846	$ 15,262,094
Accounts receivable, net	5,994,752	2,378,994
Related party receivables	753,974	135,399
Inventories, net	39,549,691	28,066,024
Prepaid expenses and other current assets	2,161,880	886,328
Total current assets	58,180,143	46,728,839
Property and equipment, net	25,119,467	23,189,730
Operating lease right-of-use asset, net	19,860,996	17,740,816
Finance right-of-use asset	995,649	767,237
Intangible assets, net	7,333,309	7,635,253
Goodwill	14,440,683	14,440,683
Investments	1,150,000	1,150,000
Equity method investments	—	3,382,147
Other assets	3,510,836	454,429
Total assets	$ 130,591,083	$ 115,489,134

Thorne HealthTech, Inc.

Condensed Consolidated Balance Sheets

	June 30, 2021 (unaudited)	December 31, 2020
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current Liabilities		
Revolving line of credit	$ 20,000,000	$ —
Accounts payable	14,106,083	8,691,430
Accrued payroll	2,360,288	2,592,143
Other accrued expenses	995,489	891,018
Related party payable	1,210,589	809,080
Current portion of operating lease liability	3,569,863	2,603,930
Current portion of finance lease liability	377,895	269,212
Current portion of long-term debt	479,936	223,400
Total current liabilities	43,100,143	16,080,213
Long-term Liabilities		
Revolving line of credit	—	20,000,000
Operating lease liability, net of current portion	27,956,124	27,284,356
Finance lease liability, net of current portion	589,966	454,857
Long-term debt, net of current portion	1,334,332	469,471
Warrant liability	5,240,956	3,930,930
Other long-term liabilities	603,914	621,115
Total liabilities	78,825,435	68,840,942
Commitments and Contingencies (Notes 11 and 18)		
Series E convertible preferred stock, $0.01 par value per share 27,011,500 authorized; 27,011,500 issued and outstanding as of June 30, 2021 and December 31, 2020; aggregate liquidation preference of $134,449,035 as of June 30, 2021 and December 31, 2020	133,484,531	133,484,531
Stockholders' Deficit		
Common stock Class A; par value $0.01, 63,190,000 authorized as of June 30, 2021 and December 31, 2020, respectively; 12,323,830 issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	123,238	123,238
Common stock Class B; no par value, 8,900,000 authorized as of June 30, 2021 and 0 as of December 31, 2020 respectively; 6,179,270 issued and outstanding as of June 30, 2021 and 0 as of December 31, 2020, respectively	—	—
Additional paid-in capital	52,986,527	52,451,862
Accumulated deficit	(134,793,179)	(132,964,365)
Total stockholders' deficit—Thorne HealthTech, Inc.	(81,683,414)	(80,389,265)
Non-controlling interest	(35,469)	(6,447,074)
Total stockholders' deficit	(81,718,883)	(86,836,339)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 130,591,083	$ 115,489,134

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Condensed Consolidated Statements of Operations
(unaudited)

	Six Months Ended June 30,	
	2021	2020
Net Sales	$ 87,373,705	$ 63,503,992
Cost of sales	41,240,751	35,455,684
Gross profit	46,132,954	28,048,308
Operating expenses:		
Research and development	2,042,941	2,571,533
Write off of acquired Drawbridge in-process research and development	1,563,015	—
Selling, general, and administrative	32,856,102	29,524,768
Income (loss) from operations	9,670,896	(4,047,993)
Other (income) expense:		
Interest expense, net	363,901	862,195
Guarantee fees	279,271	171,960
Change in fair value of warrant liability	1,310,026	718,184
Loss on Drawbridge transaction	165,998	—
Other expense (income), net	(38,143)	—
Total other (income) expense, net	2,081,053	1,752,339
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	7,589,843	(5,800,332)
Income tax expense	43,538	80,774
Net Income (loss) before loss from equity interest in unconsolidated affiliates	7,546,305	(5,881,106)
Loss from equity interest in unconsolidated affiliates	(3,173,106)	(444,026)
Net income (loss)	4,373,199	(6,325,132)
Net loss—non-controlling interest	(245,061)	(687,227)
Net Income (loss) attributable to Thorne HealthTech, Inc.	4,618,260	(5,637,905)
Undistributed earnings attributable to Series E convertible preferred stockholders	(4,618,260)	—
Net Income (loss) attributable to common stockholders	$ —	$ (5,637,905)
Earnings (loss) per share:		
Basic	$ —	$ (0.71)
Diluted	$ —	$ (0.71)
Weighted average common shares outstanding:		
Basic	17,650,035	7,949,925
Diluted	17,650,035	7,949,925

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

(unaudited)

	Convertible Preferred Stock		Common Stock Class A		Common Stock Class B		Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance, December 31, 2019	27,011,500	$ 133,484,531	9,642,705	$ 96,427	—	$ —	$ 28,443,614	$ (129,606,619)	$ (5,851,007)	$ (106,917,585)
Exercise of common stock warrants	—	—	106,800	1,068	—	—	90,132	—	—	91,200
Stock-based compensation	—	—	—	—	—	—	481,602	—	—	481,602
Net loss	—	—	—	—	—	—	—	(5,637,905)	(687,227)	(6,325,132)
Balance, June 30, 2020	27,011,500	$ 133,484,531	9,749,505	$ 97,495	—	$ —	$ 29,015,348	$ (135,244,524)	$ (6,538,234)	$ (112,669,915)

	Convertible Preferred Stock		Common Stock Class A		Common Stock Class B		Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance, December 31, 2020	27,011,500	$ 133,484,531	12,323,830	$ 123,238	—	$ —	$ 52,451,862	$ (132,964,365)	$ (6,447,074)	$ (86,836,339)
Common stock issued in exchange for remaining interest in consolidated affiliate	—	—	—	—	6,179,270	—	—	(6,447,074)	6,447,074	—
Noncontrolling interest in acquired subsidiary	—	—	—	—	—	—	—	—	209,592	209,592
Stock-based compensation	—	—	—	—	—	—	534,665	—	—	534,665
Net income	—	—	—	—	—	—	—	4,618,260	(245,061)	4,373,199
Balance, June 30, 2021	27,011,500	$ 133,484,531	12,323,830	$ 123,238	6,179,270	$ —	$ 52,986,527	$ (134,793,179)	$ (35,469)	$ (81,718,883)

Thorne HealthTech, Inc.

Condensed Consolidated Statements of Cash Flows
(unaudited)

	Six Months Ended June 30,	
	2021	2020
Cash Flows from Operating Activities		
Net income (loss)	$ 4,373,199	$ (6,325,132)
Adjustments to reconcile net income (loss) to net cash (used in) provided by operating activities		
Depreciation and amortization	2,261,969	1,893,521
Change in fair value of warrant liability	1,310,026	718,184
Non-cash lease expense	2,953,727	2,413,217
Stock-based compensation	534,665	8,400,589
Change in inventory and receivable reserves	(62,462)	(115,174)
Loss from equity interest in unconsolidated affiliate	3,173,106	444,026
Loss on Drawbridge transaction	165,998	—
Write off of acquired Drawbridge in-process research and development	1,563,015	—
Change in operating assets and liabilities		
Accounts receivable	(3,607,072)	540,466
Related party receivable	(618,575)	(842,132)
Related party payables	401,509	—
Inventories	(11,411,154)	(2,532,533)
Prepaid expenses and other assets	(611,863)	270,224
Accounts payable and accrued liabilities	3,704,343	3,132,203
Operating lease liabilities	(3,244,257)	(2,072,127)
Net cash provided by operating activities	886,174	5,925,332
Cash Flows from Investing Activities		
Repayment of short term advance from related party	—	(3,114,106)
Purchase of property and equipment	(1,136,975)	(878,150)
Acquisition of Drawbridge Health assets, net of cash acquired	(1,412,279)	—
Purchase of license agreements	(563,470)	(200,000)
Net cash used in investing activities	$ (3,112,724)	$ (4,192,256)

Thorne HealthTech, Inc.

Condensed Consolidated Statements of Cash Flows
(unaudited)

	Six Months Ended June 30,	
	2021	2020
Cash Flows (Used in) Provided by Financing Activities		
Payoff of line of credit	$ —	$ (12,577,087)
Repayment of loan from related party	—	—
Proceeds from revolving line of credit	—	20,000,000
Payments on long-term debt and finance leases	(324,938)	(327,168)
Dividends paid on convertible preferred stock	—	(3,266,918)
Payment of deferred offering costs	(2,990,760)	—
Proceeds from exercise of stock options	—	91,200
Net cash (used in) provided by financing activities	(3,315,698)	3,920,027
Net (Decrease) Increase in Cash	(5,542,248)	5,653,103
Cash, beginning of period	15,262,094	463,648
Cash, end of period	$ 9,719,846	$ 6,116,751
Supplemental Disclosure of Cash Flows Information		
Cash paid during the year for interest	$ 371,730	$ 813,369
Income tax paid (refunded)	$ 192,618	$ (55,977)
Noncash Investing and Financing Activities		
Equipment acquired through finance lease obligations	$ 420,361	$ 213,972
Equipment acquired through debt obligations	$ 1,274,601	$ 446,800
Right-of-use assets obtained in exchange for lease liabilities	$ 2,913,002	$ 4,259,688
Promissory note payable issued in exchange for buyback of management options	$ —	$ (6,270,092)

See accompanying notes to financial statements.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

1. Description of Business and Nature of Operations

Thorne HealthTech, Inc. was originally incorporated under the name of Thorne Holding Corp. (the Company) and was incorporated under the laws of the state of Delaware on June 17, 2010, to acquire 100% of the stock of Thorne Research, Inc. (Thorne Research). On November 13, 2020, the Company changed its name to Thorne HealthTech, Inc.

