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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 March 31, 2023
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 001-36714

JAGUAR HEALTH, INC.
(Exact name of registrant as specified in its charter)

Delaware	**46-2956775**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

200 Pine Street, Suite 400
San Francisco, California 94104
(Address of principal executive offices, zip code)

(415) 371-8300
(Registrant's telephone number, including area code)

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

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

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

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

If an emerging growth company, indicate by a 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 ☒

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

Title of each class:	**Trading Symbol(s)**	**Name of each exchange on which registered:**
Common Stock, Par Value $0.0001 Per Share	JAGX	The NASDAQ Capital Market

As of May 15, 2023, there were (i) 19,105,622 shares of voting common stock, par value $0.0001 per share, outstanding, (ii) 9 shares of non-voting common stock, par value $0.0001 per share, outstanding (convertible into 9 shares of voting common stock taking into account the reverse stock split effected on January 23, 2023) and 137 shares of Series G preferred stock outstanding (3,425,000 shares of common stock in aggregate on an as converted basis).

PART I. — FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

(In thousands, except share and per share data)	March 31, 2023 (unaudited)	December 31, 2022
Assets		
Current assets:		
Cash	$ 14,367	$ 5,469
Accounts receivable	987	1,879
Other receivable	457	588
Inventory	8,684	7,024
Prepaid expenses and other current assets	7,866	7,361
Total current assets	32,361	22,321
Property and equipment, net	541	557
Operating lease - right-of-use asset	1,062	1,140
Intangible assets, net	21,951	22,439
Other assets	1,012	995
Total assets	**$ 56,927**	**$ 47,452**
Liabilities and Stockholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 5,692	$ 5,808
Accrued liabilities	9,280	8,165
Operating lease liability, current	503	483
Notes payable, current	15,621	15,883
Total current liabilities	31,096	30,339
Operating lease liability, net of current portion	627	725
Notes payable, net of discount, net of current portion (includes hybrid instrument designated at Fair Value Option amounting to $8.2 million as of March 31, 2023 and $7.8 million December 31, 2022, respectively)	17,544	17,744
Total liabilities	49,267	48,808
Commitments and contingencies (See Note 6)		
Stockholders' equity (deficit)		
Series B-2 convertible preferred stock: 10,165 shares authorized at March 31, 2023 and December 31, 2022; zero shares issued and outstanding at March 31, 2023 and December 31, 2022	—	—
Series C perpetual preferred stock: 1,011,000 shares authorized at March 31, 2023 and December 31, 2022; zero shares issued and outstanding at March 31, 2023 and December 31, 2022	—	—
Series E perpetual preferred stock: 4,475,074 shares authorized at March 31, 2023 and December 31, 2022; zero shares issued and outstanding at March 31, 2023 and December 31, 2022	—	—
Common stock - voting: $0.0001 par value, 298,000,000 shares authorized at March 31, 2023 and December 31, 2022; 14,175,741 and 2,182,084 issued and outstanding at March 31, 2023 and December 31, 2022	1	—
Common stock - non-voting: $0.0001 par value, 50,000,000 shares authorized at March 31, 2023 and December 31, 2022; 2,120,786 shares issued and outstanding at March 31, 2023 and December 31, 2022	—	—
Additional paid-in capital	287,383	266,971
Noncontrolling interest	310	(699)
Accumulated deficit	(279,150)	(266,948)
Accumulated other comprehensive loss	(884)	(680)
Total Stockholders' equity (deficit)	7,660	(1,356)
Total liabilities and Stockholders' equity (deficit)	**$ 56,927**	**$ 47,452**

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSSES

(Unaudited)

(In thousands, except share and per share data)	Three Months Ended March 31, 2023	2022
Product revenue	$ 1,972	$ 2,625
Operating expenses		
Cost of product revenue	345	455
Research and development	4,775	4,945
Sales and marketing	1,884	2,835
General and administrative	4,813	6,144
Total operating expenses	11,817	14,379
Loss from operations	(9,845)	(11,754)
Interest expense	(2,181)	(4,194)
Loss on extinguishment of debt	—	(2,815)
Change in fair value of financial instruments and hybrid instrument designated at Fair Value Option	(359)	(233)
Other income (expense)	(12)	832
Loss before income tax	(12,397)	(18,164)
Income tax expense	—	—
Net loss	$ (12,397)	$ (18,164)
Net loss attributable to noncontrolling interest	$ (195)	$ (178)
Net loss attributable to common stockholders	$ (12,202)	$ (17,986)
Net loss per share, basic and diluted	$ (2.39)	$ (23.10)
Weighted-average common shares outstanding, basic and diluted	5,109,609	778,512

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSSES

(Unaudited)

(In thousands, except share and per share data)	Three Months Ended March 31, 2023	2022
Net loss	$ (12,397)	$ (18,164)
Other comprehensive loss	(232)	—
Net comprehensive loss	$ (12,629)	$ (18,164)
Common stockholders:		
Net loss attributable to common stockholders	$ (12,202)	$ (17,986)
Other comprehensive loss attributable to common stockholders		
Translation adjustments	(204)	—
Net loss and comprehensive loss attributable to common stockholders	$ (12,406)	$ (17,986)
Non-controlling interests:		
Net loss attributable to non-controlling interests	$ (195)	$ (178)
Other comprehensive loss attributable to non-controlling interests		
Translation adjustments	(28)	—
Net loss and comprehensive loss attributable to non-controlling interests	$ (223)	$ (178)

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES
IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

(Unaudited)

(In thousands, except share data)	Common Stock - voting Shares	Common Stock - voting Amount	Common Stock - non-voting Shares	Common Stock - non-voting Amount	Additional paid-in capital	Noncontrolling interest	Accumulated deficit	Accumulated other comprehensive loss	Total Stockholders' Equity
Balances as of January 1, 2023	2,182,084	$ —	2,120,786	$ —	$ 266,971	$ (699)	$ (266,948)	$ (680)	$ (1,356)
Shares issued in At the Market offering, net of issuance and offering costs of $30	10,463,983	1	—	—	17,864	—	—	—	17,865
Shares issued to Iliad in exchange of notes payable and accrued interest	1,370,005	—	—	—	1,275	—	—	—	1,275
Shares issued to Irving in exchange of notes payable and accrued interest	150,000	—	—	—	627	—	—	—	627
Shares issued to third party for services	9,669	—	—	—	166	—	—	—	166
Additional investments from non-controlling interests	—	—	—	—	—	1,232	—	—	1,232
Stock-based compensation	—	—	—	—	480	—	—	—	480
Net loss	—	—	—	—	—	(195)	(12,202)	—	(12,397)
Translation loss	—	—	—	—	—	(28)	—	(204)	(232)
Balances as of March 31, 2023	**14,175,741**	**$ 1**	**2,120,786**	**$ —**	**$ 287,383**	**$ 310**	**$ (279,150)**	**$ (884)**	**$ 7,660**

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES
IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

(Unaudited)

(In thousands, except share data)	Common Stock - voting Shares	Common Stock - voting Amount	Common Stock - non-voting Shares	Common Stock - non-voting Amount	Additional paid-in capital	Noncontrolling interest	Accumulated deficit	Accumulated other comprehensive loss	Total Stockholders' Equity
Balances as of January 1, 2022	644,700	$ —	2,120,786	$ —	$ 231,105	$ 242	$ (219,494)	$ —	$ 11,853
Shares issued in At the Market offering, net of issuance and offering costs of $83	267,286	—	—	—	9,111	—	—	—	9,111
Shares issued to Iliad in exchange of notes payable and accrued interest	115,333	—	—	—	4,233	—	—	—	4,233
Shares issued to third party for services	333	—	—	—	14	—	—	—	14
Stock-based compensation	—	—	—	—	1,063	—	—	—	1,063
Net loss	—	—	—	—	—	(178)	(17,986)	—	(18,164)
Balances as of March 31, 2022	**1,027,652**	**$ —**	**2,120,786**	**$ —**	**$ 245,526**	**$ 64**	**$ (237,480)**	**$ —**	**$ 8,110**

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

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JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

(in thousands)	Three Months Ended March 31, 2023	2022
Cash flows from operating activities		
Net loss and comprehensive loss	$ (12,629)	$ (18,164)
Adjustments to reconcile net loss and comprehensive loss to net cash used in operating activities:		
Amortization of debt issuance costs, debt discount, and non-cash interest expense	1,276	3,429
Depreciation and amortization expense	504	426
Stock-based compensation, vested and released restricted stock units and exercised stock options	480	1,063
Change in fair value of financial instruments and hybrid instrument designated at Fair Value Option	359	233
Shares issued in exchange for services	166	14
Amortization of operating lease - right-of-use-asset	47	29
Loss on extinguishment of debt	—	2,815
Equity in loss in joint venture	31	—
Changes in assets and liabilities		
Accounts receivable	892	(86)
Other receivable	138	(117)
Inventory	(1,660)	22
Prepaid expenses and other current assets	(160)	507
Other assets	(18)	(5)
Accounts payable	(134)	(1,173)
Accrued liabilities	816	3,341
Operating lease liability	(53)	(29)
Total cash used in operating activities	(9,945)	(7,695)
Cash flows from investing activity		
Purchase of equipment	—	—
Costs incurred in software development activities	—	—
Total cash used in investing activity	—	—
Cash flows from financing activities		
Proceeds from issuance of shares in At the Market offering, net of issuance and offering costs of $30 and $83 in 2023 and 2022, respectively	17,865	9,110
Proceeds from notes payable with Streeterville	—	(447)
Payment of Tempesta Note	(50)	—
Repayment of insurance financing	(236)	(335)
Investment from non-controlling interest	1,232	(178)
Total cash provided by financing activities	18,811	8,150
Effects of foreign exchange rate changes on assets and liabilities	32	(50)
Net increase in cash	8,898	405
Cash at beginning of the year	5,469	17,051
Cash at end of the year	$ 14,367	$ 17,456

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

JAGUAR HEALTH, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (continued)

(Unaudited)

	Three Months Ended March 31,	
	2023	**2022**
Supplemental schedule of cash flow information		
Cash paid for interest	$ 6	$ 11
Cash paid for taxes	$ —	$ —
Supplemental schedule of non-cash financing and investing activities		
Shares issued to Iliad in exchange of notes payable and accrued interest	$ 1,275	$ 4,233
Shares issued to Irving in exchange of notes payable and accrued interest	$ 627	$ —
Recognition of operating lease - right-of-use asset and operating lease liability	$ 30	$ 90

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

JAGUAR HEALTH, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Business

Jaguar Health, Inc. (“Jaguar” or the “Company”) was founded in San Francisco, California as a Delaware corporation on June 6, 2013 (inception). The Company was a majority-owned subsidiary of Napo until the close of the Company's initial public offering on May 18, 2015. The Company was formed to develop and commercialize first-in-class prescription and non-prescription products for companion animals.

On July 31, 2017, Jaguar completed a merger with Napo pursuant to the Agreement and Plan of Merger dated March 31, 2017, by and among Jaguar, Napo, Napo Acquisition Corporation (“Merger Sub”), and Napo's representative (the “Merger Agreement”). In accordance with the terms of the Merger Agreement, upon the completion of the merger, Merger Sub merged with and into Napo, with Napo surviving as the wholly owned subsidiary (the “Merger” or “Napo Merger”). Immediately following the Merger, Jaguar changed its name from “Jaguar Animal Health, Inc.” to “Jaguar Health, Inc.” Napo now operates as a wholly owned subsidiary of Jaguar focused on human health including the ongoing development of crofelemer and commercialization of Mytesi.

On March 15, 2021, Jaguar established Napo EU S.p.A (which changed its name in December 2021 to “Napo Therapeutics”) in Milan, Italy as a subsidiary of Napo. Napo Therapeutics’ core mission is to provide access to crofelemer in Europe to address significant rare/orphan disease indications, including, initially, two key orphan target indications: Short bowel syndrome (“SBS”) with intestinal failure and congenital diarrheal disorders (“CDD”).

The Company manages its operations through two segments – human health and animal health – and is headquartered in San Francisco, California.

Nasdaq Communication and Compliance

Minimum Bid Price Requirement

On February 18, 2022, the Company received a letter from the Staff of Nasdaq indicating that the bid price of the Company’s common stock for the last 30 consecutive business days had again closed below the minimum $1.00 per share required for the continued listing under Nasdaq Listing Rule 5550(a)(2).

On January 23, 2023, the Company effected a one-for-seventy-five reverse split of the Company’s issued and outstanding shares of common stock, par value $0.0001 per share. As a result of the Reverse Split every seventy-five shares of common stock issued and outstanding were automatically combined into one share of issued and outstanding common stock, without any change in the par value per share. All information related to Common Stock, stock options, restricted stock units, warrants and earnings per share have been retroactively adjusted to give effect to the Reverse Stock Split for all periods presented.

On February 7, 2023, the Company received a letter from the Nasdaq Office of General Counsel notifying that the minimum bid price deficiency had been cured and that the Nasdaq had determined to continue listing the Company’s common stock on the Nasdaq Stock Market.

Liquidity and Going Concern

The Company, since its inception, has incurred recurring operating losses and negative cash flows from operations and has an accumulated deficit of $279.2 million as of March 31, 2023. The Company expects to incur substantial losses and negative cash flows in future periods. Further, the Company’s future operations, which include the satisfaction of current obligations, are dependent on the success of the Company’s ongoing development and commercialization efforts, as well as securing of additional financing and generating positive cash flows from operations. There is no assurance that the Company will have adequate cash balances to maintain its operations.

Although the Company plans to finance its operations and cash flow needs through equity and/or debt financing, collaboration arrangements with other entities, license royalty agreements, as well as revenue from future product sales, the Company does not believe its current cash balances are sufficient to fund its operating plan through one year from the issuance of these unaudited condensed consolidated financial statements. The Company has an immediate need to raise cash. There can be no assurance that additional funding will be available to the Company on acceptable terms, or on a timely basis, if at all, or that the Company will generate sufficient cash from operations to adequately fund operating needs. If the Company is unable to obtain an adequate level of financing needed for the long-term development and commercialization of our products, the Company will need to curtail planned activities and reduce costs. Doing so will likely have an adverse effect on our ability to execute our business plan; accordingly, there is substantial doubt about the ability of the Company to continue in existence as a going concern. The accompanying unaudited condensed consolidated financial statements do not include any adjustments that might result from the outcome of these uncertainties.

2. Summary of Significant Accounting Policies

Basis of Presentation

The unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and on a basis consistent with the annual consolidated financial statements, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair presentation of the periods presented. These interim financial results are not necessarily indicative of the results to be expected for the year ending December 31, 2023, or for any other future annual or interim period. These unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Annual Report on Form 10-K for the year ended December 31, 2022. The condensed consolidated balance sheet at December 31, 2022 has been derived from the audited consolidated financial statements at that date, but does not include all disclosures, including notes, required by U.S. GAAP for complete financial statements.

