

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2022

or

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

For the transition period from _____ to _____

Commission File Number 001-40826

Thorne HealthTech, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

152 W. 57th Street, New York, NY

(Address of Principal Executive Offices)

27-2877253

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

10019

(Zip Code)

Registrant's telephone number, including area code: (929) 251-6321

N/A

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	THRN	Nasdaq Global Select Market

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

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

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

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

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

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

The number of shares outstanding of the registrant's common stock, par value \$0.01 per share, as of August 8, 2022 was 52,742,179.

Thorne HealthTech, Inc.
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q (Quarterly Report) contains forward-looking statements. All statements other than statements of historical facts contained in this Quarterly Report, including statements regarding our future results of operations and financial position, business strategy, commercial activities and costs, research and development costs, timing and likelihood of success, as well as plans and objectives of management for future operations, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that are in some cases beyond our control and may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the 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,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of these terms or other similar expressions. Forward-looking statements contained in this Quarterly Report 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 net sales, costs of sales, 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, including the success of our Thorne Asia joint venture;
- 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 Net Promoter Score (NPS);
- our ability to maintain key certifications, such as our NSF International (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, including those acquired in connection with the acquisition of Nutrativa LLC;
- the increased expenses associated with being a public company;
- the outcome and impact of litigation, including litigation associated with the filings of intellectual property rights (IPRs);
- the timing and results of future regulatory filings, including those related to our OneDraw device; 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 are current only as of the date of this Quarterly Report and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this Quarterly Report. 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, 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 Quarterly Report, 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.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

Thorne HealthTech, Inc. Condensed Consolidated Balance Sheets

	June 30, 2022 (unaudited)	December 31, 2021
Assets		
Current Assets		
Cash and cash equivalents	\$ 27,810,526	\$ 51,100,915
Accounts receivable, net	10,313,916	5,285,321
Related party receivables	32,685	366,590
Inventories, net	60,471,468	41,012,124
Prepaid expenses and other current assets	1,951,700	3,494,473
Total current assets	100,580,295	101,259,423
Restricted cash	4,900,000	4,900,000
Property and equipment, net	30,764,406	27,030,400
Operating lease right-of-use assets, net	16,203,487	17,836,756
Finance lease right-of-use assets	716,402	883,076
Intangible assets, net	16,089,408	6,592,316
Goodwill	16,541,041	14,440,683
Investments	1,400,000	400,000
Equity-method investments	994,534	963,685
Other related party receivables	151,300	—
Other assets	1,045,460	993,538
Total assets	\$ 189,386,333	\$ 175,299,877

Thorne HealthTech, Inc.
Condensed Consolidated Balance Sheets

	June 30, 2022 (unaudited)	December 31, 2021
Liabilities, Convertible Preferred Stock and Stockholders' Equity		
Current Liabilities		
Accounts payable	\$ 25,693,495	\$ 16,889,756
Accrued payroll	2,927,550	2,526,917
Other accrued expenses	2,573,760	1,144,573
Related party payable	874,870	1,634,775
Current portion of operating lease liabilities	1,599,190	2,633,236
Current portion of finance lease liabilities	391,003	413,487
Current portion of long-term debt	508,844	494,173
Total current liabilities	34,568,712	25,736,917
Long-term Liabilities		
Operating lease liabilities, net of current portion	27,026,923	27,605,739
Finance lease liabilities, net of current portion	348,352	482,544
Long-term debt, net of current portion	825,488	1,083,634
Warrant liability	1,529,586	2,058,566
Total liabilities	64,299,061	56,967,400
Commitments and Contingencies (Notes 11 and 16)		
Series E convertible preferred stock; par value \$0.01, 0 shares authorized as of June 30, 2022 and December 31, 2021; 0 shares issued and outstanding as of June 30, 2022 and December 31, 2021	—	—
Stockholders' Equity		
Common stock; par value \$0.01, 200,000,000 shares authorized as of June 30, 2022 and December 31, 2021, respectively; 52,733,269 and 52,554,214 issued and outstanding as of June 30, 2022 and December 31, 2021, respectively	527,333	525,542
Common stock, Class B; no par value, 0 shares authorized as of June 30, 2022 and December 31, 2021; 0 shares issued and outstanding as of June 30, 2022 and December 31, 2021	—	—
Additional paid-in capital	255,557,384	250,163,984
Accumulated deficit	(132,769,662)	(132,158,016)
Accumulated other comprehensive loss	(186,200)	—
Total stockholders' equity —Thorne HealthTech, Inc.	123,128,855	118,531,510
Non-controlling interest	1,958,417	(199,033)
Total stockholders' equity	125,087,272	118,332,477
Total liabilities, convertible preferred stock and stockholders' equity	\$ 189,386,333	\$ 175,299,877

See accompanying notes to condensed consolidated financial statements.

Thorne HealthTech, Inc.
Condensed Consolidated Statements of Operations
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Net sales	\$ 56,067,826	\$ 42,889,965	\$ 110,736,024	\$ 87,373,705
Cost of sales	24,704,294	19,994,229	49,254,885	41,240,751
Gross profit	31,363,532	22,895,736	61,481,139	46,132,954
Operating expenses:				
Research and development	1,743,812	1,135,771	3,711,478	2,042,941
Marketing	17,267,461	5,045,945	22,997,714	9,284,962
Selling, general and administrative	18,505,610	12,333,837	36,143,291	23,571,140
Write-off of acquired Drawbridge in-process research and development	—	1,563,015	—	1,563,015
Income (loss) from operations	(6,153,351)	2,817,168	(1,371,344)	9,670,896
Other income (expense), net:				
Interest expense, net	(31,514)	(81,256)	(61,671)	(363,901)
Guarantee fees	—	(140,407)	—	(279,271)
Change in fair value of warrant liability	594,899	317,725	528,980	(1,310,026)
Loss on Drawbridge Transaction	—	(165,998)	—	(165,998)
Other income (expense), net	(13,761)	38,143	44,094	38,143
Total other income (expense), net	549,624	(31,793)	511,403	(2,081,053)
Income (loss) before income taxes and loss from equity interests in unconsolidated affiliates	(5,603,727)	2,785,375	(859,941)	7,589,843
Income tax expense	174,553	3,008	207,098	43,538
Net income (loss) before loss from equity interests in unconsolidated affiliates	(5,778,280)	2,782,367	(1,067,039)	7,546,305
Gain (loss) from equity interests in unconsolidated affiliates	11,037	(3,115,658)	11,037	(3,173,106)
Net income (loss)	(5,767,243)	(333,291)	(1,056,002)	4,373,199
Net loss — non-controlling interest	(176,538)	(245,061)	(444,356)	(245,061)
Net income (loss) attributable to Thorne HealthTech, Inc.	(5,590,705)	(88,230)	(611,646)	4,618,260
Undistributed earnings (loss) attributable to Series E convertible preferred stockholders	—	(88,230)	—	4,618,260
Net income (loss) attributable to common stockholders	<u>\$ (5,590,705)</u>	<u>\$ —</u>	<u>\$ (611,646)</u>	<u>\$ —</u>
Earnings (loss) per share:				
Basic	\$ (0.11)	\$ —	\$ (0.01)	\$ —
Diluted	\$ (0.11)	\$ —	\$ (0.01)	\$ —
Weighted average common shares outstanding:				
Basic	52,731,604	17,650,035	52,648,653	17,650,035
Diluted	52,731,604	17,650,035	52,648,653	17,650,035

See accompanying notes to condensed consolidated financial statements.

Thorne HealthTech, Inc.
Condensed Consolidated Statements of Comprehensive Income (Loss)
(unaudited)

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Net income (loss)	\$ (5,767,243)	\$ (333,291)	\$ (1,056,002)	\$ 4,373,199
Other comprehensive loss:				
Foreign currency translation adjustment, net of tax	(120,655)	—	(186,200)	—
Total other comprehensive loss	(120,655)	—	(186,200)	—
Comprehensive income (loss)	(5,887,898)	(333,291)	(1,242,202)	4,373,199
Comprehensive loss attributable to non-controlling interests	(176,538)	(245,061)	(444,356)	(245,061)
Comprehensive income (loss) attributable to Thorne HealthTech, Inc.	<u>\$ (5,711,360)</u>	<u>\$ (88,230)</u>	<u>\$ (797,846)</u>	<u>\$ 4,618,260</u>

See accompanying notes to condensed consolidated financial statements.

Thorne HealthTech, Inc.
Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)
(unaudited)

	Equity Attributable to Thorne Stockholders						
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Non-controlling Interest	Total Stockholders' Equity
	Shares	Amount					
Three Months Ended June 30, 2022:							
Balance at April 1, 2022	52,728,814	\$ 527,288	\$ 252,395,590	\$ (127,178,957)	\$ (65,545)	\$ 2,134,955	\$ 127,813,331
Net loss	—	—	—	(5,590,705)	—	(176,538)	(5,767,243)
Other comprehensive loss:							
Currency translation adjustment	—	—	—	—	(120,655)	—	(120,655)
Other comprehensive loss	—	—	—	—	(120,655)	—	(120,655)
Exercise of stock options	4,455	45	19,958	—	—	—	20,003
Stock-based compensation	—	—	3,141,836	—	—	—	3,141,836
Balance at June 30, 2022	52,733,269	\$ 527,333	\$ 255,557,384	\$ (132,769,662)	\$ (186,200)	\$ 1,958,417	\$ 125,087,272

	Convertible Preferred Stock		Equity (Deficit) Attributable to Thorne Stockholders								
			Common Stock		Class B Common Stock		Additional Paid-In Capital	Accumulated Deficit	Non-controlling Interest	Total Stockholders' Equity (Deficit)	
	Shares	Amount	Shares	Amount	Shares	Amount					
Three Months Ended June 30, 2021:											
Balance at April 1, 2021	27,011,500	\$ 133,484,531	12,323,830	\$ 123,238	6,179,270	\$ —	\$ 52,962,384	\$ (134,704,949)	\$ —	\$ (81,619,327)	
Net loss	—	—	—	—	—	—	—	(88,230)	(245,061)	(333,291)	
Non-controlling interest in acquired subsidiary	—	—	—	—	—	—	—	—	209,592	209,592	
Stock-based compensation	—	—	—	—	—	—	24,143	—	—	24,143	
Balance at 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 Convertible Preferred Stock and Stockholders' Equity (Deficit)
(unaudited)

	Equity Attributable to Thorne Stockholders						
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Non-controlling Interest	Total Stockholders' Equity
	Shares	Amount					
Six Months Ended June 30, 2022:							
Balance at January 1, 2022	52,554,214	\$ 525,542	\$ 250,163,984	\$ (132,158,016)	\$ —	\$ (199,033)	\$ 118,332,477
Net loss	—	—	—	(611,646)	—	(444,356)	(1,056,002)
Other comprehensive loss:							
Currency translation adjustment	—	—	—	—	(186,200)	—	(186,200)
Other comprehensive income (loss)	—	—	—	—	(186,200)	—	(186,200)
Exercise of stock options	179,055	1,791	242,152	—	—	—	243,943
Stock-based compensation	—	—	5,151,248	—	—	—	5,151,248
Issuance of ownership interest in consolidated subsidiary	—	—	—	—	—	2,601,806	2,601,806
Balance at June 30, 2022	52,733,269	\$ 527,333	\$ 255,557,384	\$ (132,769,662)	\$ (186,200)	\$ 1,958,417	\$ 125,087,272

	Convertible Preferred Stock		Equity (Deficit) Attributable to Thorne Stockholders							
			Common Stock		Class B Common Stock		Additional Paid-In Capital	Accumulated Deficit	Non- controlling Interest	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount				
Six Months Ended June 30, 2021:										
Balance at January 1, 2021	27,011,500	\$ 133,484,531	12,323,830	\$ 123,238	—	\$ —	\$ 52,451,862	\$ (132,964,365)	\$ (6,447,074)	\$ (86,836,339)
Net income (loss)	—	—	—	—	—	—	—	4,618,260	(245,061)	4,373,199
Common stock issued in exchange for remaining interest in consolidated affiliate	—	—	—	—	6,179,270	—	—	(6,447,074)	6,447,074	—
Non-controlling interest in acquired subsidiary	—	—	—	—	—	—	—	—	209,592	209,592
Stock-based compensation	—	—	—	—	—	—	534,665	—	—	534,665
Balance at 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)

See accompanying notes to condensed consolidated financial statements.

Thorne HealthTech, Inc.
Condensed Consolidated Statements of Cash Flows
(unaudited)

	Six Months Ended June 30,	
	2022	2021
Cash Flows from Operating Activities		
Net income (loss)	\$ (1,056,002)	\$ 4,373,199
Adjustments to reconcile net income (loss) to net cash (used in) provided by operating activities:		
Depreciation and amortization	2,865,599	2,261,969
Change in fair value of warrant liability	(528,980)	1,310,026
Non-cash lease expense	1,852,780	2,953,727
Stock-based compensation	5,151,248	534,665
Non-cash interest expense	1,285	—
Change in inventory and receivable reserves	(164,045)	(62,462)
(Gain) loss from equity interests in unconsolidated affiliates	(11,037)	3,173,106
Loss on Drawbridge Transaction	—	165,998
Write-off of acquired Drawbridge in-process research and development	—	1,563,015
Other non-cash	(38,628)	—
Change in operating assets and liabilities		
Accounts receivable	(5,007,492)	(3,607,072)
Related party receivables	182,605	(618,575)
Related party payables	(759,905)	401,509
Inventories	(19,321,200)	(11,411,154)
Prepaid expenses and other assets	1,515,266	(611,863)
Accounts payable and accrued liabilities	9,923,479	3,704,343
Operating lease liabilities	(1,612,862)	(3,244,257)
Net cash provided by (used in) operating activities	(7,007,889)	886,174
Cash Flows from Investing Activities		
Purchase of property and equipment	(2,226,073)	(1,136,975)
Acquisition of Nutrativa, net of cash acquired	(14,862,287)	—
Acquisition of Drawbridge Health assets, net of cash acquired	—	(1,412,279)
Purchase of investment in unconsolidated subsidiaries	(1,000,000)	—
Purchase of license agreements	(375,000)	(563,470)
Net cash used in investing activities	(18,463,360)	(3,112,724)
Cash Flows from Financing Activities		
Payments on long-term debt and finance leases	(452,989)	(324,938)
Payment of deferred offering costs	—	(2,990,760)
Debt issuance costs	(25,700)	—
Proceeds from issuance of ownership interest in consolidated subsidiary	2,601,806	—
Proceeds from exercise of stock options	243,943	—
Net cash provided by (used in) financing activities	2,367,060	(3,315,698)
Effect of exchange rate changes on cash and restricted cash	(186,200)	—
Net decrease in cash and restricted cash	(23,290,389)	(5,542,248)
Cash, cash equivalents and restricted cash, beginning of period	56,000,915	15,262,094
Cash, cash equivalents and restricted cash, end of period	<u>\$ 32,710,526</u>	<u>\$ 9,719,846</u>
Supplemental Disclosure of Cash Flows Information:		
Cash paid during the period:		
Interest	\$ 77,209	\$ 371,730
Income taxes, net of refunds	\$ 573,372	\$ 192,618
Noncash Investing and Financing Activities:		
Equipment acquired through finance lease obligations	\$ 52,838	\$ 420,361
Equipment acquired through debt obligations	\$ —	\$ 1,274,601
Right-of-use assets obtained in exchange for lease liabilities	\$ —	\$ 2,913,002

See accompanying notes to condensed consolidated financial statements.

Thorne HealthTech, Inc.
Notes to 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 Onegevy, 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 health and wellness.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (U.S. GAAP). These condensed consolidated financial statements include the operations of the Company and all of its wholly-owned subsidiaries, as well as majority-owned subsidiaries over which the Company exercises control and, when applicable, entities for which the Company has a controlling financial interest or variable interest for which the Company is the primary beneficiary. All significant intercompany accounts and transactions have been eliminated in consolidation.

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. All related share and per share amounts have been retroactively adjusted in these condensed consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split. Furthermore, 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 condensed consolidated financial statements for all periods presented to reflect the 445-for-1 forward stock split.