The Company is a science-driven wellness company pioneering innovative solutions and personalized approaches to health and wellness. The Company is building a new health category to deliver better health outcomes through a proactive, empowered approach. Its unique, vertically integrated brands, Thorne and Onegevity, provide actionable insights and personalized data, products and services that help individuals take a proactive approach to improve and maintain their health over their lifetime. By combining its proprietary multi-omics database, artificial intelligence (AI) and digital health content with its science-backed nutritional supplements, the Company delivers a total system for wellness.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (U.S. GAAP). The consolidated financial statements include the operations of the Company and all of its wholly-owned subsidiaries, as well as majority-owned subsidiaries over which it exercises control and, when applicable, entities for which it has a controlling financial interest or variable interest for which it is the primary beneficiary. All significant intercompany accounts and transactions have been eliminated in consolidation.

Unaudited Consolidated Financial Statements

The consolidated balance sheet as of June 30, 2021, and the consolidated statements of operations, convertible preferred stock and stockholders' deficit, and cash flows for the six months ended June 30, 2020 and 2021 are unaudited. The unaudited consolidated financial statements have been prepared on the same basis as the annual consolidated financial statements and reflect, in the opinion of management, all adjustments of a normal and recurring nature that are necessary for the fair statement of the Company's financial position as of June 30, 2021 and the results of operations and cash flows for the six months ended June 30, 2021 and 2020. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted. The financial data and the other financial information disclosed in these notes to the consolidated financial statements related to the six months ended June 30, 2021 and 2020 are also unaudited. The consolidated results of operations for the six months ended June 30, 2021 are not necessarily indicative of results to be expected for the year ending December 31, 2021 or for any other future annual or interim period. The consolidated balance sheet as of December 31, 2020 included herein was derived from the audited consolidated financial statements as of that date.

These interim consolidated financial statements should be read in conjunction with the Company's audited financial statements.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and expenses as well as related

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

disclosure of contingent assets and liabilities. The Company bases its estimates on its historical experience and on assumptions that it believes are reasonable; however, actual results could significantly differ from those estimates.

There have been no significant changes from the significant accounting policies disclosed in the Company's audited financial statements as of and for the year ended December 31, 2020.

In-process Research & Development

In-process research and development (IPR&D), was recorded at its fair value using a discounted cash flow model and was assigned to acquired research and development assets that were not fully developed as of the completion of the acquisition of Drawbridge Health, Inc. (the Drawbridge Transaction). IPR&D acquired in an asset purchase is capitalized on the Company's balance sheet at its acquisition-date fair value if the acquired IPR&D has alternative future use. For the IPR&D that was acquired from the Drawbridge Transaction it was determined that the IPR&D had no alternative future use and therefore it was expensed immediately following the Drawbridge Transaction and is being presented as write-off of acquired Drawbridge in-process research and development in the condensed consolidated statements of operations. Fair value measurement was classified as Level 3 under the fair value hierarchy.

Fair Value Measurements

ASC 820, *Fair Value Measurements and Disclosures,* establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

- *Level 1:* Quoted prices (unadjusted) for identical assets or liabilities in active markets that the entity has the ability to access as of the measurement date.
- *Level 2:* Significant other observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- *Level 3:* Significant unobservable inputs that reflect a reporting entity's own assumptions about the assumptions that market participants would use in pricing an asset or liability.

The carrying amounts of certain financial instruments, which include cash, receivables, accounts payable, accrued expenses and the line of credit approximate their fair values at June 30, 2021 and December 31, 2020 due to their short-term nature and management's belief that their carrying amounts approximate the amount for which the assets could be sold or the liabilities could be settled.

As of June 30, 2021 and December 31, 2020, there were 453,455 warrants classified as liability. The fair value of the warrant liability is based on the Black-Scholes option model. The Company is required to revalue the warrants at each reporting date with any changes in fair value recorded on the consolidated statement of operations. The valuation of the warrants is classified under Level 3 of the fair value hierarchy due to the need to use assumptions in the valuation that are both significant to the fair value measurement and unobservable.

Deferred Offering Costs

The Company capitalizes within other assets certain legal, accounting and other third-party fees that are directly related to the Company's in-process equity financings, including the planned offering to which this

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

prospectus relates, until such financings are consummated. After consummation of the equity financing, these costs are recorded as a reduction of the proceeds received as a result of the offering. Should a planned equity financing be abandoned, terminated or significantly delayed, the deferred offering costs are immediately written off to operating expenses. The Company deferred $3.0 million of offering costs at June 30, 2021, which are included in other assets in these financial statements.

Revenue Recognition

The Company accounts for revenues under Financial Accounting Standards Board (FASB) Topic 606, *Revenue from Contracts with Customers* (ASC 606) using the following steps:

- identify the contract, or contracts, with a customer;
- identify the performance obligations in the contract;
- determine the transaction price;
- allocate the transaction price to the identified performance obligations; and
- recognize revenue when, or as, the Company satisfies the performance obligations.

The Company recognizes revenue at a point in time when it satisfies a performance obligation by transferring control over a product and other promised goods and services to a customer. Significant judgments made in the application of ASC 606 include determining the transaction price, the timing of transfer of control of the performance obligation (i.e., sale of product). The Company considers several factors in determining the point in time when control transfers to the customer. These factors include that legal title transfers to the customer, the Company has a present right to payment, and the customer has assumed the risks and rewards of ownership.

Professional/B2B Sales: The Company sells to wholesale customers that include health professionals, retail stores and through various online sites operated by authorized resellers, such as Emerson Ecologics, LLC. Certain customers resell Company products in online marketplaces, however, no inventories are held on consignment; revenue is recognized when control of the goods is transferred to these customers which is typically at the time of shipment. For a few specific customers, revenue is recognized at time of delivery. The terms of payment over the recognized receivables from distributors are less than one year and therefore these sales do not have any significant financing components. The Company uses standard price lists in determining the transaction price, adjusted for estimates of variable consideration. Any discounts stated or implied are allocated entirely to the sole performance obligation.

DTC Transaction Sales: The Company also sells direct to consumers online through a Company owned and operated website. Revenue from online sales is recognized at time of shipment of the product. In addition, the Company sells testing services and test kits. Testing services and testing kits are recorded as revenue when the testing results are provided to the customer. Shipping and handling costs are considered a fulfillment activity and are expensed as incurred.

DTC Subscription Sales: The Company offers its customers the ability to opt into recurring automatic refills on both Thorne.com and Amazon.com. Revenue is recognized under the subscription program when product is shipped to the consumer. No funds are collected at the time a consumer signs up for a subscription and the customer can cancel or modify a subscription at any time at no cost to the customer. On the Company

website, customers are allowed to subscribe monthly, every 45 days, every 2 months, every 3 months, or every 4 months. For all these frequencies, a 10% discount is offered on retail refill orders. On Amazon, the discount ranges from 5% to 10% depending on the number of products to which a customer is subscribed; the average discount on Amazon for the Company's subscriptions is approximately 7%. The Company records revenues, net of estimated discounts.

If a customer is not satisfied for any reason with a product purchased, the customer can return it to the place of purchase to receive a refund, a credit, or a replacement product. The return or refund request must be submitted within 60 days of the date of purchase. The Company estimates returns and accrues for potential returns based on historical data.

There are no material differences in our revenue recognition policy between the DTC subscription program and the DTC transaction program.

The Company primarily sells to customers throughout the United States but also sells in international markets. Regardless of customer location, all customers are invoiced and payments are required to be made in U.S. dollars. The Company has elected to exclude sales and use taxes for non-exempt customers from the transaction price and, therefore, sales and use taxes are excluded from revenue.

Product Returns, Sales Incentives and Other Forms of Variable Consideration

In measuring revenue and determining the consideration the Company is entitled to as part of a contract with a customer, the Company takes into account the related elements of variable consideration. Such elements of variable consideration include product return rights, discounts, rebates, volume discounts and rebates, and promotional offers and other marketing offers that may impact net sales.

For the sale of goods with a right of return, the Company only recognizes revenue for the consideration it expects to be entitled to (considering the products to be returned) and records a sales return accrual within accrued liabilities for the amount it expects to credit back its customers. Given that most product returns cannot be resold to another customer, the Company does not recognize an asset in inventory or a corresponding adjustment to cost of sales for the right to recover goods from customers associated with the estimated returns.

The sales return accrual includes estimates that directly impact reported net sales. These estimates are calculated based on a history of actual returns and estimated future returns. In addition, as necessary, sales return accruals may be established for significant future known or anticipated events. The types of known or anticipated events that are considered, and will continue to be considered, include the Company's decision to continue to support new and existing products.