There has been no material change to the Company's significant accounting policies during the three months ended March 31, 2023, as compared to the significant accounting policies described in Note 2 of the “Notes to Consolidated Financial Statements” in the Company's Annual Report on Form 10-K as of and for the year ended December 31, 2022, which was filed to SEC on March 24, 2023.

Except as noted above, the unaudited condensed consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and, in the opinion of management, reflect all adjustments of a normal recurring nature considered necessary to present fairly the financial position as of March 31, 2023, results of operations for the three months ended March 31, 2023, and 2022, changes in convertible preferred stock and stockholders' equity for the three months ended March 31, 2023, and 2022, and cash flows for the three months ended March 31, 2023 and 2022. The interim results are not necessarily indicative of the results for any future interim periods or for the entire year

Principles of Consolidation

The consolidated financial statements have been prepared in accordance with U.S. GAAP and applicable rules and regulations of the Securities and Exchange Commission (“SEC”) and include the accounts of the Company and its subsidiaries with controlling interest. All inter-company transactions and balances have been eliminated in consolidation. The reporting currency of the Company is the U.S dollar.

Non-controlling interest

The Company consolidates the results of Napo Therapeutics, which is owned 88% and 90% of the Company and 12% and 10% of private investors as of March 31, 2023, and December 31, 2023, respectively. The potential voting rights with a certainty of being exercised in its share are included in the ownership percentage. During the three months

ended March 31, 2023, an additional investment from a private entity amounting to €1.1 million equivalent to $1.23 million resulted to the increase in non-controlling interest percentage.

Use of Estimates

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires the Company's management to make judgments, assumptions and estimates that affect the amounts reported in its unaudited consolidated financial statements and the accompanying notes. The accounting policies that reflect the Company's more significant estimates and judgments and that the Company believes are the most critical to aid in fully understanding and evaluating its reported financial results are the valuation of stock options, restricted stock units ("RSUs"), valuation of hybrid instruments designated at fair value option ("FVO"), valuation of warrant liabilities, acquired in-process research and development ("IPR&D"), and useful lives assigned to long-lived assets; impairment assessment of non-financial assets; valuation adjustments for excess and obsolete inventory; allowance for doubtful accounts; deferred taxes and valuation allowances on deferred tax assets; evaluation and measurement of contingencies; and recognition of revenue, including estimates for product returns. Those estimates could change, and as a result, actual results could differ materially from those estimates.

In March 2020, the World Health Organization declared the COVID-19 outbreak to be a pandemic. During the year ended December 31, 2022, the Company's financial results were not significantly affected by the COVID-19 outbreak. The Company has considered all information available as of the date of issuance of these financial statements and the Company is not aware of any specific events or circumstances that would require an update to its estimates or judgments, or a revision to the carrying value of its assets or liabilities. These estimates may change as new events occur and additional information becomes available. The extent to which the COVID-19 outbreak affects the Company's future financial results and operations will depend on future developments which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the outbreak, and current or future domestic and international actions to contain and treat it.

Cash

The Company's cash on deposit may exceed United States federally insured limits at certain times during the year. The Company maintains cash accounts with certain major financial institutions in the United States. The Company does not have cash equivalents as of March 31, 2023 and December 31, 2022.

Accounts Receivable

Accounts receivable is recorded net of allowances for discounts for prompt payment and credit losses.

The Company utilizes a loss rate approach in determining its lifetime expected credit losses on receivables from customers. This method calculates an estimate of credit losses based on historical experience, credit quality, age of the accounts receivable balances, and current and forecasted economic and business conditions that may affect a customer's ability to pay. In determining the loss rates, the Company evaluates information related to its historical losses, adjusted for existing conditions and further adjusted for the period of time that can reasonably be forecasted. The facts and circumstances as of the balance sheet date are used to adjust the estimate for periods beyond those that can reasonably be forecasted.

The past due status of accounts receivable is determined based on the contractual due dates for payments. A receivable is deemed past due when payment hasn't been received 30 days after the contractual due date. The credit loss allowance was immaterial as of March 31, 2023 and December 31, 2022. The corresponding expense for the credit loss allowance is reflected in general and administrative expenses.

Current Expected Credit Losses

The Company recognizes an allowance for credit losses for financial assets carried at amortized cost to present the net amount expected to be collected as of the balance sheet date. Such allowance is based on credit losses that are

expected to arise over the contractual term of the asset, which includes consideration of historical credit loss information adjusted for current conditions and reasonable and supportable forecasts.

Changes in the allowance for credit losses are recorded as provision of (or reversal of) credit loss expense. Assets are written off when the Company determines that such are deemed uncollectible. Write-offs are recognized as a deduction from the allowance for credit losses. Expected recoveries of amounts previously written off, not to exceed the aggregate of the amount previously written off, are included in determining the necessary allowance at the balance sheet date.

Concentrations

Cash is the financial instrument that potentially subjects the Company to a concentration of credit risk as cash is deposited with a bank and cash balances are generally in excess of Federal Deposit Insurance Corporation ("FDIC") insurance limits.

For the three months ended March 31, 2023, and 2022, substantially all of the Company's revenue was derived from the sale of Mytesi. In looking at sales by the Company to distributors whose net revenue percentage of total net revenue was equal to or greater than 10%, for fiscal years 2023 and 2022, the Company earned Mytesi revenue primarily from three and one major pharmaceutical distributor(s) located in the United States, respectively. Revenue earned from each major customer as a percentage of total revenue is as follows:

	Three Months Ended March 31,	
	2023	2022
	(unaudited)	
Customer 1	25 %	34 %
Customer 2	54 %	49 %
Customer 3	—	10 %

The Company is subject to credit risk from its accounts receivable related to its sales. The Company generally does not perform evaluations of customers' financial condition and generally does not require collateral. Accounts receivable balance of the significant customers as a percentage of total accounts receivable is as follows:

	March 31, 2023	December 31, 2022
	(unaudited)	
Customer 1	38 %	38 %
Customer 2	54 %	54 %

The Company is subject to concentration risk from its suppliers. The Company sources raw material used to produce the active pharmaceutical ingredient ("API") in Mytesi from two suppliers and is dependent on a single third-party contract manufacturer for the supply of API in Mytesi and a single third-party contract manufacturer as well for the supply of finished products for commercialization.

Other Risks and Uncertainties

The Company's future results of operations involve a number of risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to war, rapid technological change, obtaining second source suppliers, regulatory approval from the FDA or other regulatory authorities, the results of clinical trials and the achievement of milestones, market acceptance of the Company's product candidates, competition from other products and larger companies, protection of proprietary technology, strategic relationships and dependence on key individuals.

Recent Global Events

Macroeconomic conditions, including the war in Ukraine and related sanctions, exchange rate and interest rate volatility, and inflationary pressures, will continue to evolve globally. The greatest impact was a decline in Europe where the impacts of foreign currency exchange rates, the war in Ukraine, and energy inflation were the greatest. The Company's partially owned subsidiary in Italy, Napo Therapeutics, does not generate any revenue yet for the three months ended March 31, 2023. There were no significant changes in the subsidiary's operations for the three months ended March 31, 2023, because of these recent global events.

Conditions within the Banking Sector

In March 2023, Silicon Valley Bank ("SVB") and Signature Bank ("Signature"), two regional banks in the U.S., experienced large deposit outflows that ultimately resulted in the failure of these banks and the appointment of the FDIC as receiver. This created significant market disruption and uncertainty for those companies and individual customers who bank with those institutions. The FDIC guaranteed all deposits in SVB and Signature and announced the creation of the Bank Term Funding Program, which offers loans of up to one year to banks and other eligible institutions.

First Republic, another U.S. regional bank, also experienced large withdrawals of deposits, raising concerns about its financial stability. On May 1, 2023, First Republic was placed under FDIC receivership and the FDIC entered into a purchase and assumption agreement with JPM Chase Bank, N.A. under which JPM Chase Bank, N.A. will assume all of the deposits and substantially all of the assets of First Republic. Although the U.S. Department of Treasury, the Federal Reserve and the FDIC have taken measures to stabilize the financial system, uncertainty and liquidity concerns in the broader financial services industry remain. As of March 31, 2023, the Company had no cash deposits nor investments within SVB, Signature or First Republic and does not expect any impact from its cash deposits from its financial institutions.

Fair Value

The Company's financial instruments include accounts receivable, accounts payable, accrued liabilities, warrant liability, operating lease liability, equity-linked financial instruments, and debt. The recorded carrying amount of accounts receivable, accounts payable and accrued liabilities reflect their fair value due to their short-term nature. Other financial liabilities are initially recorded at fair value, and subsequently measured at either fair value or amortized cost using the effective interest method. See Note 3 for the fair value measurements.

Fair Value Option

ASC 825-10, *Financial Instruments*, provides FVO election that allows companies an irrevocable election to use fair value as the initial and subsequent accounting measurement attribute for certain financial assets and liabilities. ASC 825-10 permits entities to elect to measure eligible financial assets and liabilities at fair value on an ongoing basis. Unrealized gains and losses on items for which the FVO has been elected are reported in earnings. The decision to elect the FVO is determined on an instrument-by-instrument basis, must be applied to an entire instrument and is irrevocable once elected. Assets and liabilities measured at fair value pursuant to ASC 825-10 are required to be reported separately from those instruments measured using another accounting method. In accordance with the options presented in ASC 825-10, the Company elected to present the aggregate of fair value and non-fair-value amounts in the same line item in the consolidated balance sheets and parenthetically disclose the amount measured at fair value in the aggregate amount.

Inventory

Inventory is stated at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method. Cost is initially recorded at the invoiced amount of raw materials or API, including the sum of qualified expenditures and charges in bringing the inventory to its existing condition and location. The Company calculates inventory valuation adjustments when conditions indicate that net realizable value is less than cost due to physical deterioration, usage, obsolescence, reductions in estimated future demand or reduction in selling price. Inventory write-

downs are measured as the difference between the cost of inventory and net realizable value. The Company does not have allowance for inventory obsolescence as at March 31, 2023, and December 31, 2022.

Prelaunch Inventory

The Company's policy is to capitalize costs for prelaunch inventories within the drug development phase that evidence that the product's reasonably likely critical attributes for success are present and feasible, and the key causes of failures are absent based on management's assumptions.

Property and Equipment

Land is stated at cost, reflecting the fair value of the property at July 31, 2017, the date of the Napo merger. Equipment is stated at cost, net of accumulated depreciation. Equipment begins to be depreciated when it is placed into service. Depreciation is calculated using the straight-line method over estimated useful lives ranging between 3 to 10 years.

Expenditures for repairs and maintenance of assets are charged to expense as incurred. Costs of major additions and betterments are capitalized and depreciated on a straight-line basis over their estimated useful lives. Upon retirement or sale, the cost and related accumulated depreciation of assets disposed of are removed from the accounts and any resulting gain or loss is included in the unaudited condensed consolidated comprehensive loss.

Software Developed for Internal Use

The Company capitalizes the costs of developing software for internal use. These costs include both purchased software and internally developed software. Costs of developing software are expensed until technological feasibility has been established. Thereafter, all costs are capitalized and are carried at the lower of unamortized cost or net realizable value. Internally developed and purchased software costs are generally amortized over five years.

Long-lived Assets

The Company regularly reviews the carrying value and estimated lives of all of its long-lived assets, including property and equipment and definite-lived intangible assets, to determine whether indicators of impairment exist that warrant adjustments to carrying values or estimated useful lives. The determinants used for this evaluation include management's estimate of the asset's ability to generate positive income from operations and positive cash flow in future periods as well as the strategic significance of the assets to the Company's business objectives. If the Company determines that an impairment trigger has been met, the Company evaluates the realizability of its long-lived assets (asset group) based on a comparison of projected undiscounted cash flows from use and eventual disposition with the carrying value of the related asset. Any write-downs (which are measured based on the difference between the fair value and the carrying value of the asset) are treated as permanent reductions in the carrying amount of the assets (asset group). Based on this evaluation, the Company believes that, as of each of the balance sheet dates presented, none of the Company's long-lived assets were impaired. The Company's had no impairment of long-lived assets as at March 31, 2023, and 2022.

Indefinite-lived Intangible Assets

Acquired IPR&D are intangible assets acquired in the July 2017 Napo merger. Under ASC 805, IPR&D are initially recognized at fair value and classified as indefinite-lived assets until the successful completion or abandonment of the associated research and development efforts. During the development period, these assets will not be amortized as charges to earnings; instead, these assets will be tested for impairment on an annual basis or more frequently if impairment indicators are identified. An impairment loss is measured based on the excess of the carrying amount over the asset's fair value. The Company recorded no impairment for the three months ended March 31, 2023, and 2022.

Leases

The Company accounts for its leases in accordance with ASC 842, *Leases*.

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. Operating lease liabilities and their corresponding right-of-use assets are recorded based on the present value of lease payments over the expected lease term. Because the interest rate implicit in lease contracts is typically not readily determinable, the Company utilizes its incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment. Certain adjustments to the right-of-use asset may be required for items such as initial direct costs paid or incentives received.

The Company elected to include both the lease and non-lease components as a single component and account for it as a lease.

Research and Development Expense

Research and development expense consists of expenses incurred in performing research and development activities including related salaries, clinical trials and related drug and non-drug product costs, contract services and other outside service expenses. Research and development expense is charged to operating expense in the period incurred.

Clinical Trial Accruals

Clinical trial costs are a component of research and development expenses. The Company accrues and expenses clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. The Company determines the costs to be recorded based upon validation with the external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services.

Revenue Recognition

The Company recognizes revenue in accordance with ASC 606, *Revenue from Contracts with Customers* (“ASC 606”).

The Company’s policy typically permits returns if the product is damaged, defective, or otherwise cannot be used when received by the customer if the product has expired. Returns are accepted for product that will expire within three months or that have expired up to one year after their expiration dates. Estimates for expected returns of expired products are based primarily on an ongoing analysis of our historical return patterns.

The Company recognizes revenue in accordance with the core principle of ASC 606 or when there is a transfer of control of promised goods or services to customers in an amount that reflects the consideration that the Company expects to be entitled to in exchange for those goods or services.

The Company recognizes the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that the Company otherwise would have recognized is one year or less.

The Company does not adjust the amount of consideration for the effects of a significant financing component if, at contract inception, the expected period between the transfer of promised goods or services and customer payment is one year or less.

The Company has elected to treat shipping and handling activities as fulfillment costs.

Additionally, the Company elected to record revenue net of sales and other similar taxes.

Contracts and Agreements

Effective January 16, 2019, the Company engaged Cardinal Health as its exclusive third-party logistics distribution agent for commercial sales of the Company's Mytesi product and to perform certain other services which include, without limitation, storage, distribution, returns, customer support, financial support, Electronic Data Interchange ("EDI") and system access support (the "Exclusive Distribution Agreement").

On September 3, 2021, the Company ended its engagement with Cardinal Health as its exclusive title model customer for commercial sales and fully implemented its limited distribution Specialty Pharmacy model. Cardinal Health continues to provide third-party logistics services for Mytesi.