Unaudited Condensed Consolidated Financial Statements

The condensed consolidated balance sheet as of June 30, 2022, the condensed consolidated statements of operations, condensed consolidated statements of comprehensive income (loss) and the condensed consolidated statements of convertible preferred stock and stockholders' equity (deficit) for the three and six months ended June 30, 2022 and 2021 and the condensed consolidated statements of cash flows for the six months ended June 30, 2022 and 2021, are unaudited. These unaudited interim condensed 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, 2022 and the results of operations and cash flows for the periods presented.

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 condensed consolidated financial statements related to the three and six months ended June 30, 2022 and 2021, are also unaudited. The condensed consolidated results of operations for the three and six months ended June 30, 2022, are not necessarily indicative of results to be expected for the year ending December 31, 2022, nor for any other future annual or interim period. The condensed consolidated balance sheet as of December 31, 2021, included herein was derived from the audited consolidated financial statements as of that date. These interim condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2021, included in the Company's Annual Report on Form 10-K filed on March 16, 2022.

Thorne HealthTech, Inc.
Notes to Condensed Consolidated Financial Statements
(unaudited)

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 disclosure of contingent assets and liabilities. The Company bases its estimates on its historical experience and on assumptions that the Company 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 consolidated financial statements as of and for the year ended December 31, 2021.

Concentrations of Risk

Credit Risk - Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, restricted cash and accounts receivable. Although the Company places its cash and cash equivalents with high quality institutions, these balances can 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 net receivables were as follows:

	June 30, 2022	December 31, 2021
Emerson Ecologics, LLC	26.1 %	33.3 %
Pattern Inc.	18.5 %	*
iHerb, Inc.	12.1 %	41.3 %

* Represents less than 10%

Sales - Major customers who accounted for more than 10% of the Company's total net sales were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Pattern Inc.	36.7 %	25.1 %	34.2 %	28.3 %
Emerson Ecologics, LLC	*	12.5 %	*	12.3 %
iHerb, Inc.	*	17.5 %	*	15.3 %

* Represents less than 10%

In-process Research and 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; see Note 4). IPR&D acquired in an asset purchase is capitalized on the Company's condensed consolidated balance sheets at its acquisition-date fair value if the acquired IPR&D has alternative future use. For the IPR&D 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. Fair value measurement was classified as Level 3 under the fair value hierarchy.

Fair Value Measurements

Accounting Standards Codification (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 that can be corroborated by observable market data.

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- *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 and cash equivalents, receivables, accounts payable and accrued expenses approximate their fair values as of June 30, 2022 and December 31, 2021 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.

Deferred Offering Costs

The Company capitalizes within other assets, certain legal, accounting and other third-party fees directly related to the Company's in-process equity financings 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.

On September 22, 2021, the Company's Registration Statement on Form S-1, as amended, was declared effective and on September 23, 2021, the Company's common stock began trading on the Nasdaq Global Select Market, under the ticker symbol "THRN". On September 27, 2021, the Company closed its initial public offering (IPO) of 7,000,000 shares of common stock. Through the completion of the offering, the Company incurred \$10.0 million of offering costs, which had been capitalized prior to the completion of the offering. Upon closing of the offering, the Company reclassified these amounts to additional paid-in capital, as a reduction of the offering proceeds.

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 and 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/Business-to-Business (B2B) Sales: The Company sells to wholesale customers, including healthcare professionals, retail stores and through various online sites operated by authorized resellers. 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 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. 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.

Direct-to-Consumer (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 test kits are recorded as revenue when the test results are provided to the customer. Shipping and handling costs are considered a fulfillment activity and are expensed as incurred.

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DTC Subscription Sales: The Company offers its customers the ability to opt into recurring automatic refills on 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 Thorne.com 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 these frequencies, a 10% discount is offered on retail refill orders. For orders placed through Amazon.com, 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 6%. 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, 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 the Company's revenue recognition policy between the DTC subscription program and the DTC transaction program.

The Company primarily sells to customers in the United States, but also sells in international markets. Regardless of customer location, 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, 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 expenses 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 future 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 returns are accepted when the customer is unsatisfied with the product. The Company has accrued an estimate for returns related to a future period. Sales returns accrued as of June 30, 2022 and December 31, 2021, were approximately \$0.1 million and recorded as a reduction to net sales within the condensed consolidated statements of operations.

The Company estimates sales incentives and other variable consideration using the expected value method. The variable consideration is included in the transaction price only to the extent that it is probable, in the Company's judgment, that a significant reversal in the amount of the cumulative revenue recognized will not occur in a future period. 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.

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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 can 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 condensed consolidated statements of operations. The Company also enters into other advertising activities arranged with customers. Since these activities cannot be arranged with unrelated third parties and no distinct good or service is received in exchange for consideration, 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 condensed consolidated statements of operations.

For certain sales, the Company incurs incremental costs of obtaining the contract in the form of sales commissions. The sales commissions incurred are short-term (less than 12 months in duration) and directly correlated to the sales generated, and therefore are expensed as incurred.

The following table presents disaggregated revenues by geography, as determined by the country products were shipped to:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022		2021		2022		2021	
	Amount	Percentage of Total	Amount	Percentage of Total	Amount	Percentage of Total	Amount	Percentage of Total
Domestic	\$ 52,542,648	93.7 %	\$ 40,845,805	95.2 %	\$ 105,058,997	94.9 %	\$ 82,725,091	94.7 %
Foreign	\$ 3,525,178	6.3 %	\$ 2,044,160	4.8 %	\$ 5,677,027	5.1 %	\$ 4,648,614	5.3 %
Net sales	\$ 56,067,826	100.0 %	\$ 42,889,965	100.0 %	\$ 110,736,024	100.0 %	\$ 87,373,705	100.0 %

The following table presents disaggregated revenues based on sales channel:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022		2021		2022		2021	
	Amount	Percentage of Total	Amount	Percentage of Total	Amount	Percentage of Total	Amount	Percentage of Total
DTC subscription sales	\$ 9,667,533	17.2 %	\$ 5,546,028	12.9 %	\$ 18,015,429	16.3 %	\$ 11,026,552	12.6 %
DTC transaction sales	\$ 19,214,981	34.3 %	\$ 11,486,170	26.8 %	\$ 36,677,282	33.1 %	\$ 25,409,646	29.1 %
Professional/B2B	\$ 27,185,312	48.5 %	\$ 25,857,767	60.3 %	\$ 56,043,313	50.6 %	\$ 50,937,507	58.3 %
Net sales	\$ 56,067,826	100.0 %	\$ 42,889,965	100.0 %	\$ 110,736,024	100.0 %	\$ 87,373,705	100.0 %

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 condensed consolidated operating results and where the best future opportunities arise.

Recent Accounting Pronouncements – Adopted

Accounting Standards Update (ASU) 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity. In August 2020, the FASB issued this ASU to simplify the accounting for convertible instruments. This ASU also requires entities to use the if-converted method for all convertible instruments in calculating diluted earnings-per-share. This update was adopted by the Company effective January 1, 2022. The adoption did not have a material impact on its condensed consolidated financial statements.

ASU 2021-04, Earnings Per Share (Topic 260), Debt-Modifications and Extinguishments (Subtopic 470-50), Compensation (Topic 718), and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options, a consensus of the Emerging Issues Task Force. In May 2021, the FASB issued this ASU to provide explicit guidance on accounting by issuers for modifications or exchanges of freestanding equity-classified written call options that remain equity classified after the modification or exchange. This update was adopted by the Company effective January 1, 2022. The adoption did not have a material impact on its condensed consolidated financial statements.

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Recent Accounting Pronouncements – Not Yet Adopted

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 for fiscal years 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 related disclosures.

ASU 2020-04, Reference Rate Reform (Topic 848), Facilitation of the Effects of Reference Rate Reform on Financial Reporting. 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 31, 2022, has not impacted the Company's consolidated financial statements. The Company has no contracts that reference LIBOR and does not believe the adoption of this ASU will have a material impact on its consolidated financial statements and related disclosures.

ASU 2021-08, Business Combinations – Accounting for Contract Assets and Contract Liabilities from Contracts with Customers. In October 2021, the FASB issued guidance intended to improve the accounting for acquired revenue contracts with customers in a business combination by addressing diversity in practice. The guidance requires an acquirer to recognize and measure contract assets and liabilities acquired in a business combination in accordance with Topic 606 as if they had originated the contracts, as opposed to fair value on the date of acquisition. The standard will be effective for business combinations occurring after January 1, 2023. Early adoption is permitted. The Company is currently evaluating the impact that this guidance may have on its consolidated financial statements and related disclosures.

COVID-19 Pandemic and CARES Act

The full impact of the COVID-19 outbreak continues to evolve. As such, the impact of this pandemic on the Company's financial condition is uncertain. Management is actively monitoring the impact of this virus on its financial condition, liquidity, operations, suppliers, customers and workforce. The Company's unaudited condensed 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 condensed consolidated financial statements and reported amounts of revenue and expenses during the reporting periods presented.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security (CARES) Act, was enacted. The CARES Act 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, totaling approximately \$1.0 million. During the year ended December 31, 2021, the Company paid \$0.5 million of the deferred payroll taxes. As of June 30, 2022 the remaining deferred payroll taxes of \$0.5 million will be payable by December 31, 2022.

3. Related party transactions

Transaction with Mitsui & Co., Ltd. and Kirin Holdings Company, Limited

Series E Convertible Preferred Stock Financing

On July 5, 2018, the Company issued and sold an aggregate of 27,011,500 shares of 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). Immediately prior to the completion of the Company's IPO on September 22, 2021, all outstanding shares of the Series E convertible preferred stock automatically converted on a one-to-one basis into an aggregate of 27,011,500 shares of common stock. See Note 12 for additional information related to the Series E convertible preferred stock.

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Kirin and Mitsui Feasibility Review Agreement

On March 19, 2019, Onegevity Health, LLC (Onegevity) entered into a feasibility review agreement (Feasibility Agreement) with Kirin and Mitsui. Entities affiliated with both Mitsui and Kirin each held more than 5% of the Company's capital stock as of and for the years ended December 31, 2021 and 2020. Pursuant to the Feasibility Agreement, Onegevity is 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 \$0.5 million (Feasibility Payment Amount). Under the Feasibility Agreement, Kirin and Mitsui may, acting jointly, any time prior to March 19, 2022, make the decision to commercialize the Gutbio Product. If they choose to commercialize the Gutbio Product, then Onegevity is 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 Onegevity to issue equity securities of Onegevity to each of Kirin and Mitsui in equal amounts in consideration for the Feasibility Payment Amount. This agreement was subsequently amended on June 8, 2021 with the Amendment Agreement extending the date of determination by one year to March 19, 2023; see 'Kirin and Mitsui Amendment Agreement' below.

Kirin and Mitsui Letter Agreements

On July 5, 2018, the Company 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 the Company's 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 the Company from time to time. This agreement further appoints Kirin and Mitsui as the exclusive marketers and distributors of the Company's products in Japan and provides Kirin and Mitsui with the exclusive right to conduct research and development activities related to the Company's products in Japan, as well as manage any regulatory approvals required to market or distribute the Company's products in Japan. This agreement also provides Kirin and Mitsui with an exclusive right of first negotiation with respect to the marketing of the Company's 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. This agreement was subsequently amended on June 8, 2021 with the Amendment Agreement; see 'Kirin and Mitsui Amendment Agreement' below.

Also, on July 5, 2018, the Company and Onegevity entered into a letter agreement with Kirin and Mitsui (the Onegevity Agreement) in connection with the Company's Series E convertible stock financing which provided for certain exclusive commitments between the Company 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. This agreement was subsequently amended on June 8, 2021 with the Amendment Agreement; see 'Kirin and Mitsui Amendment Agreement' below.

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Kirin and Mitsui Amendment Agreement

On June 8, 2021, the Company entered into an Amendment Agreement with Kirin and Mitsui 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 removed any provisions regarding the establishment of a joint venture in Japan. The Amendment Agreement further removed certain obsolete intercompany commitments between the Company and Onegevity, in light of the Company's merger with Onegevity. The Amendment Agreement also amended the Onegevity Agreement to replace Onegevity with the Company as a party to the agreement. Finally, the Amendment Agreement amended the Feasibility Agreement discussed above to obligate the Company (rather than Onegevity) to issue equity securities to each of Kirin and Mitsui in the event Kirin and Mitsui elect to not commercialize the Gutbio Product by March 19, 2023. As of June 30, 2022, no equity securities have been issued related to the Feasibility Agreement or the Feasibility Payment Amount.

Kirin Juntendo Agreement

On October 16, 2020, Onegevity entered into a service agreement (Juntendo Agreement) with Juntendo University and Kirin. Pursuant to the Juntendo Agreement, the Company agreed to provide DNA analysis services for up to 600 samples and in return may receive up to \$129 thousand. During the three and six months ended June 30, 2022, the Company recorded analysis services provided under the agreement of \$16 thousand (three and six months ended June 30, 2021—\$7 thousand and \$15 thousand, respectively). As of June 30, 2022, the Company has an associated related party receivable of \$16 thousand related to the service agreement. There was no associated receivable as of December 31, 2021.

Kirin and Mitsui Employment Secondments

The Company is a party to secondment agreements with Kirin's employee, Mr. Yasuhiro Oki, dated March 18, 2019 (Kirin Secondment Agreement) and 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, the Company agreed to reimburse each of Kirin and Mitsui up to \$120 thousand annually for such services.

During the three and six months ended June 30, 2022, the Company recorded employment-related expenses of \$21 thousand and \$42 thousand, respectively, related to the Kirin Secondment Agreement (three and six months ended June 30, 2021—\$21 thousand and \$42 thousand, respectively). As of June 30, 2022 and December 31, 2021, the Company had an associated related party payable to Kirin of \$21 thousand related to the secondment reimbursement.

During the three and six months ended June 30, 2022, the Company recorded employment-related expenses of \$30 thousand and \$60 thousand, respectively, related to the Mitsui Secondment Agreement (three and six months ended June 30, 2021—\$30 thousand and \$60 thousand, respectively). As of June 30, 2022 and December 31, 2021, the Company had an associated related party payable to Mitsui of \$30 thousand related to the secondment reimbursement.

Kirin and Mitsui Fee Letters for \$20.0 Million Revolver Guarantee

On February 14, 2020, the Company entered into additional fee letters with Mitsui (2020 Mitsui Fee Letter) and Kirin (2020 Kirin Fee Letter), whereby both Mitsui and Kirin individually agree to guarantee half of the \$20.0 million of borrowings under the Uncommitted and Revolving Credit Line Agreement with SMBC, dated February 14, 2020 (2020 Credit Agreement). Under the 2020 Mitsui Fee Letter and 2020 Kirin Fee Letter, the Company is required to pay each, Mitsui and Kirin, an annual fee equal to 2.00% of their half of the \$20.0 million guarantee.

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On February 12, 2021, in connection with entering into the Uncommitted and Revolving Credit Line Agreement with SMBC, dated February 12, 2021 (2021 Credit Agreement), the Company entered into new fee letters with Mitsui (2021 Mitsui Fee Letter) and Kirin (2021 Kirin Fee Letter), whereby both Mitsui and Kirin individually agreed to guarantee half of the \$20.0 million of borrowings. Under the 2021 Mitsui Fee Letter and 2021 Kirin Fee Letter, the Company is required to pay each, Mitsui and Kirin, an annual fee equal to 1.20% of their half of the \$20.0 million guarantee. During the three and six months ended June 30, 2021, the Company recorded guarantee fee expense related to the \$20.0 million guarantees of \$0.1 million and \$0.2 million, respectively.

On October 4, 2021, the Company repaid the \$20.0 million of outstanding borrowings under the 2021 Credit Agreement, plus interest accrued and unpaid on the loan through the date of repayment. Upon repayment of the outstanding borrowings under the 2021 Credit Agreement, the related Kirin and Mitsui guarantees were released and terminated. See Note 10 for additional information related to the 2021 Credit Agreement.