Returns are handled on a case-by-case basis, but generally all returns are accepted if the customer is unsatisfied with the product. The Company has accrued an estimate for returns related to a future period. Sales returns accrued at June 30, 2021 and 2020 were approximately $51 thousand and $54 thousand, respectively and reduced net sales.

The Company estimates sales incentives and other variable consideration using the expected value method and records accruals within accrued liabilities when the liability becomes identifiable and quantifiable. Under this method, certain forms of variable consideration are based on volumes of sales to the customer, which

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

requires subjective estimates. These estimates are supported by historical results as well as specific facts and circumstances related to the current period. A select few customers, because of their size, are offered a discount for early payment.

The Company also enters into transactions and makes payments to certain of its customers related to advertising, some of which involve cooperative relationships with customers. These activities may be arranged either with unrelated third parties or in conjunction with the customer. To the extent the Company receives a distinct good or service in exchange for consideration and the fair value of the benefit can be reasonably estimated, the Company's share of the costs of these transactions (regardless of to whom they were paid) are reflected in selling, general and administrative expenses in the accompanying consolidated statements of operations. The Company also enters into other advertising activities arranged with customers. These activities cannot be arranged with unrelated third parties, no distinct good or service is received in exchange for consideration and the fair value of the benefit is not reasonably estimated. The Company's share of the costs for these transactions paid to customers are reflected as a reduction in the transaction price within net sales in the accompanying consolidated statements of operations.

For certain sales, the Company incurs incremental costs of obtaining the contract through the form of sales commissions. The sales commissions incurred are directly correlated to the sales generated and are therefore expensed as incurred.

The following table presents revenue disaggregated by geography, as determined by the country products were shipped to:

	Six Months Ended			
	June 30, 2021		June 30, 2020	
	Amount	Percentage of Total	Amount	Percentage of Total
Domestic	$82,725,091	94.7%	$58,995,599	92.9%
Foreign	4,648,614	5.3%	4,508,393	7.1%
Total sales	$87,373,705	100.0%	$63,503,992	100.0%

The following table presents disaggregated revenues based upon sales channel:

	Six Months Ended			
	June 30, 2021		June 30, 2020	
	Amount	Percentage of Total	Amount	Percentage of Total
DTC Subscription Sales	$11,026,552	12.6%	$ 7,628,211	12.0%
DTC Transaction Sales	25,409,646	29.1%	19,074,459	30.0%
Professional/B2B Sales	50,937,507	58.3%	36,801,322	58.0%
Total sales	$87,373,705	100.0%	$63,503,992	100.0%

Segments

The Company operates in one reportable segment–the selling of innovative solutions and personalized approaches to health and wellbeing. The Company's chief operating decision maker (determined to be the Chief

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

Executive Officer) does not manage any part of the Company separately, and the allocation of resources and assessment of performance are based on the Company's consolidated operating results and where the best future opportunities arise.

Recent Accounting Pronouncements

ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. In December 2019, the FASB issued this ASU to simplify the accounting for income taxes by eliminating certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of deferred tax liabilities for outside basis differences. This ASU also clarifies and simplifies other aspects of the accounting for income taxes. This update was adopted by the Company effective January 1, 2021. The Company has a full valuation allowance on its deferred income taxes and therefore the adoption did not have a material impact on its consolidated financial statements.

ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. In June 2016, the FASB issued this ASU to amend the current accounting guidance which requires the measurement of all expected losses to be based on historical experience, current conditions and reasonable and supportable forecasts. For trade receivables, loans, and other financial instruments, the Company will be required to use a forward-looking expected loss model that reflects probable losses rather than the incurred loss model for recognizing credit losses. This ASU was amended by ASU 2019-10 to be effective for smaller reporting companies beginning after December 15, 2022. The Company does not believe the adoption of this ASU will have a material impact on its consolidated financial statements and disclosures.

ASU 2020-04, Reference Rate Reform (Topic 848). In March 2020, the FASB issued guidance providing optional expedients and exceptions to account for the effects of reference rate reform to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued. The optional guidance, which became effective on March 12, 2020 and can be applied through December 21, 2022, has not impacted our consolidated financial statements. The Company has various contracts that reference LIBOR and is assessing how this standard may be applied to specific contract modifications through December 31, 2022.

COVID-19 Pandemic

On January 30, 2020, The World Health Organization (WHO) announced a global health emergency because of a new strain of coronavirus (Covid-19) and the risks to the international community as the virus spreads globally. In March 2020, the WHO classified Covid-19 outbreak as a pandemic.

The Company is a manufacturer of nutritional supplement products, a category of food that is regulated by the U.S. Food and Drug Administration. Based on guidance issued by the U.S. Department of Homeland Security / Cybersecurity and Infrastructure Security Agency, and in particular, specific guidance therein regarding the Food and Agriculture industries, the Company's manufacturing facility has been designated as "Essential Critical Infrastructure Workers" and would therefore be exempt from any "shelter in place" restrictions that might be imposed by the State of South Carolina.

The full impact of the Covid-19 outbreak continues to evolve. As such, it is uncertain as to the impact this pandemic on the Company's financial condition. Management is actively monitoring the impact of this virus on its financial condition, liquidity, operations, suppliers, customers, and workforce.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

On March 27, 2020, President Trump signed into law the "Coronavirus Aid, Relief, and Economic Security (CARES) Act." The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions, and technical corrections to tax depreciation methods for qualified improvement property. The Company deferred the employer portion of payroll taxes during the year ended December 31, 2020. The total amount deferred at year end was approximately $1.0 million and will be payable over the next two years.

The Company's unaudited consolidated financial statements presented herein reflect the latest estimates and assumptions made by management that affect the reported amounts of assets and liabilities and related disclosures as of the date of the consolidated financial statements and reported amounts of revenue and expenses during the reporting periods presented.

3. Related party receivable

As of June 30, 2021 and 2020, the Company had a related party receivable in the amount of $0.6 million and $0.1 million, respectively, related to short term advances to Tecton Group LLC, an entity in which the Company has invested.

As of June 30, 2021 and 2020, the Company had a related party receivable from a shareholder in the amount of $0.1 million and $0, respectively, related to a research contract. Revenue related to these research services for the six months ended June 30, 2021 and 2020 were $0.1 million and $0, respectively.

4. Inventories, net

Inventories consist of the following:

	June 30, 2021	December 31, 2020
Raw materials	$ 20,174,973	$ 13,751,348
Work in process	276,769	7,224
Finished goods	19,536,556	14,808,931
Reserve for slow moving and obsolete inventory	(438,607)	(501,479)
Inventory, net	$ 39,549,691	$ 28,066,024

Raw materials consist primarily of powders, softgels, and packaging components such as bottles, lids and labels. Work in process consists of premixed powders and encapsulated powders not yet bottled.

5. Line of Credit

Letter of credit - In 2018, an irrevocable standby letter of credit was issued by a bank on the Company's behalf as required by the landlord of the Summerville, South Carolina production facility, and guarantees were issued by related parties. This letter of credit is for $4.9 million and had an original expiration date of December 3, 2019 with automatic renewals until October 31, 2037. The letter of credit has an annual fee

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

of $20 thousand. The standby letter of credit is guaranteed 50% by each of our two largest shareholders which require an annual guarantee fee. The guarantee fee expense for the six months ended June 30, 2021 and 2020 were $81 thousand and $52 thousand, respectively and paid 50% to each of the shareholders. The guarantee fee is based on the 12-month USD LIBOR rate plus 3% on the amount of the guarantee. All of these fees are included in guarantee fees in the consolidated statements of operations.

On February 14, 2020, the Company secured a new revolving line of credit with a new financial institution. There were no debt issuance costs incurred to secure this financing. The line of credit was guaranteed by two significant shareholders in the Company. Each shareholder guaranteed 50% of the total amount of the loan. Funds were drawn up to the maximum $20.0 million limit in February 2020. The primary uses of the funds were to paydown and close the previous line of credit and pay off the dividend payable and related party payable. The loan was extended until February 2022 and accordingly, the line of credit was classified as a current liability on the consolidated balance sheet as of June 30, 2021 and a long-term liability at December 31, 2020. The guarantee fees of 2.0% accrued during the six months ended June 30, 2021 and 2020 related to this line of credit were $149 thousand and $120 thousand, respectively, and are included in the guarantee fees in the consolidated statements of operations. The interest paid to the bank on the loan is a variable interest rate based on rates quoted by the bank. The Company can choose an interest rate, based on current market rates and on the number of days it chooses to lock in the interest rate. The number of days range from 30 days to 365 days. On June 14, 2021, the Company locked in an interest rate for 90 days through September 13, 2021 at a rate of 0.595%.

On February 12, 2021, the Company entered into an Uncommitted and Revolving Credit Line Agreement, by and among the Company as the borrower and SMBC as the lender (2021 Credit Agreement), to refinance and replace the 2020 Credit Agreement. The terms of the 2021 Credit Agreement are substantially similar to the terms of the 2020 Credit Agreement. Under the 2021 Credit Agreement, SMBC may in its sole discretion elect to make unsecured loans to the Company until February 11, 2022, in an aggregate principal amount up to but not exceeding $20.0 million at any time. Each loan made under the 2021 Credit Agreement may have a maturity date that is not less than one day and not more than twelve months after the date that such loan is disbursed, as the Company and SMBC may mutually agree. SMBC may, in its sole discretion at any time, terminate in whole or partially reduce the unused portion of the credit line under the 2021 Credit Agreement. SMBC is not obligated to make any loan under the 2021 Credit Agreement.