The Company's Canalevia-CA1 and Neonorm products are primarily sold to distributors, who then sell the products to the end customers. Since 2021, the Company has entered into two distribution agreements with established distributors to distribute the Company's animal health products in the United States. The distribution agreements and the related purchase orders together meet the contract existence criteria under ASC 606 10 25 1. The Company sells directly to its customers without the use of an agent.

Performance obligations

For animal health products sold by the Company, the single performance obligation identified above is the Company's promise to transfer the Company's animal health products to distributors based on specified payment and shipping terms in the arrangement. Product warranties are assurance-type warranties that do not represent a performance obligation. For the Company's human health product, Mytesi, the single performance obligation identified above is the Company's promise to transfer Mytesi to specialty pharmacies, based on specified payment and shipping terms as outlined in the Exclusive Distribution Agreement.

Transaction price

For contracts with Cardinal Health and other distributors, the transaction price is the amount of consideration to which the Company expects to collect in exchange for transferring the promised goods or services. The transaction price of Mytesi is the Wholesaler Acquisition Cost ("WAC"), and the transaction price of Canalevia-CA1 and Neonorm is the manufacturer's list price, net of discounts, returns, and price adjustments.

Allocate transaction price

For contracts with Cardinal Health and other distributors, the entire transaction price is allocated to the single performance obligation contained in each contract.

Revenue recognition

For contracts with Cardinal Health, for the Company, a single performance obligation is satisfied at a point in time, upon the FOB terms of each contract when control, including title and all risks, has transferred to the customer.

Disaggregation of Product Revenue

Human

Sales of Mytesi are recognized as revenue at a point in time when the products are delivered to the wholesaler. Net revenues from the sale of Mytesi were $404,000 and $438,000 for the three months ended March 31, 2023, and 2022, respectively.

Animal

The Company recognized Canalevia-CA1 products revenues of $27,000 and zero for the three months ended March 31, 2023, and 2022, respectively. Revenues are recognized at a point in time upon shipment, which is when title and control is transferred to the buyer. Sales of Canalevia-CA1, Neonorm Calf and Foal to distributors are made under agreements that may provide distributor price adjustments and rights of return under certain circumstances.

Contracts – Specialty Pharmacies

Effective October 1, 2020, the Company engaged a private company as an authorized specialty pharmacy provider of the Company's Mytesi product. Under the Specialty Product Distribution Agreement, the Company shall supply the products to the private company's specialty pharmacies, through a designated wholesaler, in such amounts as may be ordered. There is no minimum purchase or inventory requirement. The specialty pharmacies were authorized distributors of record for all National Drug Codes ("NDCs") of Mytesi.

Effective April 20, 2021, the Company engaged another private company as an authorized specialty pharmacy provider of Mytesi. Under the Specialty Pharmacy Distribution and Services Agreement, the private company shall sell and dispense the Mytesi directly ordered from the Company at the agreed price to patients within the territories identified in the agreement.

The Company has entered into agreements with a total of five different specialty pharmacy chains that are authorized to provide Mytesi to patients.

Performance obligations

The single performance obligation is the Company's promise to transfer Mytesi to specialty pharmacies, based on specified payment and shipping terms as outlined in the agreements.

Transaction price

The transaction price is the amount of consideration to which the Company expects to collect in exchange for transferring the promised goods or services. The transaction price of Mytesi is the WAC, net of estimated discounts, returns, and price adjustments.

Allocate transaction price

The entire transaction price is allocated to the single performance obligation contained in each contract.

Revenue recognition

The single performance obligation is satisfied at a point in time, upon the free on board ("FOB") terms of each contract when control, including title and all risks, has transferred to the customer.

Product Revenue

Sales of Mytesi are recognized as revenue at a point in time when the products are delivered to the specialty pharmacies. Net revenues from the sale of Mytesi to the specialty pharmacies were $1.5 million and $2.2 million for the months ended March 31, 2023 and 2022, respectively.

Collaboration Revenue

Revenue recognition for collaboration agreements requires significant judgment. The Company's assessments and estimates are based on contractual terms, historical experience and general industry practice. Revisions in these values or estimations have the effect of increasing or decreasing collaboration revenue in the period of revision.

On September 24, 2018, the Company entered into a Distribution, License and Supply Agreement (“License Agreement”) with Knight Therapeutics ("Knight"). The License Agreement has a term of 15 years (with automatic renewals) and provides Knight with an exclusive right to commercialize current and future Jaguar human health products (including crofelemer, NP-300, and any product containing a proanthocyanidin or with an anti-secretory mechanism) in Canada and Israel. Knight forfeited its right of first negotiation for expansion to Latin America. Under the License Agreement, Knight is responsible for applying for and obtaining necessary regulatory approvals in the territory of Canada and Israel, as well as marketing, sales and distribution of the licensed products. Knight will pay a transfer price for all licensed products, and upon achievement of certain regulatory and sales milestones, the Company may receive payments from Knight in an aggregate amount of up to approximately $18 million payable throughout the initial 15-year term of the agreement. The Company did not have any license revenues for the three months ended March 31, 2023 and 2022.

Modifications to Liability-classified Instruments

In accounting for debt modifications and exchange transactions, it is the Company’s policy to first determine whether it qualifies as a troubled debt restructuring (“TDR”) pursuant to the guidance provided in ASC 470-60. A debt modification or exchange transaction that is not within the scope of the ASC 470-60 is accounted for under ASC 470-50 to determine if the transaction is a mere modification or an extinguishment.

For the three months ended March 31, 2023, the Company entered into another amendment on the terms of its October 2020 and December 2020 Purchase Agreements (see Note 7).

Modifications to Equity-classified Instruments

In accounting for modifications of equity-classified warrants, it is the Company’s policy to determine the impact by analogy to the share-based compensation guidance of ASC 718, *Compensation - Stock Compensation* (“ASC 718”). The model for a modified share-based payment award that is classified as equity and remains classified in equity after the modification is addressed in ASC 718-20-35-3. Pursuant to that guidance, the incremental fair value from the modification is recognized as an expense in the statements of operations to the extent the modified instrument has a higher fair value; however, in certain circumstances, such as when an entire class of warrants is modified, the measured increase in fair value may be more appropriately recorded as a deemed dividend, depending upon the nature of the warrant modification.

The Company did not modify any equity-classified warrants for the three months ended March 31, 2023, and 2022.

In accounting for amendments to preferred stock, it is the Company’s policy to measure the impact by analogy to ASC 470-50 in determining if such an amendment is an extinguishment or a modification. If the amendment results in an extinguishment, the Company follows the SEC staff guidance in ASC 260-10-S99-2 and ASC 470-20. If the amendment results in a modification, the Company follows the model in either ASC 718 or ASC 470-50, depending on the nature of the amendment.

The Company did not modify any equity-classified preferred stock for the three months ended March 31, 2023 and 2022.

Stock-based Compensation

The Company's Stock Incentive Plan (see Note 11) provides for the grant of stock options, restricted stock and restricted stock unit awards. The Company measures stock awards granted to employees, non-employees and directors at estimated fair value on the date of grant and recognizes the corresponding compensation expense of the awards, net of estimated forfeitures, over the requisite service periods, which correspond to the vesting periods of the awards. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company issues stock awards with only service-based vesting conditions, and records compensation expense for these awards using the straight-line method.

The Company uses the grant date fair market value of its common stock to determine the grant date fair value of options granted to employees, non-employees and directors. The Company measures and recognizes compensation expense for all stock options and restricted stock units ("RSUs") granted to its employees and directors based on the estimated fair value of the award on the grant date. The Company uses the Black-Scholes valuation model to estimate the fair value of stock option awards. The fair value is recognized as expense, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award, on a straight-line basis. The Company believes that the fair value of stock options granted to non-employees is more reliably measured than the fair value of the services received. The determination of the grant date fair value of options using an option pricing model is affected by the Company's estimated Common Stock fair value and requires management to make a number of assumptions including the expected life of the option, the volatility of the underlying stock, the risk-free interest rate and expected dividends.

The Company estimates the fair value of stock options using the Black-Scholes option valuation model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair market value of common stock is based on the closing price of the Company's common stock as reported on the date of the grant.

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is provided when it is more likely than not that some portion or all of a deferred tax asset will not be realized.

The Company has adopted the provisions of ASC 740, *Income Taxes Related to Uncertain Tax Positions*. Under these principals, tax positions are evaluated in a two-step process. The Company first determines whether it is more-likely-than-not that a tax position will be sustained upon examination. If a tax position meets the more-likely-than-not recognition threshold, it is then measured to determine the amount of benefit to be recognized in the financial statements. The tax position is measured as the largest amount of benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement.

Foreign Currency Remeasurement and Translation

The functional currency of Napo Therapeutics is Euro. The Company follows ASC 830, *Foreign Currency Matters* ("ASC 830"). ASC 830 requires the assets, liabilities, and results of operations of a foreign operation to be measured using the functional currency of that foreign operation. Exchange gains or losses from remeasuring transactions and monetary accounts in a currency other than the functional currency are included in current earnings.

For certain subsidiaries, translation adjustments result from the process of translating the functional currency of subsidiary financial statements into the U.S. Dollar reporting currency. These translation adjustments are reported separately and accumulated in the unaudited condensed consolidated balance sheets as a component of accumulated other comprehensive loss.

Comprehensive Loss

The Company follows ASC 220, *Comprehensive Income*, which establishes standards for reporting and displaying comprehensive income and its components (revenue, expenses, gains and losses) in a full set of general-purpose financial statements.

For the months ended March 31, 2023 and 2022, the amount of other comprehensive losses from translation adjustments were $232,000 and zero, respectively.

Basic and Diluted Net Loss Per Common Share

Basic net loss per common share is computed by dividing net loss attributable to common stockholders for the year by the weighted-average number of common shares outstanding during the year. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders for the year by the weighted-average number of common shares, including potential dilutive shares of common stock assuming the dilutive effect of potential dilutive securities. For years in which the Company reports a net loss, diluted net loss per common share is the same as basic net loss per common share, because their impact would be anti-dilutive to the calculation of net loss per common share. Diluted net loss per common share is the same as basic net loss per common share for the three months ended March 31, 2023 and 2022.

Recent Accounting Pronouncements

There are no recent accounting pronouncements that are expected to have a material impact on the Company's financial statements and related disclosures as at March 31, 2023.

3. Fair Value Measurements

ASC 820, *Fair Value Measurements*, defines fair value, establishes a framework for measuring fair value under generally accepted accounting principles and enhances disclosures about fair value measurements. Fair value is defined under ASC 820 as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value under ASC 820 must maximize the use of observable inputs and minimize the use of unobservable inputs. The standard describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

- Level 1 – Observable inputs such as quoted prices (unadjusted) for identical instruments in active markets.
- Level 2 – Observable inputs such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-derived valuations whose significant inputs are observable.
- Level 3 – Unobservable inputs that reflect the reporting entity's own assumptions.

The following tables set forth the fair value of the Company's financial instruments that were measured at fair value on a recurring basis as of March 31, 2023 and December 31, 2022.

	March 31, 2023			
(in thousands)	Level 1	Level 2	Level 3	Total
Warrant liability	$ —	$ —	$ —	$ —
Streeterville note	—	—	8,198	8,198
Total fair value	$ —	$ —	$ 8,198	$ 8,198

	December 31, 2022			
(in thousands)	Level 1	Level 2	Level 3	Total
Warrant liability	$ —	$ —	$ —	$ —
Streeterville note	$ —	$ —	$ 7,839	$ 7,839
Total fair value	$ —	$ —	$ 7,839	$ 7,839

The change in the estimated fair value of Level 3 liabilities is summarized below:

(in thousands)	Three Months Ended March 31, 2023	
	Warrant liability	Streeterville note
Beginning fair value of Level 3 liability	$ —	$ 7,839
Additions	—	—
Exercises	—	—
Change in fair value	—	359
Ending fair value of Level 3 liability	$ —	$ 8,198

Warrant Liability

The warrants associated with the Level 3 warrant liability were valued at zero in the Company's unaudited condensed consolidated balance sheet. Warrants as at March 31, 2023 and December 31, 2022 were computed using the Black-Scholes-Merton pricing model.

Streeterville Note

The fair value of the Streeterville Note at January 13, 2021, date of issuance and as of March 31, 2023 amounting to $6.0 million and $8.2 million, respectively, were based on the weighted average discounted expected future cash flows representing the terms of the note, discounting them to their present value equivalents. This was classified as Level 3 fair values in the fair value hierarchy due to the use of unobservable inputs, including the Company's own credit risk.

The Company determined and performed the valuations of the Streeterville Note with the assistance of an independent valuation service provider. On a quarterly basis, the Company considers the main Level 3 inputs used derived as follows:

- Discount rate for the Streeterville note which was determined using a comparison of various effective yields on bonds as of the valuation date
- Market indications for vouchers, which affect the Return Bonus from the sale of Tropical Disease Priority Review Voucher ("TDPRV")
- Weighted probability of cash outflows which was estimated based on the entity's knowledge of the business and how the current economic environment is likely to impact the timing of the cash outflows, attributed to the different repayment features of the note

The following table summarizes the quantitative information about the significant unobservable inputs used in Level 3 fair value measurement:

Unobservable Inputs	Range of Inputs (probability-weighted average) 2023	2022	Relationship of unobservable inputs to fair value
Risk Adjusted Discount Rate	11.30%-25.66% (25.66%)	11.53%-26.06% (26.06%)	If discount rate is adjusted to total of additional 100 basis points (bps), fair value would have decreased by $319,000. If discount rate is adjusted to total deduction of 100 bps, fair value would have increased by $319,000.
Sales Proceeds: Amount of comparable TDPRV	$67.5 million to $350 million ($100 million)	$67.5 million to $350 million ($100 million)	If expected cash flows by Management considered the lowest amount of market indications for vouchers, FV would have decreased by $1.06 million. If expected cash flows by Management considered the highest amount of market indications for vouchers, FV would have increased by $8.18 million.
Range of Probability for Timing of Cash Flows: Variations of the terms and conditions of the timing of cash flows, including settlement of the note principal, interest, penalties, and acceleration clause.	0.42%-47.08%	0.39%-46.55%	If expected cash flows by Management considered the Scenario with the least amount of indicated value, FV would have decreased by $394,000. If expected cash flows by Management considered the scenario with the greatest amount of indicated value, FV would have increased by $2.65 million.

Fair Value Option

Beginning January 1, 2021, the Company elected to apply the FVO accounting to selected financial instruments to align the measurement attributes of those instruments under U.S. GAAP and to simplify the accounting model applied to those financial instruments. The Company elected to apply FVO accounting to the entire class of hybrid instruments, including structured notes, of which there are assessed embedded derivatives that would be eligible for bifurcation. Changes in the fair value of FVO assets and liabilities as well as the mark-to-market adjustment on the entire class of hybrid instruments, including derivatives and the net realized gains or losses on these instruments are reported in the change in fair value of financial instruments and hybrid instrument designated at FVO in the unaudited condensed consolidated comprehensive loss.