Kirin and Mitsui Fee Letters for \$4.9 Million Letter of Credit Guarantee

The Company is a party to certain fee letters with Mitsui and Kirin, under which Mitsui and Kirin provide certain guarantees of certain of the Company's obligations. On November 30, 2018, the Company entered into fee letters with Mitsui (2018 Mitsui Fee Letter) and Kirin (2018 Kirin Fee Letter), whereby both Mitsui and Kirin individually agree to guarantee half of the \$4.9 million letter of credit under the Reimbursement Agreement with Sumitomo Mitsui Banking Corporation (SMBC), dated October 31, 2018 (LC Reimbursement Agreement). Under the 2018 Mitsui Fee Letter and 2018 Kirin Fee Letter, the Company is required to pay each, Mitsui and Kirin, an annual fee equal to twelve-month LIBOR, plus 300 basis points of their half of the \$4.9 million guarantee.

On December 3, 2018, the Company issued an irrevocable standby letter of credit pursuant to the LC Reimbursement Agreement in the amount of \$4.9 million to serve as security under the lease for the manufacturing facility in Summerville, South Carolina. The irrevocable standby letter of credit had an original expiration date of December 3, 2019 and automatic renewals until October 31, 2037. During the three and six months ended June 30, 2021, the Company recorded guarantee fee expense of \$41 thousand and \$0.1 million, respectively, related to the \$4.9 million letter of credit guarantee.

On October 29, 2021, the Company deposited \$4.9 million into a restricted interest-bearing account with SMBC to fund the standby letter of credit and release the guarantees provided by Kirin and Mitsui. As of June 30, 2022 and December 31, 2021, the \$4.9 million deposit is recorded as restricted cash within the condensed consolidated balance sheets. See Note 10 for additional information related to the standby letter of credit.

Kirin Client Research Services Agreement

On November 1, 2021, the Company entered into a feasibility review agreement with Kirin to provide research services. During the three and six months ended June 30, 2022, the Company recognized \$26 thousand related to these research services. As of June 30, 2022, the Company had a related party receivable of \$8 thousand related to these research services.

Kirin and Kyowa Hakko Bio Co., Ltd. Research Agreements

The Company provides certain research services under several research contracts with Kirin and Kyowa Hakko Bio Co., Ltd., a subsidiary of Kirin. During the three and six months ended June 30, 2022, the Company recognized \$0.1 million in revenue related to these research services. This was previously recorded as deferred revenue as of December 31, 2021, and included in other accrued expenses within the condensed consolidated balance sheets. As of June 30, 2022, the Company had a related party payable of \$19 thousand related to the research agreements.

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Other Related Party Transactions

Registration Rights Agreement

The Company is a party to a registration rights agreement, as amended, with certain holders of the Company's capital stock. Under the Company's registration rights agreement, certain holders of the Company's capital stock, have the right to demand that the Company files a registration statement or request that their shares of the Company's capital stock be covered by a registration statement that the Company is otherwise filing. During the three and six months ended June 30, 2022, the Company had incurred no costs associated with a registration or offering of shares of the Company's common stock.

Merger with Onegevity

On January 6, 2021, the Company announced a merger with Onegevity. Paul Jacobson, the Company's Chief Executive Officer, was also the Chief Executive Officer of Onegevity and owned 5,712 (4.0%) of Onegevity's outstanding shares. The merger transaction was approved by a majority of each of the Company's 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 the Company to 4.4% based on the Company's common stock outstanding following the merger transaction. The transaction was completed on March 3, 2021. See Note 4 for additional information related to the Onegevity merger.

Merger with Drawbridge

On April 21, 2021, the Company entered into a Merger Agreement with Drawbridge to acquire the majority of outstanding shares of Drawbridge, a healthcare technology company. Prior to the merger, the Company owned approximately 11.2% of the outstanding shares of Drawbridge and accounted for the 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 \$3.4 million as of December 31, 2020. The Company's portion of Drawbridge's loss during 2021, up to the date of the merger, was \$0.2 million. As of March 31, 2021 and immediately preceding the merger, the Company's net equity investment was approximately \$3.2 million. Under the Merger Agreement, the Company increased its ownership interest in Drawbridge by 76.3 percentage points, to a total ownership of 87.5%. The Merger Agreement called for the payment of approximately \$1.4 million in cash and the assumption of certain liabilities of Drawbridge. See Note 4 for additional information related to the Drawbridge merger.

Supply Agreement with NR Therapeutics, LLC

The Company is a party to an exclusive supply agreement dated June 5, 2020 with NR Therapeutics, LLC (NR Therapeutics) pursuant to which the Company purchases inventory of nicotinamide riboside (NR). Paul Jacobson, the Company's Chief Executive Officer, is a member of NR Therapeutics board of directors and the Company holds a 49% interest in NR Therapeutics. During the three and six months ended June 30, 2022, the Company purchased inventory from NR Therapeutics totaling \$1.5 million and \$1.8 million, respectively (three and six months ended June 30, 2021—\$1.8 million and \$2.8 million, respectively). As of June 30, 2022 and December 31, 2021, the Company had a related party payable of \$0.8 million and \$0.2 million, respectively.

Letter Agreement with Tecton Group, LLC

The Company is a party to a letter agreement between the Company, Tecton Group, LLC (Tecton), Kirin and Mitsui (Tecton Letter Agreement) providing the Company 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. The Company's Chief Executive Officer, Paul Jacobson, was previously a member of Tecton's board of directors. During the six months ended June 30, 2021, the Company paid certain fees on behalf of Tecton, totaling \$0.5 million, in exchange for additional equity interest in Tecton. As of June 30, 2022 and December 31, 2021, there were no amounts outstanding to the Company from Tecton.

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Strategic Supplier Agreement with Nutrativa LLC

The Company is a party to a strategic supplier agreement dated August 2, 2018, as amended, with Nutrativa LLC (Nutrativa). As part of the strategic supplier agreement, the Company serves as Nutrativa's contract manufacturer for Nutrativa's Effusio product. The Company also provides support services including customer service, order processing, warehousing and fulfillment, safety and surveillance, production planning, finance, legal and regulatory, human resources and marketing. All manufacturing and development of Nutrativa products currently reside within the Company's facilities located in Summerville, South Carolina. Paul Jacobson, the Company's Chief Executive Officer, is the Chief Executive Officer of Nutrativa. During the three and six months ended June 30, 2021, the Company recognized revenue related to the supply agreement of \$32 thousand and \$47 thousand, respectively. As of December 31, 2021, the Company had recorded a related party receivable with Nutrativa of approximately \$0.4 million. On February 28, 2022, the Company completed the purchase of all the outstanding membership interest of Nutrativa. See Note 4 for additional information related to the acquisition of Nutrativa.

Investment in Oova, Inc.

The Company maintains an investment in Oova, Inc. (Oova). During the three and six months ended June 30, 2022, the Company recognized \$24 thousand and \$27 thousand, respectively, of revenue related to contractual fulfillment services that the Company provides to Oova (three and six months ended June 30, 2021—\$7 thousand and \$11 thousand, respectively). As of June 30, 2022 and December 31, 2021, the Company had a related party receivable with Oova of approximately \$8 thousand and \$2 thousand, respectively.

Other Related Party Transactions

During the three and six months ended June 30, 2022, the Company settled a \$43 thousand payable that was previously outstanding as of December 31, 2021 to the Chief Executive Officer, Paul Jacobson.

During the three and six months ended, the Company entered into a loan agreement with the Chief Technology Officer, Scott Hurth, and established a related party receivable of \$151 thousand, inclusive of interest receivable, included within other related party receivables on the condensed consolidated balance sheets as of June 30, 2022.

4. Mergers and Acquisitions

Onegevity Health LLC Merger

On January 6, 2021, the Company announced a merger with Onegevity, 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 shares of Class B common stock, 472,590 which were subject to time-based restrictions, to the minority shareholders of Onegevity, plus an additional 1,959,335 stock options with various strike prices to key managers of Onegevity who had stock options in Onegevity in a tax-free exchange. No cash was involved in the transaction. The shares of Class B common stock did not have voting rights among other restrictions.

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 condensed consolidated balance sheets.

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Drawbridge Health, Inc. Merger

On April 26, 2021, the Company entered into a merger agreement (the Merger Agreement) with Drawbridge Health, Inc. (Drawbridge), to acquire the majority of the 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, because the Company determined it had significant influence over Drawbridge. The Company's net equity investment was approximately \$3.2 million as of 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 because 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. Furthermore, 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 condensed consolidated statements of operations for the nine months ended September 30, 2021. Additionally, a loss on the Drawbridge Transaction of approximately \$0.2 million was recorded during the three and 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 Drawbridge 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 because 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.

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 assets		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 liabilities		(263,509)
Long term operating lease, net of current portion		(147,223)
Net assets acquired	\$	1,676,737
Less: non-controlling interest		(209,592)
Net assets acquired by Thorne HealthTech, Inc.	\$	1,467,145

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Nutrativa LLC Acquisition

On February 28, 2022, the Company completed the purchase of all the outstanding membership interest of Nutrativa (the Nutrativa Acquisition). Nutrativa leverages proprietary two-dimensional high-speed printing technology to develop and manufacture dissolvable supplement discs. Paul Jacobson, the co-founder, CEO and director for the Company, is also the CEO of Nutrativa. A special committee of independent directors (the "Special Committee") of the Company's Board of Directors negotiated and approved the Nutrativa Acquisition in consultation with an independent advisory firm.

The consideration provided to the unit-holders was approximately \$15.4 million, comprised of \$14.9 million in cash and the forgiveness of \$0.5 million of amounts due to the Company at the time of the transaction (net of \$18 thousand cash acquired). The Company funded the purchase with available cash on hand. The Nutrativa Acquisition will allow the Company to utilize innovative printing technology to help address consumer needs in a green, sustainable fashion, while at the same time enabling the Company to expand its portfolio of products and services into new target markets. The operations of Nutrativa have been consolidated with those of the Company beginning February 28, 2022.

We have accounted for the acquisition of Nutrativa under the acquisition method of accounting in accordance with ASC 805, *Business Combinations*. The acquisition price has been allocated among assets acquired and liabilities assumed at fair value based on information currently available, with the excess recorded as goodwill (non-deductible for tax purposes). The goodwill recognized is attributable primarily to expected synergies to be realized by Nutrativa in leveraging the Company's existing manufacturing, distribution, research and development and marketing capabilities to efficiently scale the Nutrativa products and business. Estimates of fair value included in the condensed consolidated financial statements represent management's best estimates and valuations. In accordance with the acquisition method of accounting, the preliminary purchase price allocation is subject to adjustment until the preliminary analysis is finalized, within a period of time not to exceed one year after the date of acquisition, or February 28, 2023.

Total transaction costs incurred by the Company during the three and six months ended June 30, 2022 were \$0.1 million and \$0.5 million, respectively. These transaction costs were expensed as incurred and are included as a component of selling, general and administrative expense within the condensed consolidated statements of operations.

The following table sets forth the preliminary allocation of the purchase price to Nutrativa's identifiable tangible and intangible assets acquired and liabilities assumed, including measurement period adjustments:

Cash	\$	17,713
Accounts receivable, net		14,740
Inventories, net		274
Property and equipment, net		3,256,996
Intangible assets, net		10,200,000
Goodwill		2,100,358
Accounts payable		(181,913)
Other accrued expenses		(203)
Net assets acquired	\$	15,407,965

5. Consolidated Variable Interest Entities

The Company consolidates variable interest entities where the Company is determined to be the primary beneficiary, under ASC 810. The Company consolidates into its condensed consolidated financial statements two legal entities (Onegevity Health, LLC and Thorne HealthTech Asia Pte, Ltd.) in which it holds a controlling interest. The Company presents non-controlling interest as a component of stockholders' deficit on its condensed consolidated balance sheets and reports net loss - non-controlling interest in the condensed 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 non-controlling 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 non-controlling interest is not reflected in net income, but instead reflected directly in equity.

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Onegevity Health, LLC. As of January 1, 2021, the Company owned 58,252 shares of Onegevity capital stock, which equated to approximately a 50% ownership interest. After evaluating relevant factors, the Company determined that it is the primary beneficiary of Onegevity and accordingly, consolidated the assets and liabilities of Onegevity in accordance with ASC 810.

During the first quarter of 2021, the Company merged with Onegevity. 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 condensed consolidated balance sheets. See Note 4 for additional information related to the Onegevity merger.

Thorne HealthTech Asia Pte, Ltd. On January 10, 2022, the Company entered into an agreement with Mitsui and TM HealthTech Pte. Ltd., a wholly-owned subsidiary of Mitsui, to form a joint venture entity, Thorne HealthTech Asia PTE, LTD. (Thorne Asia JV), to exclusively market, distribute and sell Thorne's products across Singapore, Hong Kong, Taiwan, Thailand, Indonesia, Malaysia, Australia, the Philippines, Vietnam, India and New Zealand. On January 20, 2022, Thorne and Mitsui contributed approximately \$2.7 million and \$2.6 million, respectively, in cash and hold 51% and 49%, respectively, of the total issued share capital of Thorne Asia JV. After evaluating relevant factors, the Company determined that it is the primary beneficiary of Thorne Asia JV, as substantially all of the activities either involve, or are conducted on behalf of, the Company. Under ASC 810, the Company has consolidated Thorne HealthTech Asia Pte, Ltd. in its condensed consolidated financial statements for the three and six months ended June 30, 2022.

The board of directors of Thorne Asia JV is composed of five directors, of which three were nominated by Thorne and two by Mitsui. Each director is appointed for a term of office of one year and will be eligible for re-election. Summary information for Thorne Asia JV, excluding intercompany activity with the Company, is included in the condensed consolidated balance sheets for the periods presented is as follows:

	June 30,
	2022
Total assets	\$ 4,636,316
Less: Total liabilities	31,394
Net assets (liabilities)	\$ 4,604,922

The results of operations for Thorne Asia JV, excluding intercompany activity with the Company, included in the condensed consolidated statements of operations for the periods presented is as follows:

	Three Months Ended	Six Months Ended
	June 30, 2022	
Net sales	\$ 10,599	\$ 16,491
Net loss	(175,482)	(546,793)
Net loss — non-controlling interest	(85,986)	(267,929)
Net loss attributable to Thorne HealthTech, Inc.	\$ (89,496)	\$ (278,864)

6. Inventories, net

Inventories, net are as follows:

	June 30,	December 31,
	2022	2021
Raw materials	\$ 33,839,020	\$ 22,620,773
Work in process	165,870	422,196
Finished goods	27,068,958	18,413,853
Reserve for slow moving and obsolete inventory	(602,380)	(444,698)
Inventories, net	\$ 60,471,468	\$ 41,012,124

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7. Property and Equipment, net

Property and equipment, net are as follows:

	June 30, 2022	December 31, 2021
Machinery and equipment	\$ 13,914,862	\$ 9,937,510
Furniture and fixtures	509,054	491,173
Office equipment	777,215	1,111,141
Leasehold improvements	19,565,760	19,431,916
Vehicles	98,282	98,282
Lab equipment	2,938,346	2,930,059
Purchased software	2,150,051	2,107,327
Internally-developed software	425,611	—
Total property and equipment	40,379,181	36,107,408
Less accumulated depreciation and amortization	(12,373,904)	(11,262,651)
In-process assets, including deposits on new equipment	2,759,129	2,185,643
Property and equipment, net	<u>\$ 30,764,406</u>	<u>\$ 27,030,400</u>

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.

For the three and six months ended June 30, 2022, depreciation and amortization expense of property and equipment was \$0.9 million and \$1.8 million, respectively (three and six months ended June 30, 2021— \$0.8 million and \$1.4 million, respectively).

8. Goodwill and Intangible Assets

Goodwill

The following table sets forth the change in the carrying amount of goodwill during the six months ended June 30, 2022:

Balance as of December 31, 2021	\$ 14,440,683
Acquisitions	2,100,358
Balance as of June 30, 2022	<u>\$ 16,541,041</u>

In June 2010, the Company acquired all the outstanding shares of capital stock of Thorne Research, which is now a wholly-owned subsidiary of the Company. The Company accounted for the transaction as a business combination in accordance with ASC 805, *Business Combinations*, and recorded the consideration transferred, assets acquired and liabilities assumed at their fair values, resulting in the recording of goodwill of approximately \$14.4 million.