The Company may prepay any outstanding loans under the 2021 Credit Agreement in whole or in part at any time without penalty, other than customary breakfunding or additional costs as determined by SMBC. As of June 30, 2021, the Company has fully drawn down $20.0 million under the 2021 Credit Agreement to refinance its outstanding loans under the 2020 Credit Agreement. As a result, under the $20.0 million maximum credit line, no additional amount is available to be borrowed.

A loan under the 2021 Credit Agreement bears interest at a per annum rate quoted by SMBC and agreed to by the Company when such loan is made. Interest on a loan is payable in arrears on the maturity date of such loan. Principal of a loan is due on such loan’s maturity date. The Company is also obligated to pay other expenses and indemnities customary for a credit facility of this size and type.

The Company’s obligations under the 2021 Credit Agreement are guaranteed by Kirin and Mitsui. The Company pays each guarantor an annual fee equal to 1.20% of each of their $10 million guarantees annually and upon the occurrence of any change of control in respect of the Company. Under the Fee Letter dated February 12, 2021 between the Company and Mitsui (2021 Mitsui Fee Letter), the Company also agreed to reimburse Mitsui

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

in cash for any amounts that Mitsui pays under its guarantee of the 2021 Credit Agreement. However, if the Company is not able to wholly or partially reimburse such amounts to Mitsui, then the Company and Mitsui may agree to deem such unreimbursed amount to be made for the Company's benefit in consideration for its debt or equity securities on terms reasonably satisfactory to Mitsui and the Company.

Under the Fee Letter dated February 12, 2021 between the Company and Kirin (2021 Kirin Fee Letter), the Company agreed to reimburse Kirin in cash for any amounts that Kirin pays under its guarantee of the 2021 Credit Agreement. If the Company is not able to wholly or partially reimburse such amounts to Kirin, however, then the Company and Kirin may agree to deem such unreimbursed amount to be made for the Company's benefit in consideration for its debt or equity securities on terms reasonably satisfactory to Kirin and the Company. After the closing of the Company's initial public offering, the Company intends to negotiate with SMBC to pay off its existing debt under the 2021 Credit Agreement. If the Company pays off its existing debt under the 2021 Credit Agreement, then the related Mitsui and Kirin guarantees may also be released and terminated. There is no guarantee, however, that its negotiations will be successful.

The 2021 Credit Agreement contains customary affirmative covenants, including covenants regarding the payment of taxes and other obligations, maintenance of insurance, reporting requirements and compliance with applicable laws and regulations, and customary negative covenants limiting the Company's ability, among other things, to merge or consolidate, dispose of all or substantially all of the Company's assets, liquidate or dissolve, and grant liens, subject to certain exceptions. Upon the occurrence and during the continuance of an event of default, SMBC may declare all outstanding principal of, and accrued and unpaid interest on, loans made under the 2021 Credit Agreement immediately due and payable and may exercise the other rights and remedies provided for under the 2021 Credit Agreement and related loan documents. The events of default under the 2021 Credit Agreement include, subject to grace periods in certain instances, payment defaults, cross defaults with certain other material indebtedness, certain material judgments, breaches of covenants or representations and warranties, change in control of the Company, a material adverse change as defined in the 2021 Credit Agreement, and certain bankruptcy and insolvency events.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

6. Long-Term Debt

The long-term debt related to financing encapsulation machines consists of the following:

	June 30, 2021	December 31, 2020
Note payable with quarterly principal and interest payments of $30,917 per quarter, with fixed interest of 6.943%. The loan matures August 12, 2024.	$ 336,830	$ 346,436
Note payable with quarterly principal and interest payments of $30,917 per quarter, with fixed interest of 6.943%. The loan matures July 15, 2023.	255,563	346,435
Note payable with quarterly principal and interest payments of $56,548 per quarter, with fixed interest of 4.89%. The loan matures March 20, 2025.	770,652	—
Note payable with monthly principal and interest payments Of $8,250, with fixed interest of 5.44%. The loan matures September 10, 2026.	451,223	
	$1,814,268	$ 692,871
Less current maturities	(479,936)	(223,400)
Long-term debt	$1,334,332	$ 469,471

7. Related Party Payable

The Company had a related party payable to multiple shareholders totaling $1.2 million and $0.8 million at June 30, 2021 and December 31, 2020, respectively, related to inventory purchases.

8. Leases

The Company leases real estate, vehicle, and equipment for use in its operations. The Company's leases generally have lease terms of 1 to 30 years, some of which include options to terminate, or to extend leases. The Company includes options that are reasonably certain to be exercised as part of the determination of lease terms. The Company may negotiate termination clauses in anticipation of any changes in market conditions, but generally these termination options are not exercised. Residual value guarantees are generally not included within operating leases. In addition to base rent payments, the leases may require the Company to pay directly for taxes and other non-lease components, such as insurance, maintenance and other operating expenses, which may be dependent on usage or vary month-to-month. The Company elected the practical expedient in the new standard to not separate non-lease components from lease components in calculating the amounts of right-of-use (ROU) assets and lease liabilities for all underlying asset classes. The Company determined if an arrangement is a lease at inception of the contract in accordance with guidance detailed in the new standard and performed the lease classification test as of the lease commencement date. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the lease's commencement date based on the present value of lease payments over the lease term. When a lease did not provide an implicit rate, the Company used its estimated incremental borrowing rate based on the information available at the commencement date in determining the present value of future payments.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

Leases that are economically similar to the purchase of an asset are classified as finance leases. As of June 30, 2021 and December 31, 2020, finance lease assets are included separately within the consolidated balance sheets and classified as finance right-of-use asset and the corresponding finance lease liabilities are included within current portion of finance lease liability and within long-term finance lease liability, net of current portion. The finance lease classification under ASC 842 includes leases previously classified as capital leases under ASC 840.

The balances for the operating and finance leases where the Company is the lessee are presented as follows within the consolidated balance sheets:

	June 30, 2021	December 31, 2020
Operating lease:		
Operating lease right-of-use assets	$ 19,860,998	$ 17,740,816
Current portion of operating lease obligations	3,569,863	2,603,930
Operating lease obligations, net of current portion	27,956,124	27,284,356
Total operating lease liabilities	$ 31,525,987	$ 29,888,286
Finance lease:		
Finance right-of-use assets	$ 995,649	$ 767,237
Current portion of finance lease obligations	377,895	269,212
Finance Lease obligation, net of current portion	598,966	454,857
Total finance lease liabilities	$ 967,861	$ 724,069

The components of lease expense are as follows within our statement of operations:

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Operating lease expense:		
Operating lease cost(1)	$ 2,602,167	$ 2,355,319
Finance lease expense:		
Amortization of leased assets	168,333	57,818
Interest on lease liabilities	25,048	30,929
Total lease cost	$ 2,795,548	$ 2,444,066

(1) Includes short-term leases and variable lease costs, which are immaterial.

The weighted average remaining lease term and weighted average discount rate at June 30, 2021 were as follows:

	June 30, 2021
Weighted average remaining lease term (years)	
Operating leases	13.11 years
Finance leases	.08 years
Weighted average discount rate applied	
Operating leases	10.0%
Finance leases	0.3%

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

Supplemental cash flow information related to leases where the Company is the lessee is as follows:

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Operating cash outflows from operating leases	$ 3,244,257	$ 2,072,127
Operating cash outflows from finance leases (interest payments)	25,048	11,300
Financing cash outflows from finance leases	171,734	63,515
Leased assets obtained in exchange for finance lease liabilities	420,361	219,058
Leased assets obtained in exchange for operating lease liabilities	$ 2,913,002	$ 4,259,688

As of June 30, 2021, the maturities of the operating and finance lease liabilities are as follows:

Period	Operating leases	Finance leases
2021	$ 3,347,058	$ 220,191
2022	5,220,698	406,057
2023	3,497,428	280,816
2024	3,589,923	105,839
2025	3,559,586	16,764
Thereafter	39,031,420	38,940
Total minimum lease payments	$ 58,246,113	$ 1,068,608
Less: imputed interest	26,720,126	100,747
Total present value of lease liabilities	$ 31,525.987	$ 967,861
Less: current portion	3,569,863	377,895
Long-term portion of lease liabilities	$ 27,956,124	$ 589,966

In 2016, the Company entered into a new lease agreement for office, warehouse and production space in Summerville, South Carolina. The Company began occupying the space in the summer of 2018, with the lease commencing April 2018. The lease requires monthly payments of $0.2 million, increasing by 2.5% annually, through January 31, 2037. At June 30, 2021, monthly payments were approximately $0.2 million. The Company was required to provide the landlord with a $4.9 million irrevocable letter of credit as a security deposit (see Note 5). The required security deposit may be reduced upon the attainment of certain EBITDA levels.

On January 26, 2021, the Company entered into a five-year lease agreement for a 136,500 square foot building for the Company's shipping operations. The lease has two renewal options for three years each. Rent is abated for the first three months while the Company installs racking, packing stations and all other required equipment before the Company's shipping operations are is relocated to this facility.