As of March 31, 2023, the Company did not note any fair value movement on FVO liabilities attributable to any instrument-specific credit risk, which should be recorded in other comprehensive income (loss).

Hybrid Instruments

The Company elected to apply FVO accounting to all of the hybrid instruments issued, including structured notes. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments. The Company determined and performed the valuations of the hybrid instruments with the assistance of an independent valuation service provider. The valuation methodology utilized is consistent with the income approach for estimating the fair value of the interest-bearing portion of the instrument and the related derivatives. Cash flows of the hybrid instruments in their entirety, including the embedded derivatives, are discounted at an appropriate rate for the applicable duration of the instrument. Interest on the interest-bearing portion of the instrument that is held to maturity is

aggregated as gain (loss) on instruments designated at fair value and related derivatives in the change in fair value of financial instruments and hybrid instruments designated at FVO of the unaudited condensed consolidated comprehensive loss.

The following table summarizes the fair value and unpaid principal balance for items the Company accounts for under FVO:

(in thousands)	Fair value	Unpaid Principal Balance	Fair Value Over (Under) Unpaid Principal Balance
At March 31, 2023			
Hybrid Instrument:			
Streeterville note	$ 8,198	$ 6,221	$ 1,977

4. Balance Sheet Components

Inventory

Inventory at March 31, 2023 and December 31, 2022 consisted of the following:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Raw Material	$ 2,128	$ 2,101
Work in Process	5,383	3,599
Finished Goods	1,173	1,324
Inventory	$ 8,684	$ 7,024

Prelaunch Inventory

Costs capitalized for the Company's lyophilized drug amounting to zero and $2.4 million as of March 31, 2023, and December 31, 2022 are included in the prepayments and other assets account. As of March 31, 2023, the Company has filed the POC for the lyophilized drug to European FDA and expects approval at the end of the first half of 2023. Upon approval, the prelaunch inventory shall be reclassified as part of the Company's inventory.

Property and Equipment, net

Property and equipment at March 31, 2023 and December 31, 2022 consisted of the following:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Land	$ 396	$ 396
Lab equipment	477	477
Software	63	63
Furniture and fixtures	18	18
Computers and peripherals	7	7
Total property and equipment at cost	961	961
Accumulated depreciation	(420)	(404)
Property and equipment, net	$ 541	$ 557

Depreciation and amortization expense was $16,000 and $124,000 for the three months ended March 31, 2023 and 2022, respectively.

Intangible Assets, net

Intangible assets at March 31, 2023 and December 31, 2022 consisted of the following:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Developed technology	$ 25,000	$ 25,000
Accumulated developed technology amortization	(9,444)	(9,028)
Developed technology, net	15,556	15,972
In-process research and development	4,800	4,800
In process research and development, net	4,800	4,800
Trademarks	300	300
Accumulated trademark amortization	(113)	(108)
Trademarks, net	187	192
Internal use software costs - registry	1,236	1,236
Accumulated internal use software costs amortization	(184)	(122)
Internal use software costs - registry, net	1,052	1,114
Patents	361	— 361
Accumulated patents amortization	(5)	—
Patents, net	356	361
Total intangible assets, net	$ 21,951	$ 22,439

Amortization expense of finite-lived intangible assets was $488,000 and $418,000 for the three months ended March 31, 2023 and 2022.

The following table summarized the Company’s estimated future amortization expense of intangible assets with finite lives as of March 31, 2023:

(in thousands)	Amounts
2023	1,414
2024	1,952
2025	1,952
2026	1,952
2027	1,952
Thereafter	7,929
	$ 17,151

5. Related Party Transactions

BOD Cash Compensation

The Company makes BOD cash compensation on a quarterly basis based on the Director Compensation Program. For the three months ended March 31, 2023, and 2022, Company paid approximately $68,000 and $35,000 cash compensation to its directors, respectively.

6. Commitments and Contingencies

Commitments

Leases

On April 6, 2021, the Company entered into an office lease agreement of approximately 10,526 square feet of office space in San Francisco, inclusive of office space covered under the previous sublease agreement. The term of the lease began on September 1, 2021 and will expire on February 28, 2025, unless terminated earlier. The lease had an early occupancy provision which entitled the Company to use a portion of the leased premises on June 1, 2021, free of rent obligation. In addition, the Company has the option to extend the lease for one three-year period after the expiration date. This option was not included as part of the lease term as the Company was not reasonably certain to exercise it, hence the lease term only includes the noncancellable period of three years plus the period of early occupancy.

The base rent under the lease were $42,000 monthly for the first 12 months, $43,000 monthly for the next 12 months and $45,000 for the last twelve months. The lease agreement only contained one lease component, that is, the lease of the office space. Non-lease components such as payment of building operating costs and share in real property taxes were accounted for separately and were not considered as part of the total lease payments. The lease was classified as an operating lease.

On October 7, 2021, the Company entered into an agreement for the lease of office premises from November 1, 2021 to April 30, 2022, subject to automatic renewal for subsequent periods until terminated by either party. Base rent amounted to €10,000 or approximately $10,500. If the contract is not terminated within 12 months, the lease amount will be increased in line with the index of relevant inflation at each annual expiration of the start date of the contract. The lessor has the right to decline the renewal of the contract. Upon the happening of certain specified events, the lessor may immediately withdraw from the contract. The Company is required leave the occupied spaces immediately in the same condition in which they were found in the event of contract termination or expiry. The Company paid deposit of €20,000 or approximately $21,000 to the lessor. On January 26, 2022, the lease agreement was amended whereby the term was extended by 20 months from May 1, 2022 to December 31, 2023. All other contract provisions remained the same.

On October 10, 2021, the Company also entered into a short-term office lease in Milan, Italy. The term of the lease began on November 1, 2021, subject to automatic renewal equal to the present term until terminated by mutual agreement. On January 26, 2022, the lease agreement was amended whereby the term was extended by 20 months from May 1, 2022 to December 31, 2023. The Company recognizes rent expense on a straight-line basis over the non-cancellable lease period.

On December 22, 2021, the Company entered into an agreement for the lease of two separate vehicles for 48 months expiring on November 30, 2025. Total monthly lease payment amounted to €2,000 or approximately $2,100 payable in advance. The Company elected to include both the lease and non-lease components as a single component and account for it as a lease. The Company also paid a total deposit of €19,000 or approximately $20,000, exclusive of VAT. Early termination of the contracts requires the payment of specified amounts.

On January 25, 2022, the Company entered into an agreement for the lease of office premises from March 1, 2022 to December 31, 2023, subject to automatic renewal for subsequent periods until terminated by either party. Base rent amounted to €4,000 or approximately $4,200. A similar agreement was entered with the lessor for the lease of premises to be used as office space from November 1, 2022 to December 31, 2023, subject to automatic renewal for subsequent periods until terminated by either party. Base rent amounted to €3,817 or approximately $4,000. If the contracts are not terminated within 12 months, the lease amounts will be increased in line with the index of relevant inflation at each annual expiration of the start date of the contract. The lessor has the right to decline the renewal of the contracts. Upon the happening of certain specified events, the lessor may immediately withdraw from the contracts. The Company is required leave the occupied spaces immediately in the same conditions in which they were found in the event of contract termination or expiry. The Company paid deposit of €9,000 or approximately $9,500 to the Lessor.

In May 2022, the Company entered into an agreement for the lease of one vehicle for 48 months expiring on April 30, 2026. Total monthly lease payment amounted to €833 or approximately $880 payable in advance. The Company elected to include both the lease and non-lease components as a single component and account for it as a lease. The Company also paid a total deposit of €21,000 or approximately $22,000, exclusive of VAT. Early termination of the contracts requires the payment of specified amounts.

In October 2022, the Company entered into an agreement for the lease of three vehicles for 48 months expiring on September 30, 2026. Total monthly lease payment amounted to €2,094 or approximately $2,200 payable in advance. The Company elected to include both the lease and non-lease components as a single component and account for it as a lease.

In November 2022, the Company entered into an agreement for the lease of two vehicles for 48 months expiring on October 31, 2026. Total monthly lease payment amounted to €1,459 or approximately $1,500 payable in advance. The Company elected to include both the lease and non-lease components as a single component and account for it as a lease.

The table below provided additional details of the office space lease presented in the unaudited condensed consolidated balance sheet as of March 31, 2023 and December 31, 2022:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Operating lease - right-of-use asset	$ 1,062	$ 1,140
Operating lease liability, current	503	483
Operating lease liability, net of current portion	627	725
Total	$ 1,130	$ 1,208
Weighted-average remaining life (years)	2.17	2.36
Weighted-average discount rate	17.82%	17.89%

Lease cost included in general and administrative expenses in the unaudited consolidated statements of comprehensive loss for the three months ended March 31, 2023 and 2022 was approximately $209,000 and $115,000.

For the three months ended March 31, 2023 and 2022, cash paid for operating lease liabilities recognized under operating cash flows amounted to $53,000 and $105,000, respectively. Non-cash investing and financing activities for the three months ended March 31, 2023, and 2022 include addition to right-of-use asset obtained from new and modified operating liabilities amounting to $30,000 and 90,000, respectively.

The following table summarizes the undiscounted cash payment obligations for operating lease liability as of March 31, 2023.

(in thousands)	March 31, 2023
2023	495
2024	617
2025	172
2026	41
Total undiscounted operating lease payments	1,325
Imputed interest expenses	(195)
Total operating lease liability	1,130
Less: Operating lease liability, current	503
Operating lease liability, net of current portion	$ 627

Rent and lease expense included in the general and administrative expenses in the unaudited condensed consolidated statements of comprehensive loss the three months ended March 31, 2023 and 2022 was approximately $209,000 and $42,000, respectively.

Purchase Commitment

On September 3, 2020, the Company entered into a manufacturing and supply agreement (the "Agreement") with Glenmark Life Sciences Limited ("Glenmark"), pursuant to which Glenmark will continue to serve as the Company's manufacturer of crofelemer for use in Mytesi, the Company's human prescription drug product approved by the U.S. Food and Drug Administration, and for other crofelemer-based products manufactured by the Company or its affiliates for human or animal use. The term of the Agreement is approximately 2.5 years (i.e., until March 31, 2023) and may be extended for successive two-year renewal terms upon mutual agreement between the parties thereto. Pursuant to the terms of the Agreement, Glenmark will supply crofelemer to the Company. The Agreement contains provisions regarding the rights and responsibilities of the parties with respect to manufacturing specifications, forecasting and ordering, delivery arrangements, payment terms, confidentiality and indemnification, as well as other customary provisions. The Agreement includes a commitment for the purchase from Glenmark of a minimum quantity of 300 kilograms of crofelemer per year, pro-rated for partial years, where the Company may be obligated to pay any shortfall. Either party may terminate the Agreement for any reason with 12 months prior written notice to the other party. In addition, either party may terminate the Agreement upon written notice as a result of a material breach of the Agreement that remains uncured for a period of 90 days. If the Company terminates the Agreement as a result of a material breach caused by Glenmark, the Company will not be obligated to pay for any minimum quantity shortfall. As of March 31, 2023, the remaining commitment is 149 kilograms.

Master Services Agreement ("MSA")

On October 5, 2020, the Company entered into another MSA for clinical research organization services (the "2020 MSA") and a service order under such 2020 MSA with Integrium. The service order covers the Company's planned upcoming pivotal Phase 3 clinical trial for cancer-therapy related diarrhea. As consideration for its services, the Company will pay Integrium a total amount of up to approximately $12.4 million, later reduced to approximately $6.0 million, that will be paid over the term of the engagement and based on the achievement of certain milestones. The 2020 MSA will terminate upon the satisfactory performance of all services to be provided thereunder unless earlier terminated by the parties. For the three months ended March 31, 2023, and 2022, the Company paid Integrium $498,000 and $276,000, respectively.

Asset Transfer and Transition Commitment

On September 25, 2017, the Company entered into the Termination, Asset Transfer and Transition Agreement dated September 22, 2017 with Glenmark. As a result of the agreement, the Company now controls commercial rights for Mytesi for all indications, territories and patient populations globally, and also holds commercial rights to the existing regulatory approvals for crofelemer in Brazil, Ecuador, Zimbabwe and Botswana. In exchange, the Company agrees to pay Glenmark 25% of any payment it receives from a third party to whom the Company grants a license or sublicense or with whom the Company partners in respect of, or sells or otherwise transfers any of the transferred assets, subject to certain exclusions, until Glenmark has received a total of $7.0 million. For the three months ended March 31, 2023, and 2022, the Company paid Glenmark $1.9 million and $559,000, respectively.

Revenue Sharing Commitment Update

On December 14, 2017, the Company announced its entry into a collaboration agreement with Seed Mena Businessmen Services LLC (“SEED”) for Equilevia™, the Company's non-prescription, personalized, premium product for total gut health in equine athletes. According to the terms of the Agreement, the Company will pay SEED 15% of total revenue generated from any clients or partners introduced to the Company by SEED in the form of fees, commissions, payments or revenue received by the Company or its business associates or partners, and the agreed-upon revenue percentage increases to 20% after the first million dollars of revenue. In return, SEED will provide the Company access to its existing United Arab Emirates (“UAE”) network and contacts and assist the Company with any legal or financial requirements. The agreement became effective on December 13, 2017 and will continue indefinitely until terminated by either party pursuant to the terms of the Agreement. No payments have been made to date.

Joint Venture - Magdalena Biosciences, Inc.

In January 2023, Jaguar and Filament Health (“Filament”), with Funding from One Small Planet, formed the U.S.-based joint venture Magdalena Biosciences, Inc. (“Magdalena”). Magdalena’s focus is on the development of novel, natural prescription medicines derived from plants for mental health indications including, initially, attention-deficit/hyperactivity disorder (“ADHD”) in adults. The goal of the collaboration is to extend the botanical drug development capabilities of Jaguar and Filament in order to develop pharmaceutical-grade, standardized drug candidates for mental health disorders, and to partner with a potential future licensee to develop and commercialize these novel plant-based drugs. This new venture aligns with Jaguar's mental health Entheogen Therapeutics Initiative (“ETI”) and Filament's corporate mission to develop novel, natural prescription medicines from plants. Magdalena will leverage Jaguar's proprietary medicinal plant library and Filament's proprietary drug development technology. Jaguar’s library of 2,300 highly characterized medicinal plants and 3,500 plant extracts, all from firsthand ethnobotanical investigation by Jaguar and members of the ETI Scientific Strategy Team, is a key asset we have generated over 30 years that bridges the knowledge of traditional healers and Western medicine. Magdalena holds an exclusive license to plants and plant extracts in Jaguar's library, not including any sources of crofelemer or NP-300, for specific indications and is in the process of identifying plant candidates in the library that may prove beneficial for addressing indications such as ADHD.