In February 2022, the Company acquired all of the outstanding ownership interests of Nutrativa, which is now a wholly-owned subsidiary of the Company. The Company accounted for the transaction as a business combination in accordance with ASC 805, *Business Combinations*, and recorded the consideration transferred, assets acquired and liabilities assumed at their fair values, resulting in the recording of goodwill of approximately \$2.1 million. See Note 4 for additional information related to the acquisition of Nutrativa.

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Finite-lived Intangible Assets

Finite-lived intangible assets are as follows:

	June 30, 2022		
	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Customer relationships	\$ 6,500,000	\$ (3,900,000)	\$ 2,600,000
Trade names	7,600,000	(6,080,000)	1,520,000
Existing technology/reformulations	12,400,000	(1,972,500)	10,427,500
License agreements	2,754,002	(1,212,094)	1,541,908
	<u>\$ 29,254,002</u>	<u>\$ (13,164,594)</u>	<u>\$ 16,089,408</u>

	December 31, 2021		
	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Customer relationships	\$ 6,500,000	\$ (3,737,500)	\$ 2,762,500
Trade names	8,640,000	(6,866,667)	1,773,333
Existing technology/reformulations	3,207,923	(2,694,590)	513,333
Research and development formulas	800,000	(800,000)	—
License agreements	8,591,822	(7,048,672)	1,543,150
	<u>\$ 27,739,745</u>	<u>\$ (21,147,429)</u>	<u>\$ 6,592,316</u>

The Company's intangible assets include intangible assets acquired through the acquisitions of Thorne Research in 2010 and Nutrativa in 2022. See Note 4 for additional information related to the acquisition of Nutrativa. As of June 30, 2022 and December 31, 2021, the net carrying value of acquired intangible assets was approximately \$14.5 million and \$5.0 million, respectively. Intangible assets also include payments under license agreements related to trademarks and content. As of June 30, 2022 and December 31, 2021, these had a net carrying value of \$1.5 million.

When applicable, the balances as of June 30, 2022 have been reduced to reflect the impact of intangible assets when the gross carrying value has become fully amortized during the six months ended June 30, 2022. The impact of this resulted in a reduction to carrying value and accumulated amortization of \$1.0 million to trade names, \$1.0 million to existing technology/reformulations, \$0.8 million to research and development formulas and \$6.2 million to license agreements.

For the three and six months ended June 30, 2022, amortization expense totaled \$0.7 million and \$1.1 million, respectively (three and six months ended June 30, 2021—\$0.5 million and \$0.9 million, respectively).

Future estimated amortization expense of the Company's intangible assets as of June 30, 2022 is as follows:

Remainder of 2022	\$	1,306,033
2023		2,391,234
2024		2,080,817
2025		1,551,026
2026		1,208,734
Thereafter		7,551,564
Total	<u>\$</u>	<u>16,089,408</u>

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9. Investments

Heart-Tech Health, Inc.

On January 7, 2022, the Company entered into a Strategic Partnership Agreement with Heart-Tech Health, Inc. (Heart-Tech). Heart-Tech was formed by Dr. Suzanne Steinbaum, a leading holistic cardiologist, and has developed a program for women's holistic health prevention. Together, the Company and Heart-Tech plans to open and operate a Thorne Lab location in New York, New York. Simultaneous to executing the Strategic Partnership Agreement with Heart-Tech, the Company made a \$1.0 million investment in Heart-Tech through a simple agreement for future equity, or SAFE. During the three and six months ended June 30, 2022, there was no reportable activity between the Company and Heart-Tech.

10. Debt

Long-term Debt

Long-term debt balances and associated interest rates and maturities are as follows:

	June 30, 2022	December 31, 2021
Note payable with quarterly principal and interest payments of \$8,250 per quarter, with fixed interest of 5.44% and maturity September 10, 2026	\$ 374,888	\$ 413,574
Note payable with quarterly principal and interest payments of \$56,548 per quarter, with fixed interest of 4.89% and maturity March 20, 2025	578,686	675,836
Note payable with quarterly principal and interest payments of \$30,917 per quarter, with fixed interest of 6.94% and maturity August 12, 2024	233,908	286,255
Note payable with quarterly principal and interest payments of \$30,917 per quarter, with fixed interest of 6.94% and maturity July 15, 2023	146,850	202,142
	1,334,332	1,577,807
Less: Current portion of long-term debt	(508,844)	(494,173)
Long-term debt, net of current portion	\$ 825,488	\$ 1,083,634

The notes payable were issued in connection with various equipment purchases. The notes are collateralized by the original purchased equipment which had an aggregate net book value of \$1.7 million as of June 30, 2022.

Loan Agreement

On April 8, 2022, the Company entered into a Loan Agreement with Bank of America, N.A. (Loan Agreement), with an effective date of March 31, 2022. Under the terms of the Loan Agreement, Bank of America N.A. (BoFA) provided a revolving line of credit to the Company in the amount of \$15.0 million (the Line of Credit). Under the Loan Agreement, the Company may repay principal amounts and reborrow them as necessary until March 31, 2027 (the Expiration Date). Outstanding borrowings under the Loan Agreement will be subject to interest at a rate equal to the Bloomberg Short-Term Bank Yield Index rate (BSBY), plus 1.50%, adjusted on the first day of each month (the Adjustment Date). Interest is calculated on the basis of a 360-day year and the actual number of days elapsed. The Company agreed to pay interest on any outstanding borrowings beginning April 30, 2022, and then on the same day of each month thereafter, until all principal outstanding is repaid under the Loan Agreement. Should the first day of a calendar month fall on a day that is not a banking day, then the Adjustment Date shall be the first banking day immediately following thereafter. The Line of Credit is subject to an Unused Commitment Fee equal to 0.2% per year. The Unused Commitment Fee was due on May 1, 2022, and on the same day each following quarter until the expiration of the Loan Agreement.

As a sub-facility under the Line of Credit, the Lender has provided up to \$6.0 million in commercial and standby letters of credit (the Letters of Credit). Any outstanding and undrawn Letters of Credit shall be reserved under the Line of Credit and such amount shall not be available for borrowings. Letters of Credit issued under the Loan Agreement are subject to BoFA's customary issuance, presentation, amendment and other processing fees and other standard costs and charges.

All borrowings under the Loan Agreement are guaranteed by Thorne Research, Inc., a subsidiary of the Company, and secured by substantially all personal property of the Company, including depository accounts, receivables, inventory, equipment, general intangibles and other unencumbered assets.

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Upon the occurrence of any default, all outstanding and unpaid amounts, including unpaid interest, fees, or costs will bear interest at a rate equal the then effective interest rate, plus 6.0%.

The Loan Agreement is subject to customary covenants, including the following financial covenants:

- i. Consolidated Total Leverage to EBITDA Ratio: The Company has agreed to maintain a consolidated Funded Debt to EBITDA not exceeding 2.5:1.0. Funded Debt is defined as all outstanding liabilities for borrowed money (including any outstanding Letters of Credit) and other interest-bearing liabilities, including current and long-term debt, less the non-current portion of Subordinated Liabilities. Funded Debt shall not include operating lease liabilities.
- ii. Consolidated Fixed Charge Coverage Ratio: The Company has agreed to maintain a consolidated Fixed Charge Coverage Ratio of at least 1.25:1.0. Consolidated Fixed Charge Coverage Ratio is defined as the ratio of (a) consolidated EBITDA, less the amount of unfinanced capital expenditures, plus rental expense for such period, to (b) the sum of Federal/state/local taxes, interest expense, lease expense, rent expense, the current portion of long term debt, the current portion of finance lease obligations and any Restricted Payments incurred or made during the period.

As of June 30, 2022, the Company has not drawn any amounts or initiated any borrowings and the full \$15.0 million is available under the Loan Agreement.

Credit Facilities

On February 12, 2021, the Company entered into the 2021 Credit Agreement to refinance and replace the 2020 Credit Agreement, entered into on February 14, 2020.

On October 4, 2021, the Company repaid the \$20.0 million of outstanding borrowings under the 2021 Credit Agreement, plus interest accrued and unpaid on the loan through the date of repayment. Upon repayment, the 2021 Credit Agreement was terminated. The Company incurred incremental fees related to the payoff totaling \$7 thousand.

The 2021 Credit Agreement was guaranteed by two significant Company stockholders, Kirin and Mitsui. Each stockholder guaranteed 50% of the total amount of the loan, or \$10.0 million.

Under the respective 2021 Fee Letters, the Company has agreed to reimburse Mitsui and/or Kirin in cash for any amounts that Mitsui and/or Kirin pays under its respective guarantee of the 2021 Credit Agreement. However, if the Company is unable to reimburse such amounts wholly or partially to Mitsui and/or Kirin, then the Company and Mitsui and/or Kirin may agree to deem such unreimbursed amounts to be made for the Company's benefit in consideration for its debt or equity securities on terms reasonably satisfactory to Mitsui and/or Kirin and the Company.

The guarantee fee during the period of February 14, 2020 through February 13, 2021 was calculated as 2.00% of the outstanding borrowings under the Credit Agreements, to be paid by the borrower on an annual basis. Beginning February 12, 2021, the guarantee fee was calculated as 1.20% of the outstanding borrowings under the Credit Agreements. During the three and six months ended June 30, 2021, the Company recorded \$0.1 million and \$0.2 million, respectively, of related expense, which are included within guarantee fees in the condensed consolidated statements of operations. Upon repayment of the outstanding borrowings under the 2021 Credit Agreement, the related Kirin and Mitsui guarantees were released and terminated.

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Standby 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 South Carolina production facility and guarantees were issued by related parties. The standby letter of credit was for \$4.9 million and had an original expiration date of December 3, 2019, with automatic renewals until October 31, 2037. The standby letter of credit is guaranteed 50% by Kirin and Mitsui, to whom the Company pays an annual guarantee fee. Under the respective 2018 Fee Letters, the guarantee fee is based on the 12-month USD LIBOR rate, plus 3% on the amount of the guarantee. The letter of credit has an annual fee of \$20 thousand.

On October 29, 2021, the Company deposited \$4.9 million into a restricted interest-bearing account with SMBC to fund the standby letter of credit and release the guarantees provided by Kirin and Mitsui. During the three and six months ended June 30, 2021, the Company incurred total guarantee fee expense for the standby letter of credit of \$41 thousand and \$0.1 million, respectively, which has been included in guarantee fees in the condensed consolidated statements of operations.

11. Leases

The Company leases real estate, vehicle and equipment for use in its operations. The Company's leases generally have lease terms of one 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.

On January 26, 2021, the Company entered into a five-year lease agreement for 115,500 square feet within a 136,500 square foot building for the Company's fulfillment and distribution operations, located in Summerville, South Carolina. Rent was abated for the first three months while the Company installed racking, packing stations and other required equipment, prior to the Company's shipping operations to this facility. This lease terminates in July 2026. The lease has two renewal options for three years each. The Company has funded a customary security deposit of \$0.1 million upon execution of the lease, which has been recorded within other assets on the condensed consolidated balance sheets as of June 30, 2022 and December 31, 2021.

On July 28, 2021, the Company entered into a lease agreement for a 360,320 square foot industrial building for the Company's finished goods warehousing and shipping operations, located in Summerville, South Carolina. The building is currently under construction and the lease will commence on the date of which the landlord completes construction of the facility and required tenant improvements, currently estimated to be during the first quarter of 2023 and will terminate upon the thirteenth anniversary of the commencement date. The lease has one renewal option for a five-year term. The lease provides for an allowance for tenant improvements of up to \$1.3 million. The annual base rent for the first year will be \$2.0 million and is subject to an annual escalation of 2.0% on each anniversary. The Company has funded a customary security deposit of \$0.3 million upon execution of the lease which has been recorded within other assets on the condensed consolidated balance sheets as of June 30, 2022 and December 31, 2021.

On March 10, 2022, the Company amended the lease agreement for its headquarters in New York, New York. The amended agreement grants an additional right-of-use ("second substitute premises") to the Company in the future following the expiration of its current lease. The second substitute premises are estimated to be substantially complete during the third quarter of 2022. The amendment will commence on September 12, 2022 and will terminate on the five year anniversary of the rent commencement date.

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The balances for the operating and finance leases where the Company is the lessee are presented as follows within the condensed consolidated balance sheets:

	June 30, 2022	December 31, 2021
Operating lease:		
Operating lease right-of-use assets, net	\$ 16,203,487	\$ 17,836,756
Current portion of operating lease liabilities	1,599,190	2,633,236
Operating lease liabilities, net of current portion	27,026,923	27,605,739
Total operating lease liabilities	<u>\$ 28,626,113</u>	<u>\$ 30,238,975</u>
Finance lease:		
Finance lease right-of-use assets	\$ 716,402	\$ 883,076
Current portion of finance lease liabilities	391,003	413,487
Finance lease liabilities, net of current portion	348,352	482,544
Total finance lease liabilities	<u>\$ 739,355</u>	<u>\$ 896,031</u>

The components of lease expense are as follows within the condensed consolidated statements of operations:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Operating lease expense:				
Operating lease cost ⁽¹⁾	\$ 1,461,356	\$ 1,369,459	\$ 2,922,711	\$ 2,602,167
Finance lease expense:				
Amortization of leased assets	107,112	94,418	219,512	168,333
Interest on lease liabilities	10,459	13,748	22,047	25,048
Total lease expense	<u>\$ 1,578,927</u>	<u>\$ 1,477,625</u>	<u>\$ 3,164,270</u>	<u>\$ 2,795,548</u>

⁽¹⁾ Includes short-term leases and variable lease costs, which are immaterial.

The weighted-average remaining lease term and weighted-average discount rate as of June 30, 2022 and December 31, 2021, were as follows:

	June 30, 2022	December 31, 2021
Weighted average remaining lease term (years)		
Operating leases	13.93 years	13.73 years
Finance leases	2.01 years	2.33 years
Weighted average discount rate applied		
Operating leases	8.9 %	9.2 %
Finance leases	5.9 %	6.1 %

Supplemental cash flow information related to leases where the Company is the lessee is as follows:

	Six Months Ended June 30,	
	2022	2021
Operating cash outflows from operating leases	\$ 2,902,305	\$ 3,244,257
Operating cash outflows from finance leases (interest payments)	\$ 22,047	\$ 25,048
Financing cash outflows from finance leases	\$ 209,514	\$ 171,734
Leased assets obtained in exchange for finance lease liabilities	\$ 52,838	\$ 420,361
Leased assets obtained in exchange for operating lease liabilities	\$ —	\$ 2,913,002

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As of June 30, 2022, the maturities of the operating and finance lease liabilities are as follows:

	Operating Leases	Finance Leases
Remainder of 2022	\$ 2,218,628	\$ 233,900
2023	3,497,422	343,422
2024	3,589,920	157,455
2025	3,559,583	22,189
2026	3,325,639	38,944
Thereafter	35,705,779	—
Total lease payments	\$ 51,896,971	\$ 795,910
Less: imputed interest	23,270,858	56,555
Total present value of lease liabilities	\$ 28,626,113	\$ 739,355
Less: current portion of lease liabilities	1,599,190	391,003
Long-term portion of lease liabilities	\$ 27,026,923	\$ 348,352

In 2016, the Company entered into a new lease agreement for office, warehouse and production space in Summerville, South Carolina. The Company was required to provide the landlord with a \$4.9 million irrevocable letter of credit as a security deposit (see Note 10). The required security deposit may be reduced upon the attainment of certain EBITDA levels.

12. Convertible Preferred Stock and Stockholders' Equity (Deficit)

On July 5, 2018, the Company issued 27,011,500 Series E convertible preferred stock to Kirin and Mitsui for \$138.4 million.

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).

The Company's Series E convertible preferred stock has been classified as temporary equity on the accompanying condensed consolidated balance sheets in accordance with authoritative guidance for the classification and measurement of redeemable securities. Upon certain change in control events 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.