9. Concentrations

Credit Risk - Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and accounts receivable. Although the Company places its cash with high quality institutions, these balances often exceed federally insured limits. Concentrations of credit risk primarily relate to

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

unsecured trade receivables. Major customers who accounted for more than 10% of the Company's total receivables were as follows:

	June 30, 2021	December 31, 2020
Emerson Ecologics, LLC	45.6%	39.4%
iHerb, Inc.	13.5%	*

* Represents less than 10%

Sales - Major customers who accounted for more than 10% of the Company's total sales were as follows:

	Six months ended June 30,	
	2021	2020
iHerb, Inc.	15.3%	11.5%
Emerson Ecologics, LLC	12.3%	11.2%
Pattern Inc.	28.3%	29.7%

10. Convertible Preferred Stock and Stockholders' Deficit

On July 5, 2018, the Company issued 27,011,500 Series E convertible preferred stock to investors for $138.4 million. At June 30, 2021 and December 31, 2020, the Company had Series E convertible preferred stock outstanding of 27,011,500 shares which are recorded in the financial statements as temporary equity.

A summary of the significant rights and privileges of the Series E convertible preferred stock is as follows:

Conversion - Each share of Series E preferred stock is convertible at the option of the holder into common stock on a one-for-one basis. Each share of Series E preferred stock shall automatically be converted into shares of common stock at the then effective conversion price immediately after the consummation of a qualified public offering. Additionally, each share of preferred stock is automatically converted immediately upon the conversion or vote to convert by the holders of a majority of the then outstanding preferred stock.

Liquidation - Upon any liquidation, dissolution, or winding-up of the business, the assets of the Company available for distribution to its stockholders shall be distributed first to the holders of shares of Series E convertible preferred stock up to their original issue prices.

Voting Rights - The holder of each share of preferred stock shall be entitled to vote on all matters and shall be entitled to that number of votes equal to the total number of shares of common stock into which the preferred stock are convertible.

Dividends - In the event the Board of Directors declares the payment of dividends, they shall be distributed first to the holders of shares of Series E convertible preferred stock up to their original issue prices. Thereafter, the amounts remaining shall be distributed pro rata based on the number of shares of common stock then held by each shareholder (assuming conversion of all outstanding shares of Series E convertible preferred stock into common stock).

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

The agreement for the Series E convertible preferred stock issuance also resulted in $3.0 million of dividends becoming payable to stockholders related to the issuance of preferred stock and increased the accumulated deficit in the Company's stockholders' deficit. These dividends were approved by the Board of Directors and declared payable in 2018 and were accrued for as of December 31, 2018. These dividends along with interest accrued on the dividends at the rate of 7.5% of $266,918 were paid during the six months ended June 30, 2020.

The Company's Series E convertible preferred stock has been classified as temporary equity on the accompanying consolidated balance sheet in accordance with authoritative guidance for the classification and measurement of redeemable securities. Upon certain change in control events that are outside of the Company's control, including liquidation, sale or transfer of control of the Company, holders of the Series E convertible preferred stock can cause its redemption. The Company has determined not to adjust the carrying values of the Series E convertible preferred stock to the liquidation preferences of such shares because the Series E convertible preferred stock is not currently redeemable and not probable of becoming redeemable due to the uncertainty of whether or when the contingent events would occur.

11. Warrants

The Company's two largest shareholders each have 2,225,000 warrants, for a total of 4,450,000, to purchase the Company's common stock, with an exercise price of $5.12 and an expiration date of October 11, 2028. These warrants are classified as equity on the consolidated balance sheets. In July 2020, each shareholder exercised 2,168,485 equity-based warrants for a total of $22,220,880 in gross proceeds. As of June 30, 2021, there are 113,030 warrants outstanding of the original 4,450,000 issued.

As of June 30, 2021 and December 31, 2020, the Company had 2,532,050 additional common stock warrants outstanding that were classified as equity with an exercise price of $6.74 and an expiration date of June 23, 2030.

In April 2011, the Company issued 453,455 warrants to purchase common stock to a related-party stockholder, with a strike price of $6.74 per warrant. The warrants were originally classified as liability awards. In May 2019, the Board of Directors extended the term of the warrants for an additional 10 years to June 23, 2030. The extension was determined by management to be a modification of the warrant.

The warrant liability is remeasured at fair value at each reporting date and have a fair value of $5.2 million and $3.9 million as of June 30, 2021 and December 31, 2020, respectively.

In order to calculate the fair value of the warrants, certain assumptions were made, including the fair market value of the underlying common stock, risk-free interest rate, volatility, and remaining contractual life. Changes to the assumptions could cause significant adjustments to the valuation. Due to the Company's limited operating history and lack of company-specific historical or implied volatility as a private company, the expected volatility assumption was determined by examining the historical volatilities of a group of industry peers whose share prices are publicly available. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of the grant for treasury securities of similar maturity. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock; therefore, the expected dividend yield is assumed to be zero.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

The Black-Scholes model was used to value the liability-classified warrants. The following assumptions were used:

	As of June 30, 2021	As of December 31, 2020
Fair market value	$ 13.93	$ 11.17
Exercise price	$ 6.74	$ 6.74
Volatility	76%	68%
Annual dividend	0	0
Risk-free interest rate	0.16%	0.13%

The fair value of financial instruments measured on a recurring basis is as follows:

	As of June 30, 2021			
Description	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liability	$5,240,956	—	—	$5,240,956

The following table summarizes the change in fair value, as determined by Level 3 inputs, for all assets and liabilities using unobservable Level 3 inputs at June 30, 2021.

	Warrant Liability
Balance at December 31, 2020	$ 3,930,930
Change in fair value for six months ended June 30, 2021	1,310,026
Balance at June 30, 2021	$ 5,240,956

12. Stock Based Awards

Stock Options - In 2010, the Company's Board of Directors created the 2010 Equity Incentive Plan and has been amended from time to time to grant additional options. The plan provides granting of options to purchase shares of common stock. All options are granted at the discretion of the Company's Board of Directors and have a term of not greater than 10 years from issuance. Options are exercisable when vested. Vesting requires continuous employment up to the vesting date and the vesting schedule is determined by the Plan. Options generally vest over a four-year period. The Company has also granted 905,575 performance-based employee stock options, the exercise of which is dependent upon the exercise of certain warrants for common stock. In 2018, an additional 5,117,500 options were authorized to be issued to management with a strike price of $5.12. As of December 31, 2019 all shares were fully-vested as the performance metric was achieved. The additional options were issued during the year ended December 31, 2019. Total options authorized as of June 30, 2021 and June 30, 2020 were 10,902,500 and 8,900,000, respectively.

On May 1, 2019, certain members of management exercised 1,793,795 of the 2,538,280 options, whereby promissory notes totaling $1.5 million, representing the exercise price of $0.85 per share, were executed in exchange for 1,793,795 shares of common stock. The promissory notes to management bear interest at 5.0%, with a maturity date of June 22, 2020. In addition, in May 2019, these same members of management and the Company entered into an additional put right agreement in which management could request the Company to purchase the 1,793,795 shares of common stock for cash.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

Due to the terms of the promissory notes with management and the put right on both the stock options and common stock, the Company determined the put rights represent a liability of the Company to management and is remeasured at each balance sheet date. The change in liability is charged to stock-based compensation expense within selling, general and administration expense in the consolidated statements of operations. As of December 31, 2019, the stock-based compensation liability was $14.8 million and was recorded as a short term liability on the consolidated balance sheet as of December 31, 2019. In June 2020, members of management exercised 667,500 of the remaining options outstanding, via a cashless exercise, subject to the put rights. At that time, the Company agreed to purchase the common stock from these members of management at fair value. The stock-based compensation liability was again remeasured just prior to the exercise date of the stock options. Stock compensation expense related to the remeasurement of the options and common stock was $8.4 million in the six months ended June 30, 2020. The Company paid $23.1 million to management and relieved the liability on July 14, 2020 in the amount of $23.8 million, and one option holder elected to cash exercise 106,800 options.

In February 2020, promissory notes to key members of management of the Company were executed totaling $0.7 million. The notes bear interest at 5.0%, with a maturity date of June 30, 2020. The promissory notes were issued so that management would have the appropriate funds to pay taxes associated with the exercise of 1,793,795 stock options into common stock. These notes were paid off in July 2020. During the year ended December 31, 2020, management repaid all promissory notes upon maturity.

In June 2020, the Company issued promissory notes to key members of management totaling $6.3 million in connection with the buyout of management stock options and the repurchase of common stock. Subsequently, the common stock and stock options were canceled. The notes bore interest at 5.0%, with a maturity date of July 31, 2020. These notes were repaid by the Company at maturity in July 2020.

Stock-based compensation expense for the six months ended June 30, 2021 and 2020 was $0.5 million and $8.4 million, respectively. This amount is classified as selling, general, and administrative on the consolidated statements of operations.

The following table summarizes activity of the Company's stock option at June 30, 2021 and changes during the six months then ended.