The Company accounted for its 40% investment in Magdalena under the equity method. The summarized income statement information for the three months ended March 31, 2023 of Magdalena is as follows:

(in thousands)	March 31, 2023 (unaudited)
Revenue	$ —
Operating expenses	(77)
Loss before income tax	(77)
Income tax expense	—
Net loss	$ (77)
Net loss attributable to the Company	$ (31)

Contingencies

From time to time, the Company maybe a party to various legal actions, both inside and outside the U.S., arising in the ordinary course of its business or otherwise. The Company accrues amounts, to the extent they can be reasonably estimated, that the Company believes will result in a probable loss (including, among other things, probable settlement value), to adequately address any liabilities related to legal proceedings and other loss contingencies. A loss or a range of loss is disclosed when it is reasonably possible that a material loss will incur and can be estimated, or when it is reasonably possible that the amount of a loss, when material, will exceed the recorded provision. The Company did not have any material accruals for any currently active legal action in its unaudited condensed balance sheets as of March 31, 2023, as the Company could not predict the ultimate outcome of these matters, or reasonably estimate the potential exposure.

7. Debt

Notes payable at March 31, 2023 and December 31, 2022 consisted of the following:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Royalty Interest	$ 37,037	$ 38,931
Streeterville Note	8,198	7,840
Insurance Financing	83	234
Tempesta Note	200	250
	45,518	47,255
Less: unamortized discount and debt issuance costs	(12,353)	(13,628)
Note payable, net of discount	$ 33,165	$ 33,627
Notes payable - non-current, net	$ 17,544	$ 17,744
Notes payable - current, net	$ 15,621	$ 15,883

Future maturities of the notes payable not designated at FVO as of March 31, 2023 are as follows:

(in thousands)	Amounts
Periods ended March 31,	
2024	$ 15,621
2025	21,699
2026	8,198
	45,518
Less: unamortized discount and debt issuance costs	(12,353)
Total	$ 33,165

Future maturities are based on contractual minimum payments. Timing of maturities may fluctuate based on future revenue.

Sale of Future Royalty Interest

October 2020 Purchase Agreement

On October 8, 2020, the Company entered into another royalty interest purchase agreement (the “October 2020 Purchase Agreement”) with Iliad, pursuant to which the Company sold to Iliad a royalty interest entitling Iliad to receive

$12.0 million of future royalties on sales of Mytesi and certain up-front license fees and milestone payments from licensees and/or distributors (the "Royalty Repayment Amount") for an aggregate purchase price of $6.0 million.

Until such time as the Royalty Repayment Amount has been paid in full, the Company will pay Iliad 10% of the Company's net sales on included products and 10% of worldwide revenues related to upfront licensing fees and milestone payments from licensees and/or distributors, but specifically excluding licensing fees and/or milestone payments that are reimbursements of clinical trial expenses (the "Royalty Payments"). Beginning on the six-month anniversary of the delivery of the October 2020 Purchase Agreement to the Company (the "Purchase Price Date") and continuing until the 12-month anniversary of the Purchase Price Date, the monthly Royalty Payment shall be the greater of (a) $250,000, and (b) the actual Royalty Payment amount Iliad is entitled to for such month. Beginning on the 12-month anniversary of the Purchase Price Date and continuing until 18-month anniversary of the Purchase Price Date, the monthly Royalty Payment shall be the greater of (a) $400,000 and (b) the actual Royalty Payment amount Iliad is entitled to for such month. Beginning on the 18-month anniversary of the Purchase Price Date and continuing until 24-month anniversary of the Purchase Price Date, the monthly Royalty Payment shall be the greater of (a) $600,000 and (b) the actual Royalty Payment amount Iliad is entitled to for such month. Beginning on the 24-month anniversary of the Purchase Price Date and continuing until the Royalty Repayment Amount has been paid in full, the monthly Royalty Payment shall be the greater of (a) $750,000, and (b) the actual Royalty Payment amount Iliad is entitled to for such month.

The Royalty Interest amount of $12.0 million was classified as debt, net of a $6.0 million discount, at initial recognition. Under ASC 470-10-35-3, royalty payments to Iliad will be amortized under the interest method per ASC 835-30. Because there is no set interest rate, and because the royalty payments are variable, the discount rate is variable. After each royalty payment, the Company will use a prospective method to determine a new discount rate based on the revised estimate of remaining cash flows. The new rate is the discount rate that equates the present value of the revised estimate of remaining cash flows with the carrying amount of the debt, and it will be used to recognize interest expense for the remaining periods. At issuance, based on projected cash outflows from future revenue streams, the discount rate was 34.51%.

Pursuant to the October 2020 Purchase Agreement, if the weekly volume weighted average price ("VWAP") of the Company's common stock is not equal or greater than the minimum VWAP of $0.9105 at least twice during each calendar month during the six-month period beginning on November 1, 2020, then the Royalty Repayment Amount will be automatically increased by $6.0 million at the end of such six-month period. During the observation period starting November 1, 2020, the Company's weekly VWAP failed to reach the minimum VWAP of $0.9105 and on November 13, 2020, the Company concluded that the contingent clause has been met, warranting an additional $6.0 million Royalty Repayment Amount, to be added to the outstanding balance commencing on May 10, 2021 for the purpose of cash interest calculation. The change in the Royalty Repayment Amount was accounted for as a debt modification and resulted in a new discount rate of 45.42%.

On April 13, 2021, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $3.0 million from the original outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 7,843 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares. The exchange agreement was accounted for as a modification and resulted in a new discount rate of 77.09%.

On February 11, 2022, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $2.4 million from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 23,117 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On March 2, 2022, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $1.1 million from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 32,333 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On March 4, 2022, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $800,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 26,667 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On March 9, 2022, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $700,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 24,667 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

Because the period between the first and last exchanges occurred within a 12-month period and each was individually assessed as a modification, the debt terms that existed prior to the February 13 exchange was used in the application of the 10% test on the cumulative assessment performed. The exchanges were cumulatively accounted for as an extinguishment and resulted to a loss of $2.2 million.

On April 14, 2022, the Company entered into amendments (the "Royalty Interest Global Amendments") to its existing royalty interests including the Royalty Interest in the original principal amount of $12.0 million under the October 2020 Royalty Interest. The amendment grants the Company at its sole discretion, the right to exchange from time to time, all or any portion of the Royalty Interests for shares of the Company's common stock at a price per share equal to the Nasdaq Minimum Price (as defined in Nasdaq Listing Rule 5635(d)) as of date of the applicable exchange. Under the Royalty Interest Global Amendments, the Company's ability to exchange the Royalty Interests for shares of the Company's common stock is subject to certain limitations, on which the Company will not have such right and issue any common stock to investors if (a) the issuance of the Company's common shares would cause investor's beneficial ownership to exceed 4.99% of Company's issued and outstanding common stock as of such date; (b) any of the exchange conditions has not been satisfied as of the applicable exchange date; and (c) the total cumulative number of shares of the Company's common stock issued pursuant to the Royalty Interests would exceed the requirements of The Nasdaq Capital Market (including the rules related to the aggregation of offerings under Nasdaq Listing Rule 5635(d) if applicable) (the "Exchange Cap"), unless stockholder approval is obtained to issue more than the Exchange Cap. The Exchange Cap shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction.

On May 13, 2022, the Company entered into an exchange agreement with Iliad, pursuant to which the parties agreed to partition $400,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 15,249 shares of the Company's common stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On July 25, 2022, the Company entered into another exchange agreement with Iliad, pursuant to which the parties agreed to partition $750,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 31,546 shares of the Company's stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On November 18, 2022, the Company entered into another exchange agreement with Iliad, pursuant to which the parties agreed to partition $715,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 978 shares of the Company's stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

On March 17 and 23, 2023, the Company entered into another exchange agreement with Iliad, pursuant to which the parties agreed to partition $992,000 and $227,000, respectively from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 14,533 and 3,733 shares, respectively of the Company's stock. The exchange consisted of Iliad surrendering the partitioned royalty in exchange for the exchange shares.

The exchanges that occurred within the 12-month period prior to May 13, 2022 exchange were previously accounted for as extinguishment, therefore, cumulative assessment was not performed anymore. The subsequent

exchanges were accounted for as a modification. As of March 31, 2023, the forecasted future revenues changed which resulted to a new discount rate of 42.93%.

Interest expense for the three months ended March 31, 2023 and 2022 was $766,000 and $3.1 million, respectively. As of March 31, 2023 and December 31, 2022, the carrying value of the debt is $6.3 million and $7.3 million, respectively.

December 2020 Purchase Agreement

On December 22, 2020, the Company entered into a royalty interest purchase agreement (the "December 2020 Purchase Agreement") with Irving Park Capital, LLC ("Irving"), a company affiliated with CVP, pursuant to which the Company sold to Irving a royalty interest entitling Irving to receive $12.0 million of future royalties on sales of Mytesi and certain up-front license fees and milestone payments from licensees and/or distributors (the "Royalty Repayment Amount") for an aggregate purchase price of $6.0 million.

Until such time as the Royalty Repayment Amount has been paid in full, the Company will pay Irving 10% of the Company's Net Sales on Included Products and 10% of worldwide revenues related to upfront licensing fees and milestone payments from licensees and/or distributors, but specifically excluding licensing fees and/or milestone payments that are reimbursements of clinical trial expenses (the "Royalty Payments"). Beginning on the payment start date of March 8, 2024 and continuing until the 12-month anniversary of the Purchase Price Date, the monthly Royalty Payment shall be the greater of (a) $750,000, and (b) the actual Royalty Payment amount Irving is entitled to for such month.

The Royalty Interest amount of $12.0 million is classified as debt, net of a $6.0 million discount, at initial recognition. Under ASC 470-10-35-3, royalty payments to Irving will be amortized under the interest method per ASC 835-30. Because there is no set interest rate, and because the royalty payments are variable, the discount rate is variable. After each royalty payment, the Company will use a prospective method to determine a new discount rate based on the revised estimate of remaining cash flows. The new rate is the discount rate that equates the present value of the revised estimate of remaining cash flows with the carrying amount of the debt, and it will be used to recognize interest expense for the remaining periods. At issuance, based on projected cash outflows from future revenue streams, the discount rate was 23.70%. As of March 31, 2023, the forecasted future revenues changed which resulted to a new discount rate of 29.55%.

On April 14, 2022, under the Royalty Interest Global Amendments, the Company is granted at its sole discretion, the right to exchange from time to time, all or any of the Royalty Interest under the original principal amount of $12.0 million or any portion of the December 2020 Purchase Agreement for shares of the Company's common stock at a price per share equal to the Nasdaq Minimum Price (as defined in Nasdaq Listing Rule 5635(d)) as of date of the applicable exchange, subject to certain limitations.

On February 8, 2023, the Company entered into an exchange agreement with Irving, pursuant to which the parties agreed to partition $675,000 from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 150,000 shares of the Company's stock. The exchange consisted of Irving surrendering the partitioned royalty in exchange for the exchange shares. The exchange was accounted for as a modification as of March 31, 2023, the forecasted future revenues changed which resulted to a new discount rate of 48%.

Interest expense for the three months ended March 31, 2023 and 2022 was $1.1 million and $784,000, respectively. As of March 31, 2023 and December 31, 2022, the carrying value of the debt is $9.4 million and $10.0 million, respectively.

March 2021 Purchase Agreement

On March 8, 2021, the Company entered into a purchase agreement (the "March 2021 Purchase Agreement") with Streeterville Capital, LLC ("Streeterville"), a company affiliated with CVP, pursuant to which the Company sold a

royalty interest entitling Streeterville to $10.0 million and any interest, fees, and charges as royalty repayment amount for an aggregate purchase price of $5.0 million. Interest will accrue on the royalty repayment amount at a rate of 5% per annum, compounding quarterly, and will increase to 10% per annum, compounding quarterly on the 12-month anniversary of the closing date.

The Company will be obligated to make minimum royalty payments on a monthly basis beginning at the earlier of (a) 36 months following the closing date or (b) 30 days following the satisfaction of all existing royalties to Streeterville, and its affiliates namely Iliad and Irving, but not earlier than 18 months following the closing date in an amount equal to the greater of (i) $250,000 beginning on the royalty payment start date and continuing until either the royalty repayment amount has been paid in full or the 6-month anniversary of the royalty payment start date, $400,000 beginning on the 6-month anniversary of the royalty payment start date and continuing until either the royalty repayment amount has been paid in full or the 12-month anniversary of the royalty payment start date, $600,000 beginning on the 12-month anniversary of the royalty payment start date and continuing until either the royalty repayment amount has been paid in full or the 18-month anniversary of the royalty payment start date, $750,000 beginning on the 18-month anniversary of the royalty payment start date and continuing until the royalty repayment amount has been paid in full, and (ii) 10% of the Company's net sales on included products, 10% of worldwide revenues related to upfront licensing fees and milestone payments from licensees and/or distributors but specifically excluding licensing fees and/or milestone payments that are reimbursements of clinical trial expenses or associated with the license of Included Products from the Company to Napo EU, including but not limited to the upfront fee payable by Napo EU to Napo for included products and Crofelemer for other indications; and 50% of royalties collected from licenses of the included products to third parties.

The Royalty Interest amount of $10.0 million is classified as debt, net of a $5.0 million discount, at initial recognition. Under ASC 470-10-35-3, royalty payments to Streeterville will be amortized under the interest method per ASC 835-30. Because there is no set interest rate, and because the royalty payments are variable, the discount rate is variable. After each royalty payment, the Company will use a prospective method to determine a new discount rate based on the revised estimate of remaining cash flows. The new rate is the discount rate that equates the present value of the revised estimate of remaining cash flows with the carrying amount of the debt, and it will be used to recognize interest expense for the remaining periods. At issuance, based on projected cash outflows from future revenue streams, the discount rate was 19.36%. As of March 31, 2023, the forecasted future revenues changed which resulted to a new discount of 19.14%.

On April 14, 2022, under the Royalty Interest Global Amendments, the Company is granted at its sole discretion, the right to exchange from time to time, all or any of the Royalty Interest under the original principal amount of $10.0 million of the March 2021 Purchase Agreement for shares of the Company's common stock at a price per share equal to the Nasdaq Minimum Price (as defined in Nasdaq Listing Rule 5635(d)) as of date of the applicable exchange, subject to certain limitations.

On August 17, 2022, the Company entered into an exchange agreement (the "Royalty Interest Exchange Agreement") with Streeterville to (i) partition a new royalty interest in the royalty repayment amount of $3.4 million ("Partitioned Royalty") from the royalty interest of the March 2021 Purchase Agreement and then cause the outstanding balance of the royalty interest to be reduced by an amount equal to the initial outstanding balance of the Partitioned Royalty, and (ii) exchange ("Royalty Exchange") the Partitioned Royalty for 153,333 shares of the Company's common stock with a par value of $0.0001 in accordance with the term of the Royalty Interest Exchange Agreement. Under the terms of the Royalty Interest Exchange Agreement, the Royalty Exchange will consist of Streeterville surrendering the Partitioned Royalty in exchange for the shares, free of any restrictive securities legend, and Streeterville shall give no consideration of any kind whatsoever to the Company in connection with the Royalty Interest Exchange Agreement.