Immediately prior to the completion of the Company's IPO on September 22, 2021, all outstanding shares of the Series E convertible preferred stock automatically converted on a one-to-one basis into an aggregate of 27,011,500 shares of common stock. As of June 30, 2022 and December 31, 2021, there were no shares of Series E convertible preferred stock outstanding.

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13. Warrants

On October 10, 2018, the Company issued to Kirin and Mitsui each 2,225,000 warrants, for a total of 4,450,000 warrants, to purchase the Company's common stock. The warrants have an exercise price of \$5.12 and an expiration date of October 11, 2028. In July 2020, each shareholder exercised 2,168,485 warrants for a total of \$22.2 million in gross proceeds. As of June 30, 2022 and December 31, 2021, 113,030, of the original 4,450,000 warrants, remain outstanding. These warrants are classified as equity within the condensed consolidated balance sheets as of June 30, 2022 and December 31, 2021.

On June 23, 2010, the Company issued 2,532,000 warrants to a related-party stockholder, with a strike price of \$6.74 and an original expiration date of June 23, 2020. In May 2019, the Board of Directors extended the term of the warrants for an additional 10 years to June 23, 2030. As of June 30, 2022 and December 31, 2021, none of the 2,532,000 warrants have been exercised and all common stock warrants remained outstanding. These warrants are classified as equity within the condensed consolidated balance sheets as of June 30, 2022 and December 31, 2021.

On May 10, 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. 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. Due to these warrants containing certain down-round protections, which are not associated with the underlying Company's equity that may trigger in the event of a modification of certain other outstanding warrant instruments, the Company has classified these warrants as liabilities within the condensed consolidated balance sheets as of June 30, 2022 and December 31, 2021.

The warrant liability is remeasured at fair value at each reporting date and has a fair value of \$1.5 million as of June 30, 2022 and \$2.1 million as of December 31, 2021.

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 fact that the Company had no publicly available stock price information prior to the IPO and limited publicly available stock price information subsequent to the IPO, 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 zero coupon issues in effect at the time of the grant for treasury securities of similar maturity or expected term. 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:

	June 30, 2022	December 31, 2021
Fair market value	\$ 4.84	\$ 6.21
Exercise Price	\$ 6.74	\$ 6.74
Term (years)	8.0	8.5
Volatility	75 %	75 %
Annual dividend	—	—
Risk-free interest rate	3.01 %	1.48 %

The fair value of financial instruments measured on a recurring basis is as follows:

Description	June 30, 2022			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liability	\$ 1,529,586	—	1,529,586	\$ —

Description	December 31, 2021			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Warrant liability	\$ 2,058,566	—	—	\$ 2,058,566

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Changes in the ability to observe valuation inputs may result in a reclassification of levels within the fair value hierarchy. The following table summarizes the changes in Level 3 measurement and transfers in or out of the Level 3 fair value hierarchy, for the warrant liability, during the six months ended June 30, 2022:

	Warrant Liability
Balance as of December 31, 2021	\$ 2,058,566
Change in fair value during the three months ended March 31, 2022	65,919
Transfer to level two during the three months ended June 30, 2022	(2,124,485)
Balance as of June 30, 2022	\$ —

14. Stock-based Compensation

Prior to the Company's IPO, the Company's Board of Directors adopted, and the stockholders approved the Company's 2021 Equity Incentive Plan (2021 Plan). The 2021 Plan provides for the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to Company employees and parent and subsidiary corporations' employees, and for the grant of non-statutory stock options, stock appreciation rights, restricted stock awards (RSAs), restricted stock units (RSUs) and performance awards to employees, directors and consultants and parent and subsidiary corporations' employees and consultants.

On January 26, 2022, in accordance with the 2021 Plan's adjustment provisions, the Company increased the share reserve by 2,627,710 shares, as registered on Form S-8 and filed with the SEC on January 26, 2022. As of June 30, 2022, there were 1,359,972 shares available for issuance under the 2021 Plan.

Stock-based Compensation Expense

Stock-based compensation expense for the periods indicated is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Stock options	\$ 237,786	\$ 24,143	\$ 475,572	\$ 534,665
Restricted stock units	2,904,050	—	4,675,676	—
Total stock-based compensation expense	\$ 3,141,836	\$ 24,143	\$ 5,151,248	\$ 534,665

Stock Options

The following table summarizes stock option activity for the six months ended June 30, 2022:

	Options Outstanding	Weighted-Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value ⁽¹⁾
Outstanding as of January 1, 2022	9,699,656	\$ 5.28	6.22	\$ 12.3
Granted	—	-		
Exercised	(179,055)	1.36		
Cancelled/forfeited	—	-		
Outstanding as of June 30, 2022	9,520,601	5.35	5.58	3.6
Vested and expected to vest as of June 30, 2022	9,520,601	\$ 5.35	5.58	\$ 3.6
Exercisable as of June 30, 2022	1,690,381	\$ 2.71	2.42	\$ 3.6

⁽¹⁾ Aggregate intrinsic value is presented in millions of U.S. dollars and represents the difference between the closing fair value of the underlying common stock and the exercise price of outstanding, in-the-money options on the date of measurement.

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The following table summarizes additional information related to stock options for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Weighted-average grant date fair value of stock options granted ⁽¹⁾	N/A	N/A	N/A	N/A
Grant date fair value of stock options vested ⁽¹⁾⁽²⁾	N/A	N/A	N/A	N/A
Intrinsic value of stock options exercised ⁽³⁾	\$ 8,133	N/A	\$ 857,460	N/A

⁽¹⁾ The three and six months ended June 30, 2021 excludes 1,959,335 stock options issued in exchange for outstanding stock options of Onegevity, in connection with the merger. The stock option exchange was determined to be materially a “like-for-like” transaction and there was no incremental stock compensation expense recorded by the Company. The Company compared the fair value of the stock options immediately before and after the exchange and determined that the exchange did not result in incremental compensation expense.

⁽²⁾ During the three and six months ended June 30, 2022 and 2021, there were no stock options that vested.

⁽³⁾ Shares of the Company’s common stock, traded under the symbol “THRN,” have been publicly traded since September 23, 2021, when the Company’s common stock was listed and began trading on the Nasdaq Global Select Market (the “Nasdaq”). No market for the Company’s stock existed prior to September 23, 2021. There were no stock option exercises prior to the IPO date.

As of June 30, 2022, the unrecognized stock-based compensation expense related to outstanding stock options was approximately \$0.2 million and is expected to be recognized as expense over the next three months.

Restricted Stock Units

The following table summarizes RSU activity for the six months ended June 30, 2022:

	Number of Shares	Weighted-Average Grant-Date Fair Value
Outstanding as of January 1, 2022	3,406,760	\$ 9.82
Granted	2,217,248	6.91
Released	—	—
Cancelled/forfeited	(5,000)	8.40
Outstanding as of June 30, 2022	5,619,008	\$ 8.67
Vested and expected to vest as of June 30, 2022	5,619,008	\$ 8.67

The following table summarizes additional information related to RSUs for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Weighted-average grant date fair value of RSUs granted ⁽¹⁾	\$ 6.91	N/A	\$ 6.91	N/A
Grant date fair value of RSUs vested ⁽¹⁾⁽²⁾	N/A	N/A	N/A	N/A
Intrinsic value of RSUs released ⁽¹⁾⁽²⁾	N/A	N/A	N/A	N/A

⁽¹⁾ The three and six months ended June 30, 2021 excludes 472,590 RSUs issued in exchange for outstanding profits interest units held by employees of Onegevity, in connection with the merger. The RSU exchange was determined to be materially a “like-for-like” transaction and there was no incremental stock compensation expense recorded by the Company. The Company compared the fair value of the RSUs immediately before and after the exchange and determined that the exchange did not result in incremental compensation expense.

⁽²⁾ During the three and six months ended June 30, 2022 and 2021, there were no RSUs that vested or released.

As of June 30, 2022, the unrecognized stock-based compensation expense related to outstanding RSUs was approximately \$42.3 million and is expected to be recognized as expense over approximately 3.6 years.

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15. Basic and Diluted Earnings (Loss) per Share

Basic earnings (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 earnings (loss) per share is computed by dividing the net income (loss) available to common stockholders by the weighted-average number of common stock and common stock equivalents outstanding for the period. For periods in which the Company incurs a net loss, outstanding common stock equivalents are not included in the calculation of diluted earnings (loss) per share as their effect is anti-dilutive. Accordingly, basic and diluted net loss per share for those periods are identical.

Holders of Series E convertible preferred stock met the definition of participating securities, which required the Company to apply the two-class method to compute both basic and diluted earnings (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 declared dividends or any distributions, the available distributions would 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 common stock and Series E convertible preferred stock (on an as converted basis) on a pro rata, pari passu, basis. The attribution of earnings to the Series E convertible preferred stockholders was based on its contractual rights to receive dividends and, for the quarter in which they converted, the attribution was calculated using a weighted-average method. The Series E convertible preferred stock did not contractually participate in the Company's net losses, and therefore undistributed losses were not allocated to Series E convertible preferred stock. Immediately prior to the completion of the Company's IPO on September 22, 2021, all outstanding shares of the Series E convertible preferred stock automatically converted on a one-to-one basis into an aggregate of 27,011,500 shares of common stock. See Note 12 for additional information related to the 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. For the three and six months ended June 30, 2021, the Company presented diluted net income per share under the two-class method.

The following table presents information necessary to calculate earnings (loss) per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Numerator:				
Net income (loss) attributable to Thorne HealthTech, Inc.	\$ (5,590,705)	\$ (88,230)	\$ (611,646)	\$ 4,618,260
Undistributed earnings (loss) attributable to Series E convertible preferred stockholders	—	(88,230)	—	4,618,260
Numerator for basic earnings (loss) per share—net income (loss) available to Thorne HealthTech, Inc. common stockholders (A)	(5,590,705)	—	(611,646)	—
Effect of dilutive securities:				
Undistributed earnings (loss) attributable to Series E convertible preferred stockholders—basic	—	(88,230)	—	4,618,260
Undistributed earnings (loss) attributable to Series E convertible preferred stockholders—diluted	—	88,230	—	(4,618,260)
Numerator for diluted earnings (loss) per share—net income (loss) available to Thorne HealthTech, Inc. common stockholders (C)	(5,590,705)	—	(611,646)	—
Denominator ⁽¹⁾:				
Denominator for basic earnings (loss) per share—weighted average shares (B)	52,731,604	17,650,035	52,648,653	17,650,035
Denominator for diluted earnings (loss) per share—adjusted weighted average common stock and common stock equivalents (D)	52,731,604	17,650,035	52,648,653	17,650,035
Basic earnings (loss) per share (A/B)	\$ (0.11)	\$ —	\$ (0.01)	\$ —
Diluted earnings (loss) per share (C/D)	\$ (0.11)	\$ —	\$ (0.01)	\$ —

(1) For the three and six months ended June 30, 2022, 18.1 million and 17.2 million warrants and stock-based awards, respectively, were excluded from the computation of diluted earnings (loss) per share because the effect would have been anti-dilutive under the treasury stock method.

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16. Commitments and Contingencies

Royalties and Other Agreements - The Company has entered into various agreements that require future payments. The agreements call for future payments to a major hospital for use of their trademarks and tradenames in advertising the benefits of supplements and provides 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, 2022, future annual minimum commitments under these agreements are as follows:

Remainder of 2022	\$	415,000
2023		562,500
Total	\$	977,500

The Company also has various royalty agreements, that are dependent on future sales. Total royalties paid during the three and six months ended June 30, 2022 were \$0.1 million and \$0.2 million, respectively (three and six months ended June 30, 2021—\$0.2 million).

Other - In 2017, the Company received incentives totaling \$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, 2022, the Company has satisfied the requirements and Berkeley County has not asked for repayment of these proceeds.

Contingencies

The Company, like other manufacturers of products that are ingested, faces an inherent risk of exposure to product liability claims if, among other things, the use of its product results in personal injury. The Company maintains product liability 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 actions to have a material effect on the consolidated financial statements of the Company.

The Company is aware of two U.S. patents with claims relating to compositions of Nicotinamide Riboside – an ingredient contained in several of the Company's nutritional supplement products. The two patents were issued to the Trustees of Dartmouth College and licensed to ChromaDex Corporation (ChromaDex), of Los Angeles, California. On December 1, 2020, and February 1, 2021, the Company filed separate petitions for inter partes review against the two patents - U.S. Patent No. 8,383,086 and U.S. Patent No. 8,197,807 at the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office seeking to invalidate the two patents.

On June 10, 2021, the Patent Trial and Appeal Board issued a decision granting institution of inter partes review against U.S. Patent No. 8,383,086, and on August 12, 2021, the Patent Trial and Appeal Board issued a decision granting institution of inter partes review against U.S. Patent No. 8,197,807. On May 31, 2022, the Patent Trial and Appeal Board issued a decision in which it invalidated the challenged claim in U.S. Patent No. 8,383,086. On August 2, 2022, the patent owner filed a "Patent Owner Notice of Appeal" with the U.S. Court of Appeals for the Federal Circuit. The Patent Trial and Appeal Board is expected to render a decision regarding U.S. Patent No. 8,197,807 in mid-August 2022.

On May 12, 2021, the Trustees of Dartmouth College and ChromaDex filed a complaint against the Company in the U.S. District Court for the Southern District of New York, alleging the Company's infringement of U.S. Patent Nos. 8,383,086 and 8,197,807. The complaint seeks to enjoin the Company from selling nutritional supplement products that contain Nicotinamide Riboside and further seeks monetary damages for alleged infringement of the patents. On August 20, 2021, the trial judge in the patent infringement litigation issued an Order to Stay the litigation during the pendency of the two inter partes reviews. On September 21, 2021, the U.S. District Court for the District of Delaware issued a summary judgment holding that U.S. Patent Nos. 8,383,086 and 8,197,807 are invalid in ChromaDex, Inc. and Trustees of Dartmouth College v. Elysium Health, Inc. The Company has not recorded a loss in connection with this matter because the Company believes that a loss is currently neither probable nor estimable.

Item 2. 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 unaudited condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q and with our Annual Report on Form 10-K, filed on March 16, 2022. This discussion contains forward-looking statements that involve risks and uncertainties, including those described in the section titled "Special Note Regarding Forward-Looking Statements." Our actual results and the timing of selected events could differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below and those set forth under the section titled "Risk Factors."

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 Onegeivity, 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, peak performance and healthy aging.

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 Onegeivity. We completed our acquisition of Onegeivity and combined these two complementary companies in early 2021. During the past 11 years, we have evolved to become a transformative consumer brand, trusted by more than 5,000,000 customers, 46,000 healthcare professionals, thousands of professional athletes, more than 100 professional sports teams and U.S. National 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: Onegeivity 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;
- 2020-2021: Thorne HealthTech, Inc. facilitated the merger of Thorne and Onegeivity; and
- 2022: Thorne HealthTech, Inc. acquired Nutrativa and announced partnerships with USA Boxing and USRowing.

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, 2022 and 2021:

- we generated net sales of \$110.7 million and \$87.4 million, respectively, representing 26.7% year-over-year growth;
- we generated gross profit of \$61.5 million and \$46.1 million, respectively, representing 55.5% and 52.8% of net sales, respectively;
- we generated net loss of \$1.1 million and net income of \$4.4 million, respectively; and

- our adjusted EBITDA was \$7.2 million and \$14.1 million, respectively.

The recent key customer metrics of our business included:

- for the three months ended June 30, 2022 and 2021, customer acquisition costs (CAC) of \$90 and \$33, respectively and life-time value (LTV) of \$157 and \$150, respectively, resulting in LTV-to-CAC of 1.8x and 4.6x, respectively;
- for the six months ended June 30, 2022 and 2021, CAC of \$58 and \$29, respectively and LTV of \$157 and \$150, respectively, resulting in LTV-to-CAC of 2.7x and 5.2x, respectively;
- active subscriptions of 300,031 and 194,778, as of June 30, 2022 and 2021, respectively; and
- average orders per customer of 1.8 for each of the three months ended June 30, 2022 and 2021, 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 Quarterly Report, we have used certain non-GAAP financial measures including earnings or loss before interest, taxes, depreciation and amortization (EBITDA), EBITDA margin, adjusted EBITDA, adjusted EBITDA margin and free cash flow. These measures are derived on the basis of methodologies other than in accordance with GAAP. 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 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 measures 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. We consider several factors in determining when 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.