	Options Issued and Outstanding	Weighted-Average Exercise Price	Grant-Date Fair Value
Outstanding, December 31, 2020	7,811,975	$ 4.66	$ 0.58
Granted (1)	1,959,335	7.65	7.55
Exercised	—	—	
Cancelled/forfeited	—	—	—
Outstanding, June 30, 2021	9,771,310	$ 5.26	$ 2.01
Exercisable, June 30, 2021	5,420,545	$ 2.40	$ 0.36

(1) The stock options granted during the six months ended June 30, 2021 were granted in exchange for stock options of Onegevity in conjunction with the merger agreement as further discussed in Note 16. As a result of the stock option exchange, there was no incremental stock compensation expense recorded by the Company. The Company compared the fair value of the stock options immediately

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

before and after the exchange and determined that the exchange did not result in incremental compensation expense.

The following information summarizes the Company's stock options outstanding at June 30, 2021:

Exercise Price	Number of Options Outstanding	Weighted-Average Remaining Contractual Life (Years)	Number of Options Available for Exercise
$ 1.16	424,975	2.20	424,975
1.35	716,450	3.62	716,450
4.49	767,625	3.62	767,625
6.74	785,425	3.62	785,425
5.12	5,117,500	7.28	2,558,750
7.01	1,792,015	9.09	0
14.46	167,320	2.42	167,320
	9,771,310		5,420,545

As of June 30, 2021, the unrecognized stock-based compensation expense related to outstanding options was $3.4 million and is expected to be recognized as expense over approximately 2 years.

13. Commitments and Contingencies

Royalties and Other Agreements - The Company has entered into various agreements which require future payments. The agreement calls for future payments to a major hospital for use of their trademarks and tradenames in advertising the benefits of supplements and gives the Company access to research information owned by the hospital and provides for the hospital to perform clinical trials and to support the Company's products. As of June 30, 2021, future annual minimum commitments under these agreements are as follows:

	Amount
Six months ended December 31, 2021	670,125
Year ended December 31, 2022	1,030,000
Year ended December 31, 2023	562,500
Total	$ 2,262,625

The Company also has various royalty agreements, which are dependent on future sales. Total royalties paid during the six months ended June 30, 2021 and 2020, were approximately $0.2 million and $0.2 million, respectively.

Other - In 2017, the Company recognized grant revenue of $0.8 million from Berkeley County, South Carolina, which includes certain performance obligations that must be met over the next seven years and maintained by the company for five years once attained. The grant agreement includes the potential for repayment of proceeds in whole or in part for failure to satisfy the performance obligations. As of June 30, 2021, Berkeley County has not asked for repayment of these proceeds.

The Company, like other manufacturers of products that are ingested, faces an inherent risk of exposure to product liability claims in the event that, among other things, the use of its product results in injury.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

The Company maintains insurance to manage these risks. However, there can be no assurance the amount of insurance would be sufficient to cover all product liability claims.

Occasionally, the Company is involved in lawsuits arising in the ordinary course of its operations. The Company's management does not expect the ultimate resolution of pending legal action to have a material effect on the consolidated financial statements of the Company.

14. Related Party Transactions

Inventory Purchases - The Company purchases raw material from a shareholder. Purchases totaled $3.8 million and $2.8 million for the six months ended June 30, 2021 and 2020, respectively. Amounts due to the related party at June 30, 2021 and December 31, 2020, were approximately $0.6 million and $0.6 million, respectively.

The Company purchases raw material from an entity in which the Company invests. Purchases totaled $2.8 million and $0.2 million for the six months ended June 30, 2021 and December 31, 2020, respectively. Amounts due to the related party at June 30, 2021 and December 31, 2020, were approximately $0.5 million and $0.2, respectively.

License Agreement - In connection with a feasibility study associated with the rights of use to products, information and other intellectual property and services, Onegevity received a total of $1.0 million in equal amounts from two shareholders during the year ended December 31, 2019. This amount was recorded as deferred revenue at June 30, 2020, with the $1.0 million recorded in net sales during August 2020.

Reimbursement of Costs - The Company paid approximately $102 thousand to shareholders for reimbursement of labor costs in each of the six months ended June 30, 2021 and 2020.

Other - See Notes 5, 7, 10, 11, 12, 13 and 14 for additional related party transactions.

15. Basic and Diluted Net Income (Loss) per Share

Basic net income (loss) per share is calculated by dividing the net income (loss) available to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration for common stock equivalents. Diluted net income (loss) per share is computed by dividing the net income (loss) available to common stockholders by the weighted-average number of common stock equivalents outstanding for the period.

Holders of Series E convertible preferred stock meet the definition of participating securities, which requires the Company to apply the two-class method to compute both basic and diluted net income (loss) per share. The two-class method is an earnings allocation formula that treats participating securities as having rights to earnings that would otherwise have been available to common stockholders. The two-class method requires earnings for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all earnings for the period had been distributed. In the event the Board of Directors declare dividends or any distributions, the available distributions shall be distributed (i) first, to the Series E convertible preferred stock until such holders have received on a cumulative basis an amount per share equal to the Series E original issue price, and (ii) second, to the holders of Class A common stock and Series E convertible preferred stock (on as converted basis) on a pro rata pari passu basis. The Series E convertible

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

preferred stock does not contractually participate in the Company's net losses, and therefore, undistributed losses are not allocated to Series E convertible preferred stock.

The dilutive effect of stock options, warrants and unvested nonparticipating restricted stock is based on the treasury stock method while the dilutive effect of the convertible preferred stock is based on the if-converted method. These potential common stock equivalents are only included in the calculations when their effect is dilutive. The Company presents the more dilutive of the two-class method or if-converted method as diluted net income (loss) per share during the period.

The following table presents information necessary to calculate net income (loss) per share for the quarters ended June 30, 2021 and 2020:

	June 30, 2021	June 30, 2020
Net income (loss) attributable to Thorne HealthTech, Inc.	$ 4,618,260	$ (5,637,905)
Undistributed earnings allocated to Series E convertible preferred shares	(4,618,260)	—
Net income (loss) available to common stockholders – basic and diluted	$ —	$ (5,637,905)
Weighted average number of common shares outstanding – basic and diluted	17,650,035	7,949,925
Net income (loss) per share – basic and diluted	$ —	$ (0.71)

For June 30, 2021 and 2020, diluted net loss per share is the same as basic net loss per share, since the effects of potentially dilutive securities are anti-dilutive for all periods presented.

The following securities, presented on a common stock equivalent basis, have been excluded from the calculation of weighted average common shares outstanding for the six months ended June 30, 2021 and June 30, 2020 because the effect is anti-dilutive due to the net loss reported in each of the periods. All share amounts presented in the table below represent the total number outstanding as of the end of each period.

Description	June 30, 2021	June 30, 2020
Convertible preferred stock	27,011,500	27,011,500
Equity warrants	2,645,080	6,982,050
Liability warrants	453,455	453,455
Stock options	9,771,310	7,843,125
Unvested restricted stock	472,590	—

16. Mergers and Acquisitions

On January 6, 2021, the Company announced it has merged with Onegevity Health LLC, a health intelligence company.

As of December 31, 2020 the Company's ownership in Onegevity was approximately 50%. Since Onegevity's inception in 2018, the Company determined that it has been the primary beneficiary of Onegevity and has accordingly consolidated the assets and liabilities of Onegevity in accordance with ASC 810, Consolidations.

To effect the merger, the Company issued 6,179,270 class B common shares to the minority shareholders of Onegevity, plus an additional 1,959,335 stock options with various strike prices to key managers

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

of Onegevity who had stock options in Onegevity in a tax free exchange. No cash was involved in the transaction. The class B common shares do not have voting rights among other restriction.

As part of the merger, the legal entity Onegevity Health, LLC was dissolved; its wholly owned subsidiary, Health Elements, LLC, became a wholly owned subsidiary of the Company.

The merger did not lead to a change in control and therefore the transaction was recorded in the equity section of the Company's balance sheet.

During the three months ended June 30, 2021, the Company entered into a merger agreement (the Merger Agreement) with Drawbridge Health, Inc. (Drawbridge) to acquire the majority of outstanding shares of Drawbridge, a healthcare technology company (the Drawbridge Transaction). Prior to the merger, the Company owned approximately 11.2% of the outstanding shares of Drawbridge and accounted for its investment in Drawbridge as an equity method investment, as the Company determined it had significant influence over Drawbridge. The Company's net equity investment was approximately $3.2 million at March 31, 2021. Under the Merger Agreement, the Company increased its ownership of Drawbridge by 76.3 percentage points to a total ownership of 87.5%. The Merger Agreement calls for the payment of approximately $1.4 million in cash and the assumption of certain liabilities of Drawbridge.