On September 30, 2022, the Company entered into an exchange agreement with Streeterville, pursuant to which the parties agreed to partition $2.0 million from the outstanding balance of the royalty interest. The parties further agreed to exchange the partitioned royalty for 156,863 shares of the Company's common stock. The exchange consisted of Streeterville surrendering the partitioned royalty in exchange for the exchange shares. The exchange was accounted for as a debt modification and resulted to a reduction in the outstanding balance of the royalty interest amounting to $2.0 million. As of March 31, 2023, the forecasted future revenues changed which resulted to a new discount of 42.0%.

Interest expense for the three months ended March 31, 2023 and 2022 was $448,000 and $416,000, respectively. As of March 31, 2023 and December 31, 2022, the carrying value of the debt is $3.4 million and $3.1 million, respectively.

August 2022 Purchase Agreement

On August 24, 2022, the Company entered into another royalty interest purchase agreement (the "August 2022 Purchase Agreement") with Streeterville, pursuant to which the Company sold to Streeterville (the entitling "Investor") a royalty interest to receive $12.0 million of future royalties on sales of Mytesi® (crofelemer) for any indications that could cannibalize crofelemer indications or any other chronic indication and certain up-front license fees and milestone payments from licensees and/or distributors for an aggregate purchase price of $4.0 million ("the Royalty Financing"). The Company will use the proceeds to support the ongoing pivotal phase 3 clinical trial of crofelemer for prophylaxis of diarrhea in adults receiving targeted cancer therapy. Interest will accrue on the Royalty Repayment Amount at a rate of 5% per annum from the closing of the Royalty Financing until the one-year anniversary of such closing and 10% per annum thereafter, simple interest computed on the basis of a 360-day year comprised of twelve 30-day months.

The Company will be obligated to make minimum royalty payments on a monthly basis beginning on January 1, 2024 in an amount equal to the greater of (A) $250,000 (which increases to $400,000 beginning 6 months following the closing of the Royalty Financing, $600,000 beginning 12 months following the closing of the Royalty Financing, and $750,000 beginning 18 months following the closing of the Royalty Financing) and (B) the royalty payments to which Investor is entitled, consisting of (1) 10% of the Company's net sales of crofelemer for any indications that could cannibalize crofelemer indications or any other chronic indication (including any improvements, modifications and follow-on products, collectively referred to as "Included Products") (2) 10% of worldwide revenues related to upfront licensing fees and milestone payments from licensees and/or distributors, but specifically excluding licensing fees and/or milestone payments that are (A) reimbursements of clinical trial expenses or (B) associated with the license of the of the Included Products from the Company to Napo EU S.p.A. and (3) 50% of royalties collected from licenses of the Included Products to third parties.

Pursuant to the terms of the Royalty Interest, the Company has the right to exchange from time to time at the Company's sole discretion all or any portion of the Royalty Interest for shares of Common Stock at a price per share equal to the Nasdaq Minimum Price (as defined in Nasdaq Listing Rule 5635(d)) as of the date of the applicable exchange. At issuance, based on projected cash outflows from future revenue streams, the discount rate was 55.97%.

Interest expense for the three months ended March 31, 2023, and 2022 was $716,000 and zero, respectively. As at March 31, 2023 and December 31, 2022, the carrying value of the debt is $5.6 million and $4.8 million, respectively

Streeterville Note

On January 13, 2021, the Company issued a secured promissory note to Streeterville in the original principal amount of $6.2 million for an aggregate purchase price of $6.0 million. The Company will use the proceeds to fund development of the Company's NP-300 drug product candidate for the indication of the symptomatic relief of diarrhea from cholera and general corporate purposes, including the Company's product pipeline activities. The note is due after four years and bears interest at 3.25% per annum. Interest on the note is payable annually in advance by adding the interest charge for each upcoming year to the outstanding balance on the date each such interest charge is accrued. The Company also paid $25,000 to cover legal fees, accounting costs, due diligence, monitoring and other transaction costs incurred in connection with the issuance of the note. The first year of prepaid interest and the transaction expenses are included in the original principal amount.

At any time following the occurrence of a trial failure which refers to any of the following: (i) the Company abandons the clinical trial with NP-300 for an indication for the symptomatic relief of infectious diarrhea for cholera; (ii) the Company fails to start the Phase 1 clinical trial of NP-300 for the symptomatic relief of infectious diarrhea for cholera by July 1, 2022; or (iii) the Company fails to meet all primary endpoints in the pivotal trials of NP-300 for the symptomatic relief if infectious diarrhea for cholera with statistical significance, Streeterville may elect to increase the outstanding balance as of the date of the trial failure by 25% without acceleration (the "Trial Failure Effect"). If

Streeterville elects to apply the Trial Failure Effect, it reserves the right to declare the outstanding balance immediately due and payable at any time. As of March 31, 2023, no trial failure occurred.

Streeterville is entitled to a maximum of 18% and a minimum of 1% of the gross proceeds received by the Company from the sale of TDPRV (the "Return Bonus"). The Return Bonus percentage is reduced pro rata based on the percentage of the original principal balance of the note that has been repaid as of the date of the sale of the TDPRV. Even if the note has been paid in full at the time of the sale of the TDPRV, the Company is still obliged to pay Streeterville a Return Bonus of 1%. If Streeterville applies the Trial Failure Effect, the Return Bonus will automatically be reduced to 1%. If the TDPRV has not been sold as of the day immediately preceding the maturity date of the note, the Return Bonus percentage will be fixed as of such date. As of March 31, 2023, the Company has not sold any TDPRV.

Beginning on the earlier of (a) 6 months after January 2021, and (b) initiation of human trials with NP-300 for symptomatic relief of infectious diarrhea for cholera, the Company may pay all or any portion of the outstanding balance earlier than it is due. In the event the Company elects to prepay all or any portion of the outstanding balance, it shall pay to Streeterville 112.5% of the portion of the outstanding balance the Company elects to prepay. The Company may not prepay the note without the Streeterville's consent on the date the last patient is enrolled in a pivotal trial.

After Streeterville becomes aware of the occurrence of any default, Streeterville may accelerate the note, with the outstanding balance becoming immediately due and payable in cash at the Mandatory Default Amount (i.e., the outstanding balance following the application of the Default Effect). Streeterville reserves the right to declare the outstanding balance immediately due and payable at any time following the default. Default Effect means multiplying the outstanding balance as of the date of default by 5% or 15% for each occurrence of default, capped at an aggregate of 25%, and then adding the resulting product to the outstanding balance. The percentage to be used depends on whether the default is viewed as minor or major as defined in the agreement. Furthermore, interest accrues on the outstanding balance beginning on the date of default at an interest rate equal to the lesser of 18% per annum or the maximum rate permitted under applicable law. As of March 31, 2023, no default has occurred.

In connection with the note issuance, the Company has entered into a security agreement with Streeterville, pursuant to which Streeterville will receive a first priority security interest in all existing and future NP-300 technology, and any TDPRV and the sale proceeds therefrom that may be granted to the Company by the FDA in connection with the development of NP-300 for the cholera indication. The Company also agreed, with certain exceptions, not to grant any lien on any of the collateral securing the note and not to grant any license under any of the intellectual property relating to such collateral. The grant of security interest has become effective upon the receipt of the Salix Waiver on April 6, 2021 in observance to the requirement of the settlement agreement previously entered by the Company with Salix Pharmaceuticals, Inc.

The Company irrevocably elected to initially and subsequently apply the FVO accounting to the entire note. The fair value at transaction date was equal to the cash proceeds received of $6.0 million. The transaction expense of $25,000 was recognized in profit and loss as incurred. The Company used the valuation report from an independent valuation service provided to measure the reporting date fair value of the note. At March 31, 2023 and December 31, 2022, the fair value was determined to be $8.2 million and $7.8 million respectively. For the three months ended March 31, 2023, the net decrease in the fair value of $400,000 was recorded as loss included in the change in fair value of financial instruments and hybrid instrument designated at FVO in the unaudited condensed consolidated statements of comprehensive loss.

Insurance Financing

May 2022 First Insurance Financing

In May 2022, the Company entered into a premium finance agreement for $752,000 with First Insurance representing the unpaid balance of the total premiums, taxes, and fees of $941,000 with an annual interest rate of 4.3%. The total finance charge was $15,000. Payment of principal and interest is due in equal monthly installments over ten months. Interest expense for the end of March 31, 2023, was $4,000. The financing balance was zero at March 31, 2023.

March 2023 First Insurance Financing

In March 2023, the Company entered into a premium finance agreement for $98,000 with First Insurance representing the unpaid balance of the total premiums, taxes, and fees of $115,000 with an annual interest rate of 4.6%. The total finance charge was $2,000. Payment of principal and interest is due in equal monthly installments over ten months. Interest expense for the end of March 31, 2023, was zero. The financing balance was $83,000 as at March 31, 2023.

2019 Tempesta Note

In October 2019, the Company entered into a License Termination and Settlement Agreement with Dr. Michael Tempesta, pursuant to which certain royalty payment disputes between the Company and Tempesta were settled. Per the terms of the Agreement, Tempesta received $50,000 in cash, an unsecured promissory note issued by the Company in the aggregate principal amount of $550,000 and 13,333 shares of the Company's common stock in exchange for the cessation of all royalty payments by the Company to Dr. Tempesta under the License Agreements. The $550,000 promissory note bears interest at the rate of 2.5% per annum and matures on March 1, 2025. The promissory note provides for the Company to make semi-annual payments equal to $50,000 plus accrued interest beginning on March 1, 2020 until the Note is paid in full. Interest expense for the three months ended March 31, 2023 and 2022 was $3,000 and $2,000 respectively. At March 31, 2023 and December 31, 2022, the net carrying value of the note was $200,000 and $250,000, respectively.

8. Warrants

The following table summarizes information about warrants outstanding and exercisable into shares of the Company's common stock as of March 31, 2023 and December 31, 2022:

	March 31, 2023 (unaudited)	December 31, 2022
Warrants outstanding, beginning balance	7,505	7,513
Issuances	—	—
Exercises	—	—
Expirations and cancelations	—	(8)
Warrants outstanding, ending balance	7,505	7,505

As of March 31, 2023, and 2022, the Company's outstanding warrants have an exercise price ranging from $1.47 to $157.5 per common share and generally expires prior to December 31, 2024.

9. Preferred Stock

At March 31, 2023 and December 31, 2022, preferred stock consisted of the following:

(in thousands, except share and per share data) Series	Shares Authorized	Issued and Outstanding	Carrying Value	Liquidation Preference per Share
B-2	10,165	—	$ —	$ —
C	1,011,000	—	—	—
E	4,475,074	—	—	—
Total	5,496,239	—	$ —	

Series C Perpetual Preferred Stock

In September 2020, the Company entered into an exchange agreement with Iliad to issue 842,500 shares of the Company's Series C Perpetual Preferred Stock at $0.0001 par value per share, for a non-cash exchange of equity instruments. The exchange agreement was contemporaneously entered with the issuance of Series D Perpetual Preferred shares, in exchange of remaining Series A Convertible Preferred shares totaling 5,524,926 shares, and accreted value of $11.2 million as of the exchange date. An amendment agreement of the Exchange Note 2 was also entered into, with issuance value of $2.3 million and carrying value of $2.6 million as of the exchange date, to extend maturity from December 31, 2020 to December 31, 2021, in consideration of 5% increase in the outstanding balance.

The preferred stock has been classified as permanent stockholders' equity in accordance with authoritative guidance for the classification and measurement of perpetual shares without mandatory redemption period because the redemption option was ultimately in the control of the Company. There were no series C Preferred Shares outstanding at March 31, 2023 and 2022.

Series E Preferred Stock

On August 18, 2022, the Company entered into an agreement (the “Securities Purchase Agreement”) with a third party to issue 10 Series E Preferred Stock with a par value of $0.0001, amounting to $100. In consideration of the Securities Purchase Agreement, the Company and third party agree to amend the existing definition of the term “Service Share Amount” in the License Agreement entered by both parties (See Note 2) and include a subsection for lock-up wherein the third party agrees not to sell, transfer, loan, grant any option of the purchase of, or otherwise dispose of any shares of common stock acquired pursuant to the License Agreement until after the 90-day period following the date of acquisition.

On October 4, 2022, the Company redeemed all 10 shares of Series E Preferred Stock in accordance with the terms of such securities. As a result, no shares of Series E Preferred Stock remain outstanding.

10. Stockholders' Equity

As of March 31, 2023 and December 31, 2022, the Company had reserved shares of common stock, on an as-if converted basis, for issuance as follows:

	March 31, 2023 (unaudited)	December 31, 2022
Options issued and outstanding	26,357	26,533
Inducement options issued and outstanding	1,534	1,546
Options available for grant under stock option plans	120,033	122,978
Restricted stock unit awards issued and outstanding	47,998	44,865
Warrants issued and outstanding	7,505	7,505
Total	203,427	203,427

Common Stock

The holders of common stock are entitled to one vote for each share of common stock held. The common stockholders are also entitled to receive dividends whenever funds and assets are legally available and when declared by the Board of Directors.

The holders of non-voting common stock are not entitled to vote, except on an as converted basis with respect to any change of control of the Company that is submitted to the stockholders of the Company for approval. Shares of the Company's non-voting common stock have the same rights to dividends and other distributions and are convertible into shares of the Company's common stock on a one-for-one basis.

At a special meeting of stockholders of Jaguar Health, Inc. (the "Company") held on September 30, 2022 (the "Special Meeting"), the Company's stockholders approved an amendment (the "Sixth Amendment") to the Company's Third Amended and Restated Certificate of Incorporation (the "COI") to effect an increase in the number of authorized shares of the Company's voting common stock, par value $0.0001 per share (the "Common Stock"), from 150,000,000 to 298,000,000 shares of Common Stock (the "Authorized Share Increase") on September 30, 2022.

Pursuant to such authority granted by the Company's stockholders, the Company's board of directors approved the Authorized Share Increase and the filing of the Sixth Amendment to effectuate the Authorized Share Increase. On September 30, 2022, the Company filed the Sixth Amendment with the Secretary of State of the State of Delaware (the "DE Secretary of State"), and the Authorized Share Increase became effective in accordance with the terms of the Sixth Amendment immediately upon filing with the DE Secretary of State (the "Effective Time").

The Company is now authorized to issue a total number of 352,475,074 shares, of which 298,000,000 shares are common stock, 50,000,000 are non-voting common stock and 4,475,074 are preferred stock.

Reverse Stock Split

On September 3, 2021, the reverse stock split of the Company's issued and outstanding voting common stock at a ratio not less than 1-for-2 and not greater than 1-for-20 became effective. Upon effectivity, every three shares of the Company's issued and outstanding common stock immediately prior to the effective time shall automatically be reclassified into one share of common stock without any change in the par value.