Non-GAAP Financial Measures

We calculate EBITDA, a non-GAAP financial measure, as net income or loss excluding depreciation and amortization, interest expense and income taxes. EBITDA margin represents EBITDA as a percentage of net sales.

We calculate Adjusted EBITDA, a non-GAAP financial measure, by further excluding non-cash items for stock-based compensation expenses, change in fair value of warrant liability, loss on Drawbridge step acquisition, loss on Drawbridge Transaction, guarantee fees, income or loss from equity interests in unconsolidated affiliates and transaction costs related to mergers and acquisitions. Adjusted EBITDA margin represents adjusted EBITDA as a percentage of net sales.

We use EBITDA, EBITDA margin, 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:

- EBITDA, EBITDA margin, 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 depreciation and amortization, interest expense and income taxes, stock-based compensation expenses, change in fair value of warrant liability, loss on Drawbridge step acquisition, loss on Drawbridge Transaction, guarantee fees, income or loss from equity interests in unconsolidated affiliates and transaction costs related to mergers and acquisitions; 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 use these non-GAAP financial measures 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
- EBITDA, EBITDA margin, 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 EBITDA, EBITDA margin, 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 these non-GAAP financial measures 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;
- these non-GAAP financial measures 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; and
- the expenses and other items that we exclude in our calculation of these non-GAAP financial measures may differ from the expenses and other items, if any, that other companies may exclude from similarly titled metrics 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, EBITDA, EBITDA margin, 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 unaudited reconciliations of EBITDA and adjusted EBITDA to net income (loss), and EBITDA margin and adjusted EBITDA margin to net income (loss) margin, the most directly comparable financial measures prepared in accordance with GAAP, for each of the periods indicated:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
EBITDA and Adjusted EBITDA Reconciliation				
Net income (loss)	\$ (5,767,243)	\$ (333,291)	\$ (1,056,002)	\$ 4,373,199
Net income (loss) margin	(10.3)%	(0.8)%	(1.0)%	5.0 %
Depreciation and amortization	1,523,749	1,276,568	2,865,599	2,261,969
Interest expense, net	31,514	81,256	61,671	363,901
Income tax expense	174,553	3,008	207,098	43,538
EBITDA	(4,037,427)	1,027,541	2,078,366	7,042,607
EBITDA margin	(7.2)%	2.4 %	1.9 %	8.1 %
Adjustments:				
Stock-based compensation	3,141,836	24,143	5,151,248	534,665
Change in fair value of warrant liability	(594,899)	(317,725)	(528,980)	1,310,026
Write-off of acquired Drawbridge in-process research and development	—	1,563,015	—	1,563,015
Loss on Drawbridge Transaction	—	165,998	—	165,998
Guarantee fees	—	140,407	—	279,271
(Gain) loss from equity interests in unconsolidated affiliates	(11,037)	3,115,658	(11,037)	3,173,106
Acquisition costs	58,825	—	519,236	—
Adjusted EBITDA	\$ (1,442,702)	\$ 5,719,037	\$ 7,208,833	\$ 14,068,688
Adjusted EBITDA margin	(2.6)%	13.3 %	6.5 %	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 and purchases of license 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 an unaudited reconciliation of free cash flow to net cash provided by (used in) operating activities, the most directly comparable financial measure prepared in accordance with GAAP, for each of the periods indicated:

	Six Months Ended June 30,	
	2022	2021
Net cash provided by (used in) operating activities	\$ (7,007,889)	\$ 886,174
Purchase of property and equipment	(2,226,073)	(1,136,975)
Purchase of license agreements	(375,000)	(563,470)
Free cash flow	\$ (9,608,962)	\$ (814,271)

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.

LTV to CAC

We define life-time value (LTV) to customer acquisition costs (CAC) as LTV from a specific 12-month period divided by the CAC of a specific period. LTV is defined as the average gross contribution per purchasing DTC customer within a particular 12-month period 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 12-month period, less the cost of goods, divided by the number of purchasing DTC customers in the same period. To arrive at the LTV for a particular period, we divide the average gross contribution by that period's Churn Rate. CAC is defined as the total advertising and marketing expenses, less headcount expenses and associated benefit expenses, in a particular period divided by the number of customers who placed their first order during that same timeframe. We view the LTV to CAC ratio as a key indicator for marketing efficiency.

Orders per Customer

We define orders per customers as the total number of sales orders placed by our DTC customers in a given period divided by the total number of DTC customers who purchased within that same period. We view orders per customer 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 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 Subscriptions

We offer our customers the ability to opt into recurring automatic refills on Thorne.com and Amazon. A customer can cancel or modify a subscription at any time at no cost to the customer on both platforms. On Thorne.com, customers can subscribe monthly, every 45 days, every two months, every three months, or every four months. For each ordering frequency, a discount of 10% or 20% is offered on retail refill orders, depending on the number of products to which a customer is subscribed, with an average discount of approximately 17%. 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 6%.

We view our growing subscription business on Thorne.com and Amazon as a key driver of profitable future sales growth. Our subscriptions grew from 61,135 at the end of 2018, to 89,178 at the end of 2019, to 155,305 at the end of 2020 and to 257,070 at the end of 2021, representing a compounded annual growth rate of 61.4%. The total number of subscriptions as of June 30, 2022, was 300,031 and as of June 30, 2021, was 194,778, representing 54.0% year-over-year growth. Subscription sales are expected 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.

We employ a holistic, full funnel strategy that balances long term brand objectives with performance marketing goals using a mix of paid, owned and earned media. We take a data-driven approach to managing our marketing campaigns constantly optimizing and adjusting to improve performance. At the end of the first quarter 2022, we launched a 12-week Redefining Healthy Aging Campaign which will leverage and deploy campaign assets across connected TV, YouTube, influencers, out of home, Amazon, search and social platforms. Despite the campaign's orientation toward longer-term brand objectives, we anticipate seeing sales acceleration within our DTC channel and new customer acquisition post-campaign in line with the performance achieved in past campaigns, such as our Olympic "Better Health" brand campaign during the second half of 2021, which resulted in a DTC sales acceleration on our website with a 24.8% increase in average daily consumer sales and a 35.6% increase in new weekly DTC customers in the 20 weeks post-campaign, compared to the prior period.

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 2021, 51.0% of our DTC sales were generated from new, first-time purchasers versus 49.0% from existing customers. We deepen our relationships with our customers and drive retention by engaging them with digital health content and educational resources. Out of our total DTC sales during the three and six months ended June 30, 2022, approximately one-third were recurring subscription sales. We expect the growth in net sales each year to continue as we generate and grow sales from existing customers and from newly acquired customers.

Healthcare Professionals

Our growing network of 46,000 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.

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 2021, we shipped to 32 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

Operating expenses consist of

- research and development
- sales and marketing;
- 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.

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.

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.

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 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 and interest incurred on borrowings.

Income Tax Expense

Our income tax expense 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. Our effective tax rate is primarily due the recognition of current state tax liability in the United States without recognizing any tax benefit of corresponding deferred tax assets as a result of our valuation allowance. Judgment is required to determine whether deferred tax assets will be realized in full or in part. Management assesses available positive and negative evidence on a jurisdictional basis to estimate if deferred tax assets will be recognized, or when it is more likely than not that all or some deferred tax assets will not be realized and a valuation allowance must be established.

Results of Operations

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2022	2021	2022	2021
Net sales	\$ 56,067,826	\$ 42,889,965	\$ 110,736,024	\$ 87,373,705
Cost of sales	24,704,294	19,994,229	49,254,885	41,240,751
Gross profit	31,363,532	22,895,736	61,481,139	46,132,954
Gross margin	55.9%	53.4%	55.5%	52.8%
Operating expenses:				
Research and development	1,743,812	1,135,771	3,711,478	2,042,941
Marketing	17,267,461	5,045,945	22,997,714	9,284,962
Selling, general and administrative	18,505,610	12,333,837	36,143,291	23,571,140
Write-off of acquired Drawbridge in-process research and development	—	1,563,015	—	1,563,015
Income (loss) from operations	(6,153,351)	2,817,168	(1,371,344)	9,670,896
Other income (expense), net:				
Interest expense, net	(31,514)	(81,256)	(61,671)	(363,901)
Guarantee fees	—	(140,407)	—	(279,271)
Change in fair value of warrant liability	594,899	317,725	528,980	(1,310,026)
Loss on Drawbridge Transaction	—	(165,998)	—	(165,998)
Other income (expense), net	(13,761)	38,143	44,094	38,143
Total other income (expense), net	549,624	(31,793)	511,403	(2,081,053)
Income (loss) before income taxes and loss from equity interest in unconsolidated affiliates	(5,603,727)	2,785,375	(859,941)	7,589,843
Income tax expense	174,553	3,008	207,098	43,538
Net income (loss) before loss from equity interest in unconsolidated affiliates	(5,778,280)	2,782,367	(1,067,039)	7,546,305
Gain (loss) from equity interests in unconsolidated affiliates	11,037	(3,115,658)	11,037	(3,173,106)
Net income (loss)	(5,767,243)	(333,291)	(1,056,002)	4,373,199
Net loss — non-controlling interest	(176,538)	(245,061)	(444,356)	(245,061)
Net income (loss) attributable to Thorne HealthTech, Inc	(5,590,705)	(88,230)	(611,646)	4,618,260
Undistributed earnings (loss) attributable to Series E convertible preferred stockholders	—	(88,230)	—	4,618,260
Net income (loss) attributable to common stockholders—basic	\$ (5,590,705)	\$ —	\$ (611,646)	\$ —
Net income (loss) attributable to common stockholders—diluted	\$ (5,590,705)	\$ —	\$ (611,646)	\$ —
Earnings (loss) per share:				
Basic	\$ (0.11)	\$ —	\$ (0.01)	\$ —
Diluted	\$ (0.11)	\$ —	\$ (0.01)	\$ —
Weighted average common shares outstanding:				
Basic	52,731,604	17,650,035	52,648,653	17,650,035
Diluted	52,731,604	17,650,035	52,648,653	17,650,035

Net sales

Three months ended June 30, 2022 and 2021

Net sales for the three months ended June 30, 2022, increased by \$13.2 million, or 30.7%, to \$56.1 million, compared to \$42.9 million during the three months ended June 30, 2021. Net sales were driven by continued growth across both the DTC and B2B business due to increased order volume, subscription growth and an expanded network of healthcare professionals.

Our DTC sales were \$28.9 million for the three months ended June 30, 2022, compared to \$17.0 million for the three months ended June 30, 2021, which represents an increase of \$11.9 million, or 69.6% compared to the corresponding period in the prior year. Our B2B net sales were \$27.2 million for the three months ended June 30, 2022, compared to \$25.9 million for the three months ended June 30, 2021, which represents an increase of \$1.3 million, or 5.1% compared to the corresponding period in the prior year.

Six months ended June 30, 2022 and 2021

Net sales for the six months ended June 30, 2022, increased by \$23.4 million, or 26.7%, to \$110.7 million, compared to \$87.4 million during the six months ended June 30, 2021. Net sales were driven by continued double-digit growth across both the DTC and B2B business due to increased order volume, subscription growth and an expanded network of healthcare professionals.

Our DTC sales were \$54.7 million for the six months ended June 30, 2022, compared to \$36.4 million for the six months ended June 30, 2021, which represents an increase of \$18.3 million, or 50.1% compared to the corresponding period in the prior year. Our B2B net sales were \$56.0 million for the six months ended June 30, 2022, compared to \$50.9 million for the six months ended June 30, 2021, which represents an increase of \$5.1 million, or 10.0% compared to the corresponding period in the prior year.

Cost of Sales and Gross Profit

The following table summarizes our cost of sales and gross profit for the periods indicated:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022	2021	Change ⁽¹⁾	Percent Change ⁽²⁾	2022	2021	Change ⁽¹⁾	Percent Change ⁽²⁾
Net sales	\$ 56,067,826	\$ 42,889,965	\$ 13,177,861	30.7 %	\$ 110,736,024	\$ 87,373,705	\$ 23,362,319	26.7 %
Cost of Sales:								
Other Cost of Sales	23,916,064	19,334,832	4,581,232	23.7 %	47,657,458	40,101,770	7,555,688	18.8 %
Percent of net sales	42.7 %	45.1 %	-240 bps	(5.4) %	43.0 %	45.9 %	-290 bps	-6.2 %
Depreciation and amortization	671,015	659,397	11,618	1.8 %	1,388,901	1,138,981	249,920	21.9 %
Percent of net sales	1.2 %	1.5 %	-30 bps	(22.2) %	1.3 %	1.3 %	0 bps	-3.8 %
Stock-based compensation	117,215	-	117,215	n.m.	208,526	-	208,526	n.m.
Percent of net sales	0.2 %	0.0 %	20 bps	n.m.	0.2 %	0.0 %	20 bps	n.m.
Cost of Sales	\$ 24,704,294	\$ 19,994,229	\$ 4,710,065	23.6 %	\$ 49,254,885	\$ 41,240,751	\$ 8,014,134	19.4 %
Percent of net sales	44.1 %	46.6 %	-260 bps	(5.5) %	44.5 %	47.2 %	-270 bps	(5.8) %
Gross profit	\$ 31,363,532	\$ 22,895,736	\$ 8,467,796	37.0 %	\$ 61,481,139	\$ 46,132,954	\$ 15,348,185	33.3 %
Percent of net sales	55.9 %	53.4 %	260 bps	4.8 %	55.5 %	52.8 %	270 bps	5.2 %

⁽¹⁾ Changes in percentages throughout this “Management’s Discussion and Analysis” are presented in basis points (bps).

⁽²⁾ Not meaningful (n.m.) year-over-year comparison as there is no comparative in the corresponding period in the prior year.

Three months ended June 30, 2022 and 2021

Cost of sales for the three months ended June 30, 2022, increased by \$4.7 million, or 23.6%, to \$24.7 million, compared to \$20.0 million during the three months ended June 30, 2021. This increase in cost of sales was primarily due to a 30.7% increase in net sales and associated product costs, partially offset by continued reductions in our product manufacturing costs. 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 three months ended June 30, 2022, increased by \$8.5 million, or 37.0%, to \$31.4 million, compared to \$22.9 million during the three months ended June 30, 2021. 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 net sales for the three months ended June 30, 2022, was 55.9%, an increase of 260 bps, or 4.8%, compared to the corresponding period in the prior year.

Six months ended June 30, 2022 and 2021

Cost of sales for the six months ended June 30, 2022, increased by \$8.0 million, or 19.4%, to \$49.3 million, compared to \$41.2 million during the six months ended June 30, 2021. This increase in cost of sales was primarily due to a 26.7% increase in net sales and associated product costs, partially offset by continued reductions in our product manufacturing costs. 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, 2022, increased by \$15.3 million, or 33.3%, to \$61.5 million, compared to \$46.1 million during the six months ended June 30, 2021. 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 net sales for the six months ended June 30, 2022, was 55.5%, an increase of 270 bps, or 5.2%, compared to the corresponding period in the prior year.