The Drawbridge Transaction was accounted for as an asset acquisition as the Company concluded the assets acquired and liabilities assumed did not constitute a business under ASC 805, Business Combinations (ASC 805). The Company performed a reassessment of Drawbridge as a variable interest entity under ASC 810, Consolidation (ASC 810), and concluded Drawbridge to be a variable interest entity as of the date of the transaction. Further, the Company determined it was the primary beneficiary of Drawbridge as of the transaction date. Accordingly, the Drawbridge Transaction was accounted for as an asset acquisition under ASC 810 rather than under ASC 805. Under ASC 810, the Company is required to recognize a gain (loss) on the acquisition, equal to the sum of the consideration paid, the carrying value of the existing equity method investment, and the fair value of the resulting non-controlling interest less the fair value of the net assets acquired. The Company concluded the carrying value of the Company's existing Drawbridge investment of approximately $3.2 million was impaired in the second quarter of 2021 prior to the transaction and recorded a loss from equity interest in unconsolidated affiliates of approximately $3.0 million on the consolidated statements of operations for the six months ended June 30, 2021. Additionally, a loss on the Drawbridge Transaction of approximately $0.2 million was recorded during the six months ended June 30, 2021 within other (income) expense in the condensed consolidated statements of operations. The net tangible and intangible assets acquired and liabilities assumed in connection with the transaction were recorded based on their fair values as of the acquisition date and the value associated with in-process research and development was expensed as it was determined to have no alternative future use. The in-process research and development costs of approximately $1.6 million are recorded as an operating expense on the condensed consolidated statement of operations. Subsequent to the acquisition, the operations of Drawbridge were fully consolidated in the Company's consolidated financial statements, and a non-controlling interest of approximately $0.2 million was recorded for the 12.5% equity interest held by other investors.

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

The assets and liabilities acquired based on their fair value were as follows:

Cash	$ 11,823
Accounts receivable	8,686
Prepaid expenses and other current assets	711,389
Inventories	10,051
Property and equipment	914,716
Operating lease right-of-use asset	410,732
Intangible asset consisting of in process research and development	1,563,015
Other assets	22,782
Accounts payable	(701,242)
Other accrued expenses	(864,483)
Current portion of operating lease obligations	(263,509)
Long term operating lease, net of current portion	(147,223)
Net assets acquired	$ 1,676,737
Less: noncontrolling interest	(209,592)
Net assets acquired by Thorne HealthTech, Inc.	$ 1,467,145

17. Legal Proceedings

The Company is aware of third-party issued U.S. patents with claims relating to compositions of nicotinamide riboside, a component of some of its products, owned by the Trustees of Dartmouth and licensed to ChromaDex Corporation (Chromadex). On December 1, 2020 and February 1, 2021, the Company filed petitions for inter partes review against U.S. Patent Nos. 8,383,086 and 8,197,807, respectively at the Patent Trial and Appeal Board to seek to invalidate these patents. The Patent Trial and Appeal Board issued a decision on June 10, 2021, granting institution of inter partes review against U.S. Patent No. 8,383,086, and the institution decision is expected on August 18, 2021, for U.S. Patent No. 8,197,807. On May 12, 2021, the Trustees of Dartmouth College and ChromaDex filed a complaint against the Company in the District Court of the Southern District of New York, alleging infringement of U.S. Patent Nos. 8,383,086 and 8,197,807. The complaint seeks to enjoin the Company from selling our nutritional supplement products that contain nicotinamide riboside, including our NiaCel suite of supplements, and further seeks monetary damages for alleged infringement of the patents. The Company has not recorded a loss in connection with this matter as the Company believes that it is currently not probable nor estimable.

18. Subsequent Events

The Company has evaluated subsequent events through September 22, 2021, which represents the date the unaudited consolidated financial statements were issued.

On September 10, 2021, the Company approved and effected a 445-for-1 forward stock split of the Company's Class A common stock, Class B common stock and Series E convertible preferred stock. The par value and other terms of the common stock and preferred stock were not affected by the stock split. The Company also increased the authorized number of shares of its Class A common stock to 63,800,000 shares, its Class B common stock to 6,200,000 shares and its Series E convertible preferred stock to 27,011,500 shares.

All related share and per share amounts have been retroactively adjusted in these consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split. Further, other related

Thorne HealthTech, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

(unaudited)

information, including shares of common stock underlying the Company's warrants, stock options and restricted stock units and their respective exercise prices have been retroactively adjusted in these consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split.

There were no other subsequent events requiring recognition or disclosure in the accompanying consolidated financial statements.

7,000,000 Shares

Thorne HealthTech, Inc.

Common Stock

PROSPECTUS

BofA Securities

Cowen

Evercore ISI

RBC Capital Markets

, 2021

Through and including , 2021 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

PART II

Information Not Required in the Prospectus

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the expenses to be incurred in connection with the offering described in this Registration Statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimates except the Securities and Exchange Commission (SEC), registration fee, the Financial Industry Regulatory Authority, Inc. (FINRA), filing fee and the Nasdaq listing fee.

	Amount Paid or to Be Paid
SEC registration fee	$ 9,661
FINRA filing fee	9,355
Nasdaq listing fee	150,000
Printing and engraving expenses	175,000
Legal fees and expenses	2,200,000
Accounting fees and expenses	1,250,000
Transfer agent and registrar fees	11,600
Miscellaneous expenses	1,500,000
Total	$ 5,305,616

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law empowers a corporation to indemnify its directors and officers and to purchase insurance with respect to liability arising out of their capacity or status as directors and officers, provided that the person acted in good faith and in a manner the person reasonably believed to be in our best interests, and, with respect to any criminal action, had no reasonable cause to believe the person's actions were unlawful. The Delaware General Corporation Law further provides that the indemnification permitted thereunder shall not be deemed exclusive of any other rights to which the directors and officers may be entitled under the corporation's bylaws, any agreement, a vote of stockholders or otherwise. The certificate of incorporation of the registrant to be in effect upon the completion of this offering provides for the indemnification of the registrant's directors and officers to the fullest extent permitted under the Delaware General Corporation Law. In addition, the bylaws of the registrant to be in effect upon the completion of this offering require the registrant to fully indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (whether civil, criminal, administrative or investigative) by reason of the fact that such person is or was a director or officer of the registrant, or is or was a director or officer of the registrant serving at the registrant's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, to the fullest extent permitted by applicable law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except (1) for any breach of the director's duty of loyalty to the corporation or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) for payments of unlawful dividends or unlawful stock repurchases or redemptions or (4) for any transaction from which the director derived an improper personal benefit. The registrant's certificate of incorporation to be in effect upon the completion of this offering

provides that the registrant's directors shall not be personally liable to it or its stockholders for monetary damages for breach of fiduciary duty as a director and that if the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of the registrant's directors shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Section 174 of the Delaware General Corporation Law provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was either absent when the unlawful actions were approved, or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the Delaware General Corporation Law, the registrant has entered into separate indemnification agreements with each of the registrant's directors and executive officers which would require the registrant, among other things, to indemnify them against certain liabilities which may arise by reason of their status as directors or executive officers.

The registrant expects to obtain and maintain insurance policies under which its directors and officers are insured, within the limits and subject to the limitations of those policies, against certain expenses in connection with the defense of, and certain liabilities which might be imposed as a result of, actions, suits or proceedings to which they are parties by reason of being or having been directors or officers. The coverage provided by these policies may apply whether or not the registrant would have the power to indemnify such person against such liability under the provisions of the Delaware General Corporation Law.

These indemnification provisions and the indemnification agreements entered into between the registrant and the registrant's officers and directors may be sufficiently broad to permit indemnification of the registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act of 1933, as amended.

The underwriting agreement between the registrant and the underwriters filed as Exhibit 1.1 to this registration statement provides for the indemnification by the underwriters of the registrant's directors and officers and certain controlling persons against specified liabilities, including liabilities under the Securities Act with respect to information provided by the underwriters specifically for inclusion in the registration statement. The investors' rights agreement with certain holders of our capital stock also provides for cross-indemnification in connection with the registration of the registrant's common stock on behalf of such holders.

Item 15. Recent Sales of Unregistered Securities

The following list sets forth information regarding all unregistered securities sold by us since January 1, 2018. No underwriters were involved in the sales and the certificates representing the securities sold and issued contain legends restricting transfer of the securities without registration under the Securities Act or an applicable exemption from registration.

(1) On July 5, 2018, we sold and issued 13,505,750 shares of series E convertible preferred stock to Mitsui & Co. Ltd. (Mitsui), and 13,505,750 shares of series E convertible preferred stock to Kirin Holdings Company, Limited (Kirin), at a purchase price of $5.12 per share for an aggregate purchase price of approximately $138.4 million.

(2) On October 11, 2018, we issued a warrant for the purchase of 2,225,000 shares of common stock to Mitsui and a warrant for the purchase of 2,225,000 shares of common stock to Kirin with an exercise price of $5.12 per share.

(3) On October 11, 2018, we issued 2,342,035 shares of common stock to ELUS Holdings Corporation as a dividend on our Series B convertible preferred stock. The aggregate value of the share dividend was a total of $11,999,798.

(4) On January 6, 2021, we issued 6,179,270 shares of class B common stock to the stockholders of Onegevity LLC in exchange for their shares in Onegevity LLC as part of our merger with Onegevity. The aggregate value of the exchanged shares was $69,013,420.

(5) From January 2018 through September 22, 2021, we granted stock options to purchase an aggregate of 5,117,500 shares of common stock upon the exercise of options under our 2010 Plan at an exercise price of $5.12, for an aggregate exercise price of approximately $26.2 million.

(6) On July 29, 2021, we issued 875,760 restricted stock units (RSUs) to certain officers of the Company. The aggregate fair market of these RSUs was determined by the Board of Directors to be approximately $12.2 million.

The offers, sales and issuances of the securities described in Items 15(1), 15(2) and 15(3) and 15(4) were exempt from registration under the Securities Act under Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited person and had adequate access, through employment, business or other relationships, to information about the registrant.