On January 20, 2023, the Company approved a seventh amendment to the Company's Third Amended and Restated Certificate of Incorporation to effect a 1-for-75 reverse stock split of the Company's issued and outstanding shares of voting common stock, effective January 23, 2023. Upon effectivity, every seventy-five shares of the Company's issued outstanding common stock immediately prior to the effective time shall automatically be reclassified into one share of common stock without any change in the par value per share.

The reverse stock split reduces the number of shares of common stock issuable upon the conversion of the Company's outstanding non-voting common stock and the exercise or vesting of its outstanding stock options and warrants in proportion to the ratio of the reverse stock split and causes a proportionate increase in the conversion and exercise prices of such non-voting common stock, stock options and warrants. In addition, the number of shares reserved for issuance under the Company's equity compensation plans immediately prior to the effective time will be reduced proportionately. The reverse stock split did not change the total number of authorized shares of common stock or preferred stock.

At the Market Offering ("ATM")

December 2021 ATM Agreement

On December 10, 2021, the Company entered into an ATM Agreement ("December 2021 ATM Agreement") with Ladenburg, pursuant to which the Company may offer and sell, from time to time through Ladenburg, shares of common stock having an aggregate offering price of up to $15.0 million, subject to the terms and conditions of the December 2021 ATM Agreement. The offering will terminate upon the earlier of (i) December 10, 2024 and (ii) termination of the December 2021 ATM Agreement as permitted therein.

On February 2, 2022, the Company entered into an amendment to the December 2021 ATM Agreement, pursuant to which, the aggregate offering amount of the shares of the Company's common stock which the Company may sell and issue through Ladenburg, as the sales agent, was increased from $15.0 million to $75.0 million (the "ATM Upsize").

During the three months ended March 31, 2023, the Company issued an aggregate of 10,463,983 shares under the ATM Agreement for total net proceeds of $17.9 million.

Noncontrolling Interest

As a result of the merger on November 3, 2021 between Napo EU and Dragon SPAC, the Company assumed a non-controlling interest amounting to $242,000 as of December 31, 2021 which represents noncontrolling interest held by an investor in Napo Therapeutics.

During the three months ended March 31, 2023 and 2022, noncontrolling interest increased by $1.0 million and decreased by $178,000, respectively due to the additional investment and share in net comprehensive loss on Napo Therapeutics' financial performance.

11. Stock-based Compensation

2013 Equity Incentive Plan

In November 2013, the Company's board of directors and sole stockholder adopted the Jaguar Health, Inc. 2013 Equity Incentive Plan (the "2013 Plan"). The 2013 Plan allows the Company's board of directors to grant stock options, restricted stock awards and restricted stock unit awards to employees, officers, directors and consultants of the Company. Following the effective date of the IPO and after effectiveness of any grants under the 2013 Plan that were contingent on the IPO, no additional stock awards will be granted under the 2013 Plan. Outstanding grants continue to be exercisable, however, any unissued shares under the plan and any forfeitures of outstanding options do not rollover to the 2014 Stock Incentive Plan. There were no shares outstanding at March 31, 2023 and December 31, 2022.

2014 Stock Incentive Plan

Effective May 12, 2015, the Company adopted the Jaguar Health, Inc. 2014 Stock Incentive Plan ("2014 Plan"). The 2014 Plan provides for the grant of options, restricted stock and restricted stock units to eligible employees, directors and consultants to purchase the Company's common stock. The term of an incentive stock option may not exceed 10 years, except that with respect to any participant who owns more than 10% of the voting power of all classes or our outstanding stock, the term must not exceed 5 years. The 2014 Plan that provides for automatic share increases on the first day of each fiscal year in the amount of 2% of the outstanding number of shares of the Company's common stock on the last day of the preceding calendar year. The 2014 Plan replaced the 2013 Plan except that all outstanding options under the 2013 Plan remain outstanding until exercised, canceled or expired.

On April 13, 2022, the Board of Directors of the Company approved a Registration Statement to register an additional 2,417,660 shares of the Company's common stock for issuance pursuant to the awards granted under the 2014 Plan.

As of March 31, 2023, there were 26,357 options outstanding and 113,053 options available for grant. As of December 31, 2022, there were 26,533 options outstanding and 116,011 options available for grant.

2020 New Employee Inducement Award Plan

Effective June 16, 2020, the Company adopted the Jaguar Health, Inc. New Employee Inducement Award Plan ("2020 Inducement Award Plan") and, subject to the adjustment provisions of the Inducement Award Plan, reserved 166,666 shares of the Company's common stock for issuance pursuant to equity awards granted under the Inducement Award Plan. The term of an incentive stock option may not exceed 10 years, except that with respect to any participant who owns more than 10% of the voting power of all classes or our outstanding stock, the term must not exceed 5 years. The 2020 Inducement Award Plan provides for the grant of non-statutory stock options, restricted stock units, restricted stock, and performance shares. The 2020 Inducement Award Plan was adopted without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Listing Rules. The terms and conditions of the 2020 Inducement Award Plan are substantially similar to the Company's 2014 Stock Incentive Plan, but with such other terms and conditions intended to comply with the Nasdaq inducement award rules. In accordance with Rule 5635(c)(4) of the Nasdaq Listing Rules, the only persons eligible to receive grants of equity awards under the Inducement Award Plan are individuals who were not

previously an employee or director of the Company, or following a bona fide period of non-employment, as an inducement material to such persons entering into employment with the Company.

On April 13, 2022, the Board of Directors of the Company approved an amendment to the 2020 Inducement Award Plan to reserve an additional 471,833 shares of the Company's common stock for issuance pursuant to equity awards granted under the Inducement Award Plan, thereby increasing the number of shares of the Company's common stock issuable thereunder from 500,000 shares to 971,833 shares.

As of March 31, 2023, there were 1,534 options outstanding and 6,979 options available for grant. As of December 31, 2022, there were 1,546 options outstanding and 6,967 options available for grant. The Company authorized an additional 151,079 shares for the stock incentive plans.

Stock Options and Restricted Stock Units ("RSUs")

The following table summarizes the incentive plan activity for the three months ended March 31, 2023 and year ended December 31, 2022:

(in thousands, except share and per share data)	Shares Available for Grant	Stock Options Outstanding	RSUs Outstanding	Weighted Average Stock Option Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value*
Outstanding at January 1, 2022	8,417	33,286	6,499	$ 707.97	8.35	$ 3
Additional shares authorized	151,079	—	—	—		—
Options granted	(44)	44	—	23.46		—
Options exercised	—	—	—	—		—
Options canceled	5,251	(5,251)	—	418.34		—
RSUs granted	(41,725)	—	41,725	—		—
RSUs vested and released	—	—	(2,516)	—		—
RSUs cancelled	—	—	(843)	—		—
Outstanding at December 31, 2022	122,978	28,079	44,865	$ 592.73	7.19	$ —
Additional shares authorized	—	—	—	—	—	—
Options granted	—	—	—	—	—	—
Options exercised	—	—	—	—	—	—
Options canceled	188	(188)	—	330.46	—	—
RSUs granted	(3,133)	—	3,133	—	—	—
RSUs vested and released	—	—	—	—	—	—
RSUs cancelled	—	—	—	—	—	—
Outstanding at March 31, 2023	120,033	27,891	47,998	$ 594.50	6.95	$ —
Exercisable at March 31, 2023		26,549		$ 607.19	6.89	$ —
Vested and expected to vest at March 31, 2023		27,779		$ 595.49	6.95	$ —

*Fair market value of Jaguar stock on March 31, 2023 was $0.69 per share.

The intrinsic value is calculated as the difference between the exercise price of the underlying options and the fair market value of the Company's common stock for options that were in-the-money.

The number of options exercised during the three months ended March 31, 2023 and year ended December 31, 2022 were zero, respectively.

The weighted average grant date fair value of stock options granted was zero and $23.46 per share during the three months ended March 31, 2023, and for the year ended December 31, 2022, respectively.

The number of options that vested for the three months ended March 31, 2023 and for the year ended December 31, 2022 was 595 and 7,492, respectively. The grant date weighted average fair value of options that vested for the three months ended March 31, 2023, and for the year ended December 31, 2022 was $209.49 and $304.57, respectively.

Stock-Based Compensation

The following table summarizes stock-based compensation expense related to stock options, inducement stock options and RSUs for the three months ended March 31, 2023, and 2022, and are included in the unaudited condensed consolidated comprehensive loss as follows:

(in thousands)	Three Months Ended March 31, 2023	2022
Research and development expense	$ 227	$ 348
Sales and marketing expense	49	82
General and administrative expense	204	633
Total	$ 480	$ 1,063

As of March 31, 2023, the Company had $377,000 of unrecognized stock-based compensation expense for options, inducement options and restricted stock units outstanding, which is expected to be recognized over a weighted-average period of 1.08 years.

The fair value of options granted during the three months ended March 31, 2023, and 2022, respectively, were calculated using the range of assumptions set forth below:

	March 31, 2023 (unaudited)	December 31, 2022
Volatility	—	164.0%
Expected term (years)	—	5.0
Risk-free interest rate	—	3.2%
Expected dividend yield	—	—

401(k) Plan

The Company sponsors a 401(k) defined contribution plan covering all employees. There were no employer contributions to the plan from plan inception through March 31, 2023.

12. Net Loss Per Share

The following table presents the calculation of basic and diluted net loss per share of common stock for the periods indicated:

(In thousands, except share and per share data)	Three Months Ended March 31, 2023	2022
Net loss attributable to common stockholders (basic and diluted)	$ (12,202)	$ (17,986)
Shares used to compute net loss per common share, basic and diluted	5,109,609	778,512
Net loss per share attributable to common stockholders, basic and diluted	$ (2.39)	$ (23.10)

Basic net loss per share is calculated by dividing net loss by the weighted-average number of common shares outstanding during the period. Diluted net loss per share is computed by dividing net loss by the weighted-average number of common shares and common share equivalents outstanding for the period. Common stock equivalents are only included when their effect is dilutive. The Company's potentially dilutive securities which include stock options, convertible preferred stock, RSUs and common stock warrants have been excluded from the computation of diluted net

loss per share as they would be anti-dilutive. For all periods presented, there is no difference in the number of shares used to compute basic and diluted shares outstanding due to the Company's net loss position.

The following outstanding common stock equivalents have been excluded from diluted net loss per common share for the three months ended March 31, 2023, and December 31, 2022 because their inclusion would be anti-dilutive.

	March 31, 2023 (unaudited)	December 31, 2022
Options issued and outstanding	26,357	26,533
Inducement options issued and outstanding	1,534	1,546
Restricted stock units issued and outstanding	47,998	44,865
Warrants issued and outstanding	7,505	7,505
Total	83,394	80,449

As of March 24, 2023, there were 11,680,245 shares of common stock issued after the balance sheet date. Including these shares will have a material effect on the diluted net loss per common share in future periods.

13. Segment Data

The Company has two reportable segments-human health and animal health. The animal health segment is focused on developing and commercializing prescription and non-prescription products for companion and production animals. The human health segment is focused on developing and commercializing human products and the ongoing commercialization of Mytesi, which the U.S. FDA approves for the symptomatic relief of non-infectious diarrhea in adults with HIV/AIDS on antiretroviral therapy.

The Company's reportable segments net revenues and net loss for the three months ended March 31, 2023, and 2022 consisted of the following:

(in thousands)	Three Months Ended March 31, 2023	2022
Revenue from external customers		
Human Health	$ 1,927	$ 2,605
Animal Health	45	20
Consolidated Totals	$ 1,972	$ 2,625
Segment net loss		
Human Health	$ (6,539)	$ (9,967)
Animal Health	(5,858)	(8,197)
Consolidated Totals	$ (12,397)	$ (18,164)

The Company's reportable segments assets consisted of the following:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Segment assets		
Human Health	$ 41,124	$ 40,898
Animal Health	143,904	128,607
Total	$ 185,028	$ 169,505

The reconciliation of segments assets to the consolidated assets is as follows:

(in thousands)	March 31, 2023 (unaudited)	December 31, 2022
Total assets for reportable segments	$ 185,028	$ 169,505
Less: Investment in subsidiary	(29,232)	(29,232)
Less: Intercompany loan	(98,869)	(92,821)
Consolidated Totals	$ 56,927	$ 47,452

14. Subsequent Events

December 2021 ATM Agreement

Subsequent to March 31, 2023, the Company has issued an additional 3,019,477 shares under the December 2021 ATM Agreement with total net proceeds of approximately $1.7 million.

December 2020 Royalty Interest Exchange Agreement

On May 8, 2023, the Company entered into an exchange agreement with Irving to (i) partition a new royalty interest in the royalty repayment amount of $1,073,807 (“Partitioned Royalty”) from the royalty interest of the December 2020 Purchase Agreement and then cause the outstanding balance of the royalty interest to be reduced by an amount equal to the initial outstanding balance of the Partitioned Royalty, and (ii) exchange (“Royalty Exchange”) the Partitioned Royalty for 1,908,651 shares of the Company’s common stock with a par value of $0.0001 in accordance with the term of the December 2020 Royalty Interest Exchange Agreement. Under the terms of the December 2020 Royalty Interest Exchange Agreement, the Royalty Exchange will consist of Irving surrendering the Partitioned Royalty in exchange for the shares, free of any restrictive securities legend, and Irving shall give no consideration of any kind whatsoever to the Company in connection with the December 2020 Royalty Interest Exchange Agreement.

PIPE Purchase Agreement

On May 8, 2023, the Company entered into a Securities Purchase Agreement (the “PIPE Purchase Agreement”) with certain investors named therein (collectively the “Purchasers”), pursuant to which the Company agreed to issue and sell to the Purchasers in a private placement an aggregate of (i) 137 shares (the “Preferred Shares”) of Series G Convertible Preferred Stock, par value $0.0001 per share, of the Company (“Series G Preferred Stock”) and (ii) warrants to purchase up to 6,850,000 shares of the Company’s common stock, par value $0.0001 per share (“Common Stock”), at an exercise price of $0.48 per share (the “PIPE Warrants”), for an aggregate purchase price of approximately $1.86 million (the “Private Placement”). The Company intends to use the proceeds from the Private Placement for working capital and general corporate purposes.

Each share of Series G Preferred Stock is convertible into shares of Common Stock. The Series G Preferred Stock terms are set forth in a Certificate of Designation of Preferences, Rights, and Limitations of Series G Convertible Preferred Stock (the “Certificate of Designation”) filed with the Secretary of State of Delaware and effective on May 9, 2023.

The PIPE Warrants may be exercisable for cash or on a cashless basis at any time and from time to time during the period commencing on the later of (i) January 1, 2024, and (ii) the date on which the approval by the Company’s stockholders (the “Stockholder Approval”) to remove both the Voting Cap and the Conversion Cap (both as defined below) is obtained (the “Initial Exercise Date”) and ending on the five-year anniversary of the Initial Exercise Date.

On May 10, 2023, the Company issued warrants equivalent to 6,850,000 shares of the Company’s common stock in relation to the PIPE Purchase Agreement.