Operating Expenses

The following table summarizes our operating expenses for periods indicated:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022	2021	Change	Percent Change ⁽¹⁾	2022	2021	Change	Percent Change ⁽¹⁾
Research and development								
Other research and development	\$ 1,435,370	\$ 1,066,851	\$ 368,519	34.5 %	\$ 3,165,358	\$ 1,974,021	\$ 1,191,337	60.4 %
Percent of net sales	2.6 %	2.5 %	10 bps	2.9 %	2.9 %	2.3 %	60 bps	26.5 %
Depreciation and amortization	74,484	68,920	5,564	8.1 %	148,967	68,920	80,047	116.1 %
Percent of net sales	0.1 %	0.2 %	0 bps	(17.3) %	0.1 %	0.1 %	10 bps	70.5 %
Stock-based compensation	233,958	-	233,958	n.m.	397,153	-	397,153	n.m.
Percent of net sales	0.4 %	0.0 %	40 bps	n.m.	0.4 %	0.0 %	40 bps	n.m.
Marketing								
Other Marketing	16,945,917	5,045,945	11,899,972	235.8 %	22,486,200	9,284,962	13,201,238	142.2 %
Percent of net sales	30.2 %	11.8 %	1850 bps	156.9 %	20.3 %	10.6 %	970 bps	91.1 %
Stock-based compensation	321,544	-	321,544	n.m.	511,514	-	511,514	n.m.
Percent of net sales	0.6 %	0.0 %	60 bps	n.m.	0.5 %	0.0 %	50 bps	n.m.
Selling, general and administrative								
Other selling, general and administrative	15,258,241	11,761,443	3,496,798	29.7 %	30,781,505	21,982,407	8,799,098	40.0 %
Percent of net sales	27.2 %	27.4 %	-20 bps	(0.8) %	27.8 %	25.2 %	260 bps	10.5 %
Depreciation and amortization	778,250	548,251	229,999	42.0 %	1,327,731	1,054,068	273,663	26.0 %
Percent of net sales	1.4 %	1.3 %	10 bps	8.6 %	1.2 %	1.2 %	0 bps	(0.6) %
Stock-based compensation	2,469,119	24,143	2,444,976	10,127.1 %	4,034,055	534,665	3,499,390	654.5 %
Percent of net sales	4.4 %	0.1 %	430 bps	7,723.4 %	3.6 %	0.6 %	300 bps	495.3 %
Write-off of acquired Drawbridge in-process research and development								
	-	1,563,015	(1,563,015)	(100.0) %	-	1,563,015	(1,563,015)	(100.0) %
Percent of net sales	0.0 %	3.6 %	-360 bps	(100.0) %	0.0 %	1.8 %	-180 bps	(100.0) %
Operating expenses	\$ 37,516,883	\$ 20,078,568	\$ 17,438,315	86.9 %	\$ 62,852,483	\$ 36,462,058	\$ 26,390,425	72.4 %
Percent of net sales	66.9 %	46.8 %	2010 bps	42.9 %	56.8 %	41.7 %	1500 bps	36.0 %

⁽¹⁾ Not meaningful (n.m.) year-over-year comparison as there is no comparative in the corresponding period in the prior year.

Three months ended June 30, 2022 and 2021

Total operating expenses for the three months ended June 30, 2022 increased by \$17.4 million, or 86.9%, to \$37.5 million, compared to \$20.1 million during the three months ended June 30, 2021.

Total research and development expense for the three months ended June 30, 2022 increased by \$0.6 million, or 53.5%, to \$1.7 million, compared to \$1.1 million during the three months ended June 30, 2021. The increase was primarily driven by \$0.4 million related to payroll and personnel related expenses, associated with increased headcount to drive new product development and clinical trial investments and \$0.2 million related to stock-based compensation.

Total marketing expenses for the three months ended June 30, 2022 increased by \$12.2 million, or 242.2%, to \$17.3 million, compared to \$5.0 million during the three months ended June 30, 2021. The increase was primarily driven by \$10.6 million related to advertising spend, \$1.0 million related to professional and consulting fees, \$0.3 million related to stock-based compensation and \$0.3 million related to payroll and personnel related expenses. Increases in marketing spend are driven by our strategy to expand brand awareness, as well as continuing to invest in creative assets to support our Redefining Healthy Aging Campaign which ran through the second quarter of 2022.

Total selling, general and administrative expenses for the three months ended June 30, 2022 increased by \$6.2 million, or 50.0% to \$18.5 million, compared to \$12.3 million during the three months ended June 30, 2021. The increase was primarily driven by \$2.4 million related to stock-based compensation, \$1.8 million related to professional, consulting and sponsorship fees, driven by legal expenses and incremental public company costs. Additionally, distribution and freight related costs increased \$0.9 million and commissions increased \$0.7 million, each driven by sales growth.

Six months ended June 30, 2022 and 2021

Total operating expenses for the six months ended June 30, 2022 increased by \$26.4 million, or 72.4%, to \$62.9 million compared to \$36.5 million during the six months ended June 30, 2021.

Total research and development expense for the six months ended June 30, 2022 increased by \$1.7 million, or 81.7%, to \$3.7 million, compared to \$2.0 million during the six months ended June 30, 2021. The increase was primarily driven by \$0.8 million related to payroll and personnel related expenses and \$0.4 million related to professional and consulting fees, both associated with increased headcount to drive new product development and clinical trial investments. Additionally, there were increases of \$0.4 million related to stock-based compensation.

Total marketing expenses for the six months ended June 30, 2022 increased by \$13.7 million, or 147.7%, to \$23.0 million, compared to \$9.3 million during the six months ended June 30, 2021. The increase was primarily driven by \$11.7 million related to advertising spend, \$1.1 million related to professional and consulting fees, \$0.5 million related to stock-based compensation and \$0.4 million related to payroll and personnel related expenses. Increases in marketing spend are driven by our strategy to expand brand awareness, as well as continuing to invest in creative assets to support our Redefining Healthy Aging Campaign which ran through the second quarter of 2022.

Total selling, general and administrative expenses for the six months ended June 30, 2022 increased by \$12.6 million, or 53.3%, to \$36.1 million, compared to \$23.6 million during the six months ended June 30, 2021. The increase was primarily driven by \$3.5 million related to stock-based compensation and \$2.9 million related to professional, consulting and sponsorship fees, driven by legal expenses and incremental public company costs. Additionally, distribution and freight related costs increased \$2.1 million, driven by sales growth. Payroll and personnel related expenses, including sales commissions, increased \$1.8 million, associated with increased headcount driven by sales growth and acquisition related costs increased \$0.5 million.

Other Income (Expense), net

The following table summarizes our other income (expense), net for the periods indicated:

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022	2021	Change	Percent Change	2022	2021	Change	Percent Change
Interest expense, net	\$ (31,514)	\$ (81,256)	\$ 49,742	(61.2)%	\$ (61,671)	\$ (363,901)	\$ 302,230	(83.1)%
Percent of net sales	(0.1)%	(0.2)%	10 bps	(70.3)%	(0.1)%	(0.4)%	40 bps	(86.6)%
Guarantee fees	—	(140,407)	140,407	(100.0)%	—	(279,271)	279,271	(100.0)%
Percent of net sales	0.0%	(0.3)%	30 bps	(100.0)%	0.0%	(0.3)%	30 bps	(100.0)%
Change in fair value of warrant liability	594,899	317,725	277,174	87.2%	528,980	(1,310,026)	1,839,006	(140.4)%
Percent of net sales	1.1%	0.7%	30 bps	43.2%	0.5%	(1.5)%	200 bps	(131.9)%
Loss on Drawbridge Transaction	—	(165,998)	165,998	(100.0)%	—	(165,998)	165,998	(100.0)%
Percent of net sales	0.0%	(0.4)%	40 bps	(100.0)%	0.0%	(0.2)%	20 bps	(100.0)%
Other income (expense), net	(13,761)	38,143	(51,904)	(136.1)%	44,094	38,143	5,951	15.6%
Percent of net sales	(0.0)%	0.1%	-10 bps	(127.6)%	0.0%	0.0%	0 bps	(8.8)%

Three months ended June 30, 2022 and 2021

Interest expense, net for the three months ended June 30, 2022 decreased by \$49.7 thousand, or 61.2%, to (\$31.5) thousand, compared to (\$81.3) thousand for the three months ended June 30, 2021. This decrease was primarily due to the repayment of the \$20.0 million loan in October 2021. See note 3 and note 10 included within our condensed consolidated financial statements for additional information and “Liquidity and Capital Resources” below.

Change in fair value of the warrant liability for the three months ended June 30, 2022 increased by \$0.3 million, or 87.2% to \$0.6 million, compared to \$0.3 million for the three months ended June 30, 2021. The increase is due to the change in assumptions used to fair value the warrant. See note 13 included within our condensed consolidated financial statements for additional information.

Six months ended June 30, 2022 and 2021

Interest expense, net for the six months ended June 30, 2022 decreased by \$0.3 million, or 83.1%, to (\$0.4) million, compared to (\$0.1) million for the six months ended June 30, 2021. This decrease was primarily due to the repayment of the \$20.0 million loan in October 2021. See note 3 and note 10 included within our condensed consolidated financial statements for additional information and “Liquidity and Capital Resources” below.

Change in fair value of the warrant liability for the six months ended June 30, 2022 increased by \$1.8 million, or 140.4% to \$0.5 million, compared to (\$1.3) million for the six months ended June 30, 2021. The increase is due to the change in assumptions used to fair value the warrant. See note 13 included within our condensed consolidated financial statements for additional information.

Income tax expense

	Three Months Ended June 30,				Six Months Ended June 30,			
	2022	2021	Change	Percent Change	2022	2021	Change	Percent Change
Income tax expense	\$ 174,553	\$ 3,008	\$ 171,545	5,703.0%	\$ 207,098	\$ 43,538	\$ 163,560	375.7%
Percent of net sales	0.3%	0.0%	30 bps	4,339.1%	0.2%	0.0%	10 bps	275.3%

Our effective tax rate was (3.1%) for the three months ended June 30, 2022, compared to 0.1% for the three months ended June 30, 2021. Our effective tax rate was (24.1%) for the six months ended June 30, 2022, compared to 0.6% for the six months ended June 30, 2021. As of June 30, 2022, we continue to maintain a valuation allowance for our worldwide federal and state net deferred tax assets.

Liquidity and Capital Resources

Loan Agreement

On April 8, 2022, we entered into a Loan Agreement with Bank of America, N.A. (Loan Agreement), with an effective date of March 31, 2022. Under the terms of the Loan Agreement, Bank of America N.A. (BoFA) provided a revolving line of credit to the Company in the amount of \$15.0 million (the Line of Credit). Under the Loan Agreement, we may repay principal amounts and reborrow them as necessary until March 31, 2027 (the Expiration Date). Outstanding borrowings under the Loan Agreement will be subject to interest at a rate equal to the Bloomberg Short-Term Bank Yield Index rate (BSBY), plus 1.50%, adjusted on the first day of each month (the Adjustment Date). Interest is calculated on the basis of a 360-day year and the actual number of days elapsed. We agreed to pay interest on any outstanding borrowings beginning April 30, 2022, and then on the same day of each month thereafter, until all principal outstanding is repaid under the Loan Agreement. Should the first day of a calendar month fall on a day that is not a banking day, then the Adjustment Date shall be the first banking day immediately following thereafter. The Line of Credit is subject to an Unused Commitment Fee equal to 0.2% per year. The Unused Commitment Fee was due on May 1, 2022, and on the same day each following quarter until the expiration of the Loan Agreement.

As a sub-facility under the Line of Credit, the Lender has provided up to \$6.0 million in commercial and standby letters of credit (the Letters of Credit). Any outstanding and undrawn Letters of Credit shall be reserved under the Line of Credit and such amount shall not be available for borrowings. Letters of Credit issued under the Loan Agreement are subject to BoFA's customary issuance, presentation, amendment and other processing fees and other standard costs and charges.

All borrowings under the Loan Agreement are guaranteed by our subsidiary, Thorne Research, Inc., and secured by substantially all personal property of the Company, including depository accounts, receivables, inventory, equipment, general intangibles and other unencumbered assets.

Upon the occurrence of any default, all outstanding and unpaid amounts, including unpaid interest, fees, or costs will bear interest at a rate equal to the then effective interest rate, plus 6.0%.

The Loan Agreement is subject to customary covenants, including the following financial covenants:

- i. Consolidated Total Leverage to EBITDA Ratio: maintain a consolidated Funded Debt to EBITDA not exceeding 2.5:1.0. Funded Debt is defined as all outstanding liabilities for borrowed money (including any outstanding Letters of Credit) and other interest-bearing liabilities, including current and long-term debt, less the non-current portion of Subordinated Liabilities. Funded Debt shall not include operating lease liabilities.
- ii. Consolidated Fixed Charge Coverage Ratio: maintain a consolidated Fixed Charge Coverage Ratio of at least 1.25:1.0. Consolidated Fixed Charge Coverage Ratio is defined as the ratio of (a) consolidated EBITDA, less the amount of unfinanced capital expenditures, plus rental expense for such period, to (b) the sum of Federal/state/local taxes, interest expense, lease expense, rent expense, the current portion of long term debt, the current portion of finance lease obligations and any Restricted Payments incurred or made during the period.

As of June 30, 2022, we have not drawn any amounts or initiated any borrowings and the full \$15.0 million is available under the Loan Agreement.

Credit Facilities

On February 14, 2020, we entered into an Uncommitted and Revolving Credit Line Agreement, with Sumitomo Mitsui Banking Corporation (SMBC) as the lender (2020 Credit Agreement). Upon the closing of the 2020 Credit Agreement, we borrowed \$20.0 million from the revolving line of credit.

On February 12, 2021, we entered into an Uncommitted and Revolving Credit Line Agreement, with SMBC (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 will 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 prepayment fees or additional costs as determined by SMBC. On February 12, 2021, we drew down the full \$20.0 million under the 2021 Credit Agreement to refinance our outstanding loans under the 2020 Credit Agreement.

The 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 are required to pay each guarantor an annual fee equal to 1.20% of each of their \$10.0 million guarantees annually and upon the occurrence of any change of control in respect of our company. We recorded \$0.1 million and \$0.2 million, respectively, of related expense during the three and six months ended June 30, 2021, which are included within guarantee fees in the condensed consolidated statements of operations.

On October 4, 2021, we fully repaid the \$20.0 million of outstanding borrowings, plus all accrued and unpaid interest 2021 Credit Agreement through the date of repayment. We incurred incremental fees related to the payoff totaling \$7 thousand. Upon repayment of the outstanding borrowings under the 2021 Credit Agreement, the related Mitsui and Kirin guarantees were released and terminated.

Standby Letter of Credit

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 12-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 consideration 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 12-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 facility 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 \$20 thousand. On October 29, 2021, we deposited \$4.9 million into a restricted interest-bearing account with SMBC to fund the standby letter of credit and release guarantees provided by Kirin and Mitsui. During the three and six months ended June 30, 2021, the Company incurred total guarantee fee expense for the standby letter of credit of \$41 thousand and \$81 thousand, respectively, which has been included in guarantee fees in the condensed consolidated statements of operations.

Sources and Uses of Our Cash and Cash Equivalents

The following table summarizes our cash and cash equivalents and changes in our cash flows for the periods presented:

	June 30, 2022	December 31, 2021	Change
Cash and cash equivalents	\$ 27,810,526	\$ 51,100,915	\$ (23,290,389)
Restricted cash	4,900,000	4,900,000	-
Cash and restricted cash	<u>\$ 32,710,526</u>	<u>\$ 56,000,915</u>	<u>\$ (23,290,389)</u>

	Six Months Ended June 30,		
	2022	2021	Change
Net cash provided by (used in) operating activities	\$ (7,007,889)	\$ 886,174	\$ (7,894,063)
Net cash used in investing activities	\$ (18,463,360)	\$ (3,112,724)	\$ (15,350,636)
Net cash provided by (used in) financing activities	\$ 2,367,060	\$ (3,315,698)	\$ 5,682,758

Operating Activities

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

Net cash used in operating activities increased \$7.9 million for the six months ended June 30, 2022, compared to the corresponding period in the prior year. The increase in cash used is primarily due to a decrease in net income after the impact of non-cash items of \$8.2 million, partially offset by a net increase in operating assets and liabilities of \$0.3 million. These changes in operating assets and liabilities are primarily driven by timing of collections and vendor payments and purchases of inventory during the period.

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 for acquisitions, 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 increased \$15.4 million for the six months ended June 30, 2022, compared to the corresponding period in the prior year. The increase is primarily driven by the acquisition of Nutrativa for \$14.9 million during the first quarter of 2022.