The offers, sales and issuances of the securities described in Items 15(4) and 15(5) were exempt from registration under the Securities Act under either (1) Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701 or (2) Section 4(a)(2) of the Securities Act as transactions by an issuer not involving any public offering. The recipients of such securities were the registrant's employees, consultants or directors and received the securities under our 2010 Plan. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions.

Item 16. Exhibit and Financial Statement Schedules

(a) Exhibits.

See the Exhibit Index immediately preceding the signature page hereto for a list of exhibits filed as part of this registration statement on Form S-1, which Exhibit Index is incorporated herein by reference.

(b) Financial Statement Schedules.

Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreements, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant

has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Exhibit Index

Exhibit number	Description
1.1*	Form of Underwriting Agreement.
3.1*	Sixth Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.2*	Certificate of Amendment to the Sixth Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.3*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of this offering.
3.4*	Bylaws of the Registrant, as currently in effect.
3.5*	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon the completion of this offering.
4.1*	Fourth Amended and Restated Registration Rights Agreement by and among the Registrant and certain of its stockholders, dated July 5, 2018.
4.2*	Fourth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders, dated July 5, 2018.
4.3*	Specimen common stock certificate of the Registrant.
4.4*	Amended and Restated Common Stock Purchase Warrant issued to Kirin Holdings Company, Limited, dated as of July 15, 2020.
4.5*	Amended and Restated Common Stock Purchase Warrant issued to Mitsui & Co., Ltd, dated as of July 15, 2020.
4.6*	Amended and Restated Common Stock Purchase Warrant issued to Diversified Natural Products, Inc., dated as of May 10, 2011.
4.7*	Amended and Restated Common Stock Purchase Warrant issued to ELUS Holdings Corporation, dated as of May 10, 2011.
4.8*	Amendment to Warrant to Purchase Common Stock, between the Registrant and Diversified Natural Products, Inc., effective May 2, 2019.
4.9*	Amendment to Warrant to Purchase Common Stock, between the Registrant and ELUS Holdings Corporation, effective May 2, 2019.
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.
10.1+*	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.
10.2+*	2010 Equity Incentive Plan, as amended, and forms of agreement thereunder.
10.3+*	Restated 2020 Onegevity Equity Plan, and forms of agreement thereunder.
10.4+*	2021 Equity Incentive Plan and forms of agreements thereunder, to be in effect upon the completion of this offering.
10.5+*	2021 Employee Stock Purchase Plan and forms of agreements thereunder, to be in effect upon the completion of this offering.
10.6(a)+*	Form of Confirmatory Employment Letter with Paul F. Jacobson.

Exhibit number	Description
10.6(b)+*	Form of Confirmatory Employment Letter with William C. McCamy.
10.6(c)+*	Form of Confirmatory Employment Letter with Thomas P. McKenna.
10.7+*	Employee Incentive Compensation Plan.
10.8(a)+*	Form of Change in Control and Severance Agreement with Paul F. Jacobson.
10.8(b)+*	Form of Change in Control and Severance Agreement with William C. McCamy.
10.8(c)+*	Form of Change in Control and Severance Agreement with Thomas P. McKenna.
10.9+*	Outside Director Compensation Policy.
10.10#*	Lease Agreement between the Registrant and Summerville Owner LLC, dated September 16, 2019, as amended.
10.11*	Agreement of Lease between the Registrant and Carnegie Hall Tower II L.L.C, dated March 14, 2013, as amended.
10.12*	Multi-Tenant Industrial Triple Net Lease between the Registrant and Icon Owner Pool 1 SF Non-Business Parks, LLC, dated October 25, 2019.
10.13#*	Vendor Agreement between the Registrant and BioTE Medical, LLC, dated December 1, 2020.
10.14*	Uncommitted and Revolving Credit Line Agreement between the Registrant and Sumitomo Mitsui Banking Corporation, dated February 12, 2021.
10.15*	Fee Letter between the Registrant and Mitsui & Co., Ltd., dated February 12, 2021.
10.16*	Fee Letter between the Registrant and Kirin Holdings Company, Limited, dated February 12, 2021.
10.17*	Uncommitted and Revolving Credit Line Agreement between the Registrant and Sumitomo Mitsui Banking Corporation, dated February 14, 2020.
10.18*	Fee Letter between the Registrant and Mitsui & Co., Ltd., dated February 14, 2020.
10.19*	Fee Letter between the Registrant and Kirin Holdings Company, Limited, dated February 14, 2020.
10.20*	Reimbursement Agreement between the Registrant and Sumitomo Mitsui Banking Corporation, dated November 30, 2018.
10.21*	Fee Letter between the Registrant and Kirin Holdings Company, Limited, dated November 30, 2018.
10.22*	Fee Letter between the Registrant and Mitsui & Co., Ltd., dated November 30, 2018.
10.23*	Unconditional Guaranty between the Registrant and Truist Bank, dated June 2, 2020.
10.24#*	Authorized Reseller Agreement between the Registrant and Pattern Inc., dated November 25, 2019, as amended.
10.25#*	First Amended and Restated Distribution Agreement between the Registrant and Emerson Ecologics, LLC, dated August 31, 2020, as amended.
10.26*	Form of Nominating, Observer, and Secondment Agreement between the Registrant, Kirin Holdings Company, Limited, and Mitsui & Co., Ltd.
21.1*	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm.
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1).

Exhibit number	Description
24.1*	Power of Attorney
99.1*	Consent of Sarah M. Kauss
99.2*	Consent of Saloni S. Varma

* Previously filed.
\+ Indicated management contract or compensatory plan.
\# Portions of the exhibit have been omitted as the Registrant has determined (i) the omitted information is not materials; and (ii) the Registrant customarily and actually treats the omitted information as private or confidential.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in New York, New York on September 22, 2021.

THORNE HEALTHTECH, INC.

By: /s/ Paul F. Jacobson
Paul F. Jacobson
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Paul F. Jacobson Paul F. Jacobson	President, Chief Executive Officer and Director *(Principal Executive Officer)*	September 22, 2021
/s/ Scott S. Wheeler Scott S. Wheeler	Chief Financial Officer *(Principal Financial and Accounting Officer)*	September 22, 2021
* Thomas P. McKenna	Chief Operating Officer and Director	September 22, 2021
* Riccardo C. Braglia	Director	September 22, 2021
* Yasuhiro Oki	Director	September 22, 2021
* Toru Yoshimura	Director	September 22, 2021
* Toshitaka Inuzuka	Director	September 22, 2021
* Tetsu Watanabe	Director	September 22, 2021

*By: /s/ Paul F. Jacobson
Paul F. Jacobson
Attorney-in-Fact

Exhibit 5.1

WILSON SONSINI

Wilson Sonsini Goodrich & Rosati
Professional Corporation

650 Page Mill Road
Palo Alto, California 94304-1050

O: 650.493.9300
F: 650.493.6811

September 22, 2021

Thorne HealthTech, Inc.
152 W. 57th Street
New York, NY 10019

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Thorne HealthTech, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company with the Securities and Exchange Commission (the "Commission") of a registration statement on Form S-1 (Registration No. 333-257987), as amended (the "Registration Statement"), under the Securities Act of 1933, as amended. The Registration Statement relates to the proposed sale of up to an aggregate of 8,050,000 shares of the Company's common stock, $0.01 par value per share (the "Shares"), including up to 1,050,000 shares issuable upon exercise of an option granted to the underwriters by the Company.

We understand that the Shares are to be resold to the public as described in the Registration Statement and pursuant to an underwriting agreement, substantially in the form filed by the Company as an exhibit to the Registration Statement, to be entered into by and between the Company and the underwriters named therein (the "Underwriting Agreement").

We are acting as counsel for the Company in connection with the sale of the Shares by the Company. In such capacity, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary for the purposes of rendering this opinion. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity with the originals of all documents submitted to us as copies and the legal competence of all signatories to such documents.

We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware (including the statutory provisions and all applicable judicial decisions interpreting those laws) and the federal laws of the United States of America. On the basis of the foregoing, we are of the opinion that upon the effectiveness of the Company's Amended and Restated Certificate of Incorporation, a form of which has been filed as Exhibit 3.2 to the Registration Statement, the Shares to be issued and sold by the Company have been duly authorized and, when such Shares are issued and paid for in accordance with the terms of the Underwriting Agreement, will be validly issued, fully paid and nonassessable.

WILSON
SONSINI

We consent to the use of this opinion as an exhibit to the Registration Statement, and we consent to the reference of our name under the caption "Legal Matters" in the prospectus forming part of the Registration.

Very truly yours,

/s/ WILSON SONSINI GOODRICH & ROSATI, P.C.

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

Thorne HealthTech, Inc.
New York, New York

We hereby consent to the use in the Prospectus constituting a part of this Registration Statement of our report dated April 19, 2021, except for the disclosure regarding disaggregated revenues by sales channel within Note 2, as to which the date is June 4, 2021, and except for the effects of the stock split discussed in Note 21, as to which the date is September 13, 2021, relating to the consolidated financial statements of Thorne HealthTech, Inc., which is contained in that Prospectus.

We also consent to the reference to us under the caption “Experts” in the Prospectus.

/s/ BDO USA, LLP

Raleigh, North Carolina
September 22, 2021