Financing Activities

Net cash provided by financing activities increased \$5.7 million for the six months ended June 30, 2022, compared to the corresponding period in the prior year. The increase is primarily driven by gross proceeds from the issuance of ownership interest in Thorne Asia JV for \$2.6 million during the first quarter of 2022 and payment of related offering costs for \$3.0 million in 2021.

Contractual Obligations and Commitments

We have contractual obligations in the form of noncancelable leases, equipment loans which incur interest and commitments related to certain agreements. As of June 30, 2022, future minimum payments under these obligations were \$3.1 million, \$4.9 million, \$4.1 million, \$3.7 million, \$3.4 million due in the years ending December 31, 2022, 2023, 2024, 2025 and 2026, respectively. Thereafter, we have remaining obligations totaling \$35.8 million. See notes 10, 11 and 16 to our condensed consolidated financial statements for additional information.

Upon the completion of our IPO in September 2021, we raised \$60.0 million of net proceeds. As of December 31, 2021, we had \$51.1 million of unrestricted cash and cash equivalents. During the six months ended June 30, 2022, we used \$14.9 million to purchase Nutrativa and had negative free cash flow of \$9.6 million. As of June 30, 2022, we had \$27.8 million of unrestricted cash and cash equivalents.

Considering recent market conditions, including inflation, supply chain disruptions, rising interest rates, rising energy costs, the war in Ukraine and the ongoing COVID-19 pandemic, we have reevaluated our operating cash flows and cash requirements and continue to believe that current cash balance and future cash flows from operating activities, together with the available borrowings under the BofA Loan Agreement, will be sufficient to meet our anticipated cash needs, including working capital needs, capital expenditures and contractual obligations for at least 12 months from the issuance date of the condensed consolidated financial statements included herein.

Our future capital requirements will depend on many factors, including our revenue growth rate, our working capital needs primarily for inventory build, our global footprint, the expansion of our marketing activities, the timing and extent of spending to support product development efforts, the introduction of new and enhanced products and the continued market consumption of our products. We may seek additional equity or debt financing in the future in order to acquire or invest in complementary businesses, products and/or new supportive infrastructures. In the event that we require additional financing, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital or general cash flows necessary to expand our operations and invest in continued product innovation, we may not be able to compete successfully, which would harm our business, operations and financial condition.

Off Balance Sheet Arrangements

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

Critical Accounting Policies and Estimates

The preparation of our unaudited condensed consolidated financial statements in accordance with GAAP requires us to make estimates and assumptions that affect reported amounts and related disclosures. We have discussed the policies and estimates that we believe are critical and require the use of complex judgment in their application in our Annual Report on Form 10-K filed on March 16, 2022, and, during the three and six months ended June 30, 2022, there were no material changes to those previously disclosed.

Item 3. 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.

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. As of June 30, 2022, 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 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 on our bank line of credit is based on variable interest rates, and therefore is affected by changes in market interest rates. As of June 30, 2022, we have not drawn on the line of credit, and therefore a hypothetical increase or decrease in variable interest rates would not have a material impact on our condensed consolidated financial statements.

Currency Risk

As of June 30, 2022, the impact of foreign currency fluctuations is not material to our condensed consolidated financial statements.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company maintains a set of disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) designed to ensure that information required to be disclosed by the Company in reports it files or submits under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures. The design of disclosure controls and procedures is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under potential future conditions. Controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives. In accordance with Rule 13a-15(b) of the Exchange Act, as of the end of the period covered by this Quarterly Report on Form 10-Q, an evaluation was carried out under the supervision and with the participation of the Company's management, including its Chief Executive Officer and Chief Financial Officer, of the effectiveness of its disclosure controls and procedures. Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures, as of the end of the period covered by this Quarterly Report on Form 10-Q, were not effective at a reasonable assurance level as of June 30, 2022 because of the material weakness in internal controls further discussed below. Notwithstanding the material weakness, our management, including our CEO and CFO, has concluded that our unaudited condensed consolidated financial statements, included in this Quarterly Report on Form 10-Q fairly present, in all material respects, our financial condition, results of operations and cash flows for the periods presented in conformity with generally accepted accounting principles.

Under standards established by the Public Company Accounting Oversight Board (PCAOB), 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 annual or interim financial statements will not be prevented or detected and corrected on a timely basis.

Specifically, our management determined that, as of June 30, 2022, we have material weaknesses in each of the following components of the "Internal Control—Integrated Framework" (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission:

- an ineffective design of certain management review controls and insufficient controls to validate the completeness and accuracy of underlying data; and
- insufficient design of information technology general controls ("ITGCs") in the areas of logical security access and change management in certain financially relevant systems, including adequate segregation of duties, and appropriate journal entry review.

These material weaknesses could result in a misstatement of account balances or disclosures that would result in a material misstatement of our annual or interim consolidated financial statements that may not be prevented or detected, and accordingly, it was determined that these control deficiencies constitute material weaknesses.

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, 2022, the material weaknesses have not been remediated.

Inherent Limitations on Effectiveness of Controls

Our management, including our CEO and CFO, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error 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. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, 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, if any, within a company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of controls effectiveness to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

Changes in Internal Control Over Financial Reporting

Except for the remediation of previously reported material weakness described below, there has been no change in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting:

Remediation of Previously Reported Material Weakness

As described in our prior periodic filings, as of December 31, 2021, we reported a material weakness in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act) because of a material weakness in insufficient controls related to the accounting for complex, non-routine and significant and unusual transactions. Our remediation efforts began in the first quarter of 2022 and we have devoted significant efforts and resources to the remediation of the previously reported material weakness and to the improvement of our internal control over financial reporting generally. While we have processes to identify and apply accounting guidance pertaining to significant and unusual transactions, we have enhanced the design of control activities that we anticipate will better enable our understanding of the nuances of increasingly complex accounting standards and their application. In addition, we have hired additional personnel in our accounting department with technical expertise to assist in accounting for significant and unusual transactions, expanded access to accounting research databases and enhanced assessment, scoping and involvement of highly qualified consultative third party professionals regarding potentially complex accounting matters.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

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 legal proceedings may result in significant settlement costs or judgments, penalties and fines, or require us to modify products or services, make content unavailable, or require us to stop offering certain features, all of which could negatively affect our customer base and revenue growth.

We are aware of two U.S. patents with claims relating to compositions of Nicotinamide Riboside – an ingredient contained in several of the Company’s nutritional supplement products. The two patents were issued to the Trustees of Dartmouth College and licensed to ChromaDex Corporation (ChromaDex), of Los Angeles, California. On December 1, 2020, and February 1, 2021, the Company filed separate petitions for inter partes review against the two patents - U.S. Patent No. 8,383,086 and U.S. Patent No. 8,197,807 at the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office seeking to invalidate the two patents.

On June 10, 2021, the Patent Trial and Appeal Board issued a decision granting institution of inter partes review against U.S. Patent No. 8,383,086, and on August 12, 2021, the Patent Trial and Appeal Board issued a decision granting institution of inter partes review against U.S. Patent No. 8,197,807. On May 31, 2022, the Patent Trial and Appeal Board issued a decision in which it invalidated the challenged claim in U.S. Patent No. 8,383,086. On August 2, 2022, the patent owner filed a “Patent Owner Notice of Appeal” with the U.S. Court of Appeals for the Federal Circuit. The Patent Trial and Appeal Board is expected to render a decision regarding U.S. Patent No. 8,197,807 in mid-August 2022.

On May 12, 2021, the Trustees of Dartmouth College and ChromaDex filed a complaint against the Company in the U.S. District Court for the Southern District of New York, alleging the Company’s infringement of U.S. Patent Nos. 8,383,086 and 8,197,807. The complaint seeks to enjoin us from selling nutritional supplement products that contain Nicotinamide Riboside and further seeks monetary damages for alleged infringement of the patents. On August 20, 2021, the trial judge in the patent infringement litigation issued an Order to Stay the litigation during the pendency of the two inter partes reviews. On September 21, 2021, the U.S. District Court for the District of Delaware issued a summary judgment holding that U.S. Patent Nos. 8,383,086 and 8,197,807 are invalid in ChromaDex, Inc. and Trustees of Dartmouth College v. Elysium Health, Inc. We have not recorded a loss in connection with this matter because we believe that a loss is currently neither probable nor estimable.

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,” previously described in our Annual Report on Form 10-K, filed on March 16, 2022.

Item 1A. Risk Factors

You should carefully consider the factors discussed in Part I, Item 1A. “Risk Factors” in our Annual Report filed on March 16, 2022, which could materially affect our business, financial condition or future results. In addition to those risk factors and other information contained elsewhere in this Quarterly Report, you should consider the following risk factors before deciding whether to invest in our common stock.

Risks Related to Our Business and Industry

Inflation and weakness in general economic conditions and recessions could negatively affect our financial condition and results of operations.

Our operations and financial performance may be affected by general macroeconomic conditions, consumer confidence and discretionary spending habits. Consumer spending habits are affected by, among other things, inflation, weakness in general economic conditions, recessions, pandemics, wars and military actions, levels of employment, salaries and wage rates, debt obligations, discretionary income, interest rates, volatility in capital markets, consumer confidence and consumer perception of current and future economic conditions. Declines in, or uncertain economic outlooks for, the U.S. or certain international economies could adversely affect consumer spending habits which may, among other things, result in a decreased demand for our nutritional supplements and health tests, which could materially adversely affect our revenues and operating results. Inflation increases domestic and international shipping costs, raw material prices, and labor rates. The continued increase in fuel prices could also have an effect on consumer spending and on our costs of producing, procuring and shipping our products. We may be unable to, or choose not to, recover our increase in costs from our customers leading to a reduction in operating results. In situations where we attempt to pass our increased costs onto our customers, our ability to recover these cost increases through price increases may lag, resulting in delayed operating results. Any attempts to offset cost increases with price increases may result in greater reductions in sales, increased customer dissatisfaction with our products or otherwise harm our reputation. We are also unable to predict the impact of efforts by central banks to combat elevated levels of inflation. Increases in lending rates may reduce economic activity. If downward pressures continue due to these economic factors, this may lead to a recession. If a recession occurs, economies weaken, fuel prices continue to increase or inflationary trends continue, our business and operating results could be materially and adversely affected.

Our business, financial condition and results of operations could be adversely affected by disruptions in the global economy caused by Russia's ongoing war with Ukraine.

Russia's invasion of Ukraine has negatively affected the global economy. Financial and economic sanctions imposed on certain industry sectors and parties in Russia by the U.S., United Kingdom and European Union, as well as potential retaliatory actions by Russia, could also have a negative impact on the global economy. Although our operations in Russia and Ukraine are not material to our financial results, the broader consequences of this conflict, including rising energy prices and shortages of and increased costs for food, goods and services and transportation or further escalation in adjacent areas could have negative downstream effects on our business and operations. Further expansion or escalation of military confrontations or related geopolitical tensions, including increased restrictions on global trade, could result in, among other things, lower travel demand, cyberattacks, terrorist activities, supply disruptions and changes to foreign currency exchange rates and constraints, volatility or disruption in financial markets, any of which may adversely affect the global economy and our business.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) Unregistered Sales of Equity Securities

None.

(b) Use of Proceeds

None.

(c) Issuer Purchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
3.1	Amended and Restated Certificate of Incorporation of the Registrant, dated September 27, 2021.	10-Q	11/10/21	3.1	
3.2	Amended and Restated Bylaws of the Registrant, dated September 27, 2021.	10-Q	11/10/21	3.2	
4.1	Fourth Amended and Restated Registration Rights Agreement by and among the Registrant and certain of its stockholders, dated July 5, 2018.	S-1/A	9/21/21	4.1	
4.2	Fourth Amended and Restated Stockholders Agreement by and among the Registrant and certain of its stockholders, dated July 5, 2018.	S-1	7/16/21	4.2	
4.3	Specimen common stock certificate of the Registrant.	S-1	7/16/21	4.3	
4.4	Amended and Restated Common Stock Purchase Warrant issued to Kirin Holdings Company, Limited, dated as of July 15, 2020.	S-1/A	9/21/21	4.4	
4.5	Amended and Restated Common Stock Purchase Warrant issued to Mitsui & Co., Ltd, dated as of July 15, 2020.	S-1/A	9/21/21	4.5	
4.6	Amended and Restated Common Stock Purchase Warrant issued to Diversified Natural Products, Inc., dated as of May 10, 2011.	S-1/A	9/21/21	4.6	
4.7	Amended and Restated Common Stock Purchase Warrant issued to ELUS Holdings Corporation, dated as of May 10, 2011.	S-1/A	9/21/21	4.7	
4.8	Amendment to Warrant to Purchase Common Stock, between the Registrant and Diversified Natural Products, Inc., effective May 2, 2019.	S-1/A	9/21/21	4.8	
4.9	Amendment to Warrant to Purchase Common Stock, between the Registrant and ELUS Holdings Corporation, effective May 2, 2019.	S-1/A	9/21/21	4.9	
10.1	Loan Agreement, dated March 31, 2022, between Thorne HealthTech, Inc., as borrower, and Bank of America N.A., as lender.	8-K	4/12/22	10.1	
10.2	Security Agreement, dated March 31, 2022, between Thorne HealthTech, Inc. and Thorne Research, Inc., as pledgor, and Bank of America, N.A.	8-K	4/12/22	10.2	
10.3	Continuing and Unconditional Guaranty, dated March 31, 2022, by Thorne Research, Inc., as guarantor.	8-K	4/12/22	10.3	
10.4	Authorized Reseller Agreement between Registrant and Pattern, Inc., dated April 21, 2022.	10-Q	5/12/22	10.4	
31.1	Certification of the Chief Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of the Chief Financial Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1*	Certification of the Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2*	Certification of the Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
101	The following financial information from Thorne HealthTech Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 formatted in Inline XBRL (Extensible Business Reporting Language) includes: (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Comprehensive Income (Loss), (iv) the Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit), (v) the Condensed Consolidated Statements of Cash Flows, and (vi) Notes to Condensed Consolidated Financial Statements.				X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				X

* The certifications filed as Exhibits 32.1 and 32.2 are not deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 and are not to be incorporated by reference into any filing of the Company under the Securities Exchange Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof irrespective of any general incorporation by reference language contained in any such filing, except to the extent that the registrant specifically incorporates it by reference.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them for that purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Thorne HealthTech, Inc.

By: /s/ Paul F. Jacobson
Name: Paul F. Jacobson
Chief Executive Officer

By: /s/ Bryan K. Conley
Name: Bryan K. Conley
Chief Financial Officer

Date: August 10, 2022

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Paul F. Jacobson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2022 of Thorne HealthTech, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Paul F. Jacobson
Paul F. Jacobson
Chief Executive Officer
(Principal Executive Officer)
August 10, 2022

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Bryan K. Conley, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2022 of Thorne HealthTech, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Bryan K. Conley
Bryan K. Conley
Chief Financial Officer
(Principal Financial and Accounting Officer)
August 10, 2022

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Thorne HealthTech, Inc. (the "Company") for the fiscal quarter ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Paul F. Jacobson, President and Chief Executive Officer of the Company, do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Paul F. Jacobson
Paul F. Jacobson
Chief Executive Officer
(Principal Executive Officer)

August 10, 2022

The foregoing certification is being furnished as an exhibit to the Report pursuant to Item 601(b)(32) of Regulation S-K and Section 1350 of Title 18 of the United States Code and, accordingly, is not being filed with the U.S. Securities and Exchange Commission as part of the Report and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Report, irrespective of any general incorporation language contained in such filing).

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY
ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Thorne HealthTech, Inc. (the "Company") for the fiscal quarter ended June 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Bryan K. Conley, Chief Financial Officer of the Company, do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Bryan K. Conley
Bryan K. Conley
Chief Financial Officer
(Principal Financial and Accounting Officer)

August 10, 2022

The foregoing certification is being furnished as an exhibit to the Report pursuant to Item 601(b)(32) of Regulation S-K and Section 1350 of Title 18 of the United States Code and, accordingly, is not being filed with the U.S. Securities and Exchange Commission as part of the Report and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Report, irrespective of any general incorporation language contained in such filing).