The PIPE Purchase Agreement provides that during the period commencing on the signing of the PIPE Purchase Agreement and ending October 22, 2023, the Company will not effect or enter into any agreement to (i) issue securities in exchange for any securities of the Company issued and outstanding on the date of the PIPE Purchase Agreement pursuant to Section 3(a)(9) of the Securities Act of 1933, as amended (the "Securities Act"), or (ii) effect issuance by the Company of Common Stock or Common Stock Equivalents, subject to certain customary exceptions set forth in the PIPE Purchase Agreement including, among others, issuance of shares of Common Stock pursuant to the At The Market Offering Agreement, dated December 10, 2021, by and between the Company and Ladenburg Thalmann & Co. Inc., as amended (the "Ladenburg Thalmann ATM"), provided that such issuance in the Ladenburg Thalmann ATM has consented.

Standstill Agreement

On May 8, 2023, the Company and NAPO Pharmaceuticals, Inc., a wholly-owned subsidiary of the Company, entered into a standstill agreement (the "Standstill Agreement") with Iliad and Streeterville with respect to four outstanding royalty interests issued by the Company to Investor dated October 8, 2020, December 22, 2020, March 8, 2021, and August 24, 2022, respectively (collectively, the "Royalty Interests").

Standstill Agreement provides that for a period beginning on the effective date of the Standstill Agreement (the "Effective Date") and ending on the earliest of: (1) the date that is six months following the Effective Date, (2) the date of the public announcement of the probability value (also known as the "P-value") on the primary endpoint in the Company's OnTarget Phase 3 clinical trial of crofelemer for prophylaxis of cancer therapy-related diarrhea, and (3) the date of any offering or sale of any debt or equity securities (or instruments convertible into equity securities), including without limitation any at-the-market ("ATM") offering, but excluding certain customary exceptions set forth in the Standstill Agreement including, among others, the Private Placement (the "Standstill Period"), (a) the Company may refrain from making the Royalty Payments (as defined in the transaction documents of the Royalty Interests), including any Royalty Payments due and payable as of the Effective Date, and (b) Investor will refrain from buying, selling, or otherwise trading in the Company's Common Stock (collectively, the "Standstill"); provided that no Events of Default (as defined in the Royalty Interests and in the outstanding secured promissory note issued by the Company to Streeterville dated January 19, 2021, as amended on October 17, 2022 (the "Note") occur under the Royalty Interests or the Note after the Effective Date.

Following the expiration or earlier termination of the Standstill Period: (i) the Company shall resume making Royalty Payments in accordance with the terms and conditions of the transaction documents of the Royalty Interests, and (ii) all restrictions applicable to Investor's buying, selling, or otherwise trading in the Company's Common Stock shall immediately and automatically terminate with no action required on the part of either Investor or Company.

As a material inducement and consideration for Investor's agreement to enter into the Standstill Agreement, the Company agreed to issue (i) Iliad warrants to purchase up to 826,738 shares of the Common Stock, (ii) Uptown warrants to purchase up to 1,097,756 shares of the Common Stock, and (iii) Streeterville warrants to purchase up to 1,892,808 shares of the Common Stock, at an exercise price of $0.48 per share (the "Standstill Warrants").

The Standstill Warrants may be exercisable for cash or on a cashless basis at any time and from time to time during the period commencing on the later of (i) January 1, 2024 and (ii) the date on which the Stockholder Approval is obtained (the "Standstill Warrant Initial Exercise Date") and ending on the five-year anniversary of the Standstill Warrant Initial Exercise Date.

Minimum Bid Price Requirement

On May 10, 2023, the Company received a letter from the Staff of Nasdaq indicating that the bid price for the Company's common stock for the last 30 consecutive business days had closed below the minimum $1.00 per share required for continued listing under Nasdaq Listing Rule 5550(a)(2).

Under Nasdaq Listing Rule 5810(c)(3)(A), the Company has been granted a 180-calendar day grace period, or until November 6, 2023, to regain compliance with the minimum bid price requirement. The continued listing standard

will be met if the Company evidences a closing bid price of at least $1.00 per share for a minimum of 10 consecutive business days during the 180 calendar-day grace period. In order for Nasdaq to consider granting the Company additional time beyond November 6, 2023, the Company would be required, among other things, to meet the continued listing requirement for the market value of publicly held shares as well as all other standards for initial listing on Nasdaq, with the exception of the minimum bid price requirement. If measured today, the Company would qualify for Nasdaq's consideration of an extension because the Company currently has stockholders' equity of at least $5 million. In the event the Company does not regain compliance with the $1.00 bid price requirement by November 6, 2023, eligibility for Nasdaq's consideration of a second 180-day day grace period would be determined on the Company's compliance with the above referenced criteria on November 6, 2023.

The Company is diligently working to evidence compliance with the minimum bid price requirement for continued listing on Nasdaq; however, there can be no assurance that the Company will be able to regain compliance or that Nasdaq will grant the Company a further extension of time to regain compliance, if necessary. If the Company fails to regain compliance with the Nasdaq continued listing standards, its common stock will be subject to delisting from Nasdaq.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of financial condition and results of operations should be read together with the unaudited condensed consolidated financial statements and the related notes included in Item 1 of Part I of this Quarterly Report on Form 10-Q, and with our audited consolidated financial statements and the related notes included in our Annual Report on Form 10-K as of and for the year ended December 31, 2022 which was filed to the SEC on March 24, 2023 and amended on April 28, 2023.

Overview

Jaguar Health, Inc. (“Jaguar” or the “Company”) is a commercial stage pharmaceuticals company focused on developing novel, plant-based, sustainably derived prescription medicines for people and animals with gastrointestinal (“GI”) distress, including chronic, debilitating diarrhea. Jaguar's wholly owned subsidiary, Napo Pharmaceuticals, Inc. (“Napo”), focuses on developing and commercializing proprietary plant-based human pharmaceuticals from plants harvested responsibly from rainforest areas. Our crofelemer drug product candidate is the subject of the OnTarget study, an ongoing pivotal Phase 3 clinical trial for prophylaxis of diarrhea in adult cancer patients receiving targeted therapy. As announced, Jaguar achieved a major milestone with completion of patient enrollment in OnTarget. Jaguar is the majority stockholder of Napo Therapeutics S.p.A. (“Napo Therapeutics”), an Italian corporation established by Jaguar in Milan, Italy in 2021 that focuses on expanding crofelemer access in Europe. Napo Therapeutics’ core mission is to provide access to crofelemer in Europe to address significant rare/orphan disease indications, including, initially, two key rare disease target indications: Short bowel syndrome (“SBS”) with intestinal failure and/or congenital diarrheal disorders (“CDD”). Jaguar Animal Health is a tradename of Jaguar Health.

Jaguar was founded in San Francisco, California as a Delaware corporation on June 6, 2013 (inception). The Company was a majority-owned subsidiary of Napo until the close of the Company's initial public offering on May 18, 2015. The Company was formed to develop and commercialize first-in-class prescription and non-prescription products for companion animals.

On July 31, 2017, Jaguar completed a merger with Napo pursuant to the Agreement and Plan of Merger dated March 31, 2017, by and among Jaguar, Napo, Napo Acquisition Corporation (“Merger Sub”), and Napo's representative (the “Merger Agreement”). In accordance with the terms of the Merger Agreement, upon the completion of the merger, Merger Sub merged with and into Napo, with Napo surviving as the wholly owned subsidiary (the “Merger” or “Napo Merger”). Immediately following the Merger, Jaguar changed its name from “Jaguar Animal Health, Inc.” to “Jaguar Health, Inc.” Napo now operates as a wholly owned subsidiary of Jaguar focused on human health including the ongoing development of crofelemer and commercialization of Mytesi.

Napo’s marketed drug Mytesi (crofelemer 125 mg delayed-release tablets) is a first-in-class oral botanical drug product approved by the U.S. Food and Drug Administration (“FDA”) for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy. To date, this is the only oral plant-based botanical prescription medicine approved under the FDA’s Botanical Guidance. The Company’s Canalevia-CA1 (crofelemer delayed-release tablets) drug is the first and only oral plant-based prescription product that is FDA conditionally approved to treat chemotherapy-induced diarrhea (“CID”) in dogs.

Crofelemer was granted ODD by the U.S. FDA in February 2023 for microvillus inclusion disease (“MVID”), a rare CDD condition, and granted ODD for MVID by the European Medicines Agency (“EMA”) in October 2022. Crofelemer was granted ODD for SBS by the EMA in December 2021 and by the FDA in August 2017. In 2023, Jaguar and Napo Therapeutics plan to support third-party investigator-initiated proof-of-concept (POC) studies of crofelemer in patients with SBS with intestinal failure or CDD, focused on obtaining POC data showing reduction of requirements of parenteral support, including parenteral nutrition and/or IV fluids. In accordance with the guidelines of specific European Union countries, publications of data from POC trials could support participation in early patient access programs for crofelemer for SBS or CDD, potentially in 2024, especially for patients with intestinal failure requiring parenteral support. Participation in early access programs, which do not exist in the United States, provides an opportunity for reimbursement while impacting the morbidity and high cost of care for these chronic unmet needs.

Napo Therapeutics is initiating efforts to commence clinical development of crofelemer in SBS patients in support of the company's key focus on leveraging the EMA's accelerated conditional marketing authorization pathway in Europe for these rare diseases. SBS affects approximately 10,000 to 20,000 people in the U.S., according to the Crohn's & Colitis Foundation, and it is estimated that the population of SBS patients in Europe is approximately the same size. Despite limited treatment options, the global SBS market exceeded $568 million in 2019 and is expected to reach $4.6 billion by 2027, according to a report by Vision Research Reports.

Most of the activities of the Company are focused on the development and/or commercialization of Mytesi, the ongoing clinical development of crofelemer for the prophylaxis of diarrhea in adult patients receiving targeted cancer therapy, and our prioritized clinical program centered around investigator-initiated POC trials of crofelemer for SBS and CDD.

In the field of animal health, we are continuing limited activities related to developing and commercializing first-in-class gastrointestinal products for dogs, dairy calves and foals.

Crofelemer is a novel, first-in-class anti-secretory antidiarrheal drug which has a normalizing effect on electrolyte and fluid balance in the gut, and this mechanism of action has the potential to benefit multiple disorders that cause gastrointestinal distress, including diarrhea and abdominal discomfort. Crofelemer is in development for multiple possible follow-on indications, including for our lead Phase 3 program in CTD, investigating prophylaxis of diarrhea related to targeted therapy with or without standard chemotherapy. Crofelemer delayed-release tablets are also being evaluated in diarrhea-predominant irritable bowel syndrome ("IBS-D") and idiopathic/functional diarrhea in investigator-initiated trials.

Crofelemer powder for oral solution is being developed to support orphan or rare disease indications for infants and/or children with SBS and/or CDD, such as MVID.

In addition, a second-generation proprietary anti-secretory antidiarrheal drug ("NP-300") is in development for symptomatic relief and treatment of moderate-to-severe diarrhea, with or without concomitant antimicrobial therapy, from bacterial, viral and parasitic infections including Vibrio cholerae, the bacterium that causes cholera. This program is being pursued with the potential targeted incentive from the FDA of a tropical disease priority review voucher.

In January 2023, Jaguar and Filament Health ("Filament"), with funding from One Small Planet, formed the U.S.-based joint venture Magdalena Biosciences, Inc. ("Magdalena"). Magdalena's focus is on the development of novel, natural prescription medicines derived from plants for mental health indications including, initially, attention-deficit/hyperactivity disorder ("ADHD") in adults. The goal of the collaboration is to extend the botanical drug development capabilities of Jaguar and Filament in order to develop pharmaceutical-grade, standardized drug candidates for mental health disorders, and to partner with a potential future licensee to develop and commercialize these novel plant-based drugs. This new venture aligns with Jaguar's mental health Entheogen Therapeutics Initiative ("ETI") and Filament's corporate mission to develop novel, natural prescription medicines from plants. Magdalena will leverage Jaguar's proprietary medicinal plant library and Filament's proprietary drug development technology. Jaguar's library of 2,300 highly characterized medicinal plants and 3,500 plant extracts, all from firsthand ethnobotanical investigation by Jaguar and members of the ETI Scientific Strategy Team, is a key asset we have generated over 30 years that bridges the knowledge of traditional healers and Western medicine. Magdalena holds an exclusive license to plants and plant extracts in Jaguar's library, not including any sources of crofelemer or NP-300, for specific indications and is in the process of identifying plant candidates in the library that may prove beneficial for addressing indications such as ADHD.

In December 2021, we received conditional approval from the FDA to market Canalevia-CA1 (crofelemer delayed-release tablets), our oral plant-based prescription drug and the only available veterinary drug for the treatment of chemotherapy-induced diarrhea ("CID") in dogs, and Canalevia-CA1 is now available to multiple leading veterinary distributors in the U.S. Canalevia-CA1 is a tablet that is given orally and can be prescribed for home treatment of CID. Canalevia-CA1 is conditionally approved by the FDA under application number 141-552. Conditional approval allows for commercialization of the product while Jaguar Animal Health continues to collect the substantial evidence of effectiveness required for full approval. We have received Minor Use in a Major Species ("MUMS") designation from the FDA for Canalevia-CA1 to treat CID in dogs. FDA has established a "small number" threshold for minor use in each of the seven major species covered by the MUMS act. The small number threshold is currently 80,000 for dogs,

representing the largest number of dogs that can be affected by a disease or condition over the course of a year and still have the use qualify as a minor use.

We believe Jaguar is poised to realize a number of synergistic, value adding benefits—an expanded pipeline of potential blockbuster human follow-on indications of crofelemer, and a second-generation anti-secretory agent—upon which to build global partnerships. Jaguar, through Napo, holds global unencumbered rights for crofelemer, Mytesi, and Canalevia-CA1. Additionally, several of the drug product opportunities in Jaguar's crofelemer pipeline are backed by Phase 2 and proof of concept evidence from human clinical trials.

Financial Operations Overview

On a consolidated basis, we have not yet generated enough revenue to date to achieve break even or positive cash flows, and we expect to continue to incur significant research and development and other expenses. Our net loss was $12.4 million and $18.2 million for the three months ended March 31, 2023, and 2022, respectively. As of March 31, 2023, we had a total stockholders' equity of $7.7 million, an accumulated deficit of $279.2 million, and cash of $14.4 million. We expect to continue to incur losses and experience increased expenditures for the foreseeable future as we expand our product development activities, seek necessary approvals for our product candidates, conduct species-specific formulation studies for our non-prescription products, establish API manufacturing capabilities and begin additional commercialization activities.

Revenues

Our product and collaboration revenue consist of the following:

- Revenues from the sale of our human drug Mytesi, which is sold through distributors and wholesalers and specialty pharmacies.

- Revenues from the sale of our animal products branded as Canalevia-CA1, Neonorm Calf and Neonorm Foal. Our Canalevia-CA1, Neonorm and botanical extract products are primarily sold to distributors, who then sell the products to the end customers.

- Our policy typically permits returns if the product is damaged, defective, or otherwise cannot be used when received by the customer if the product has expired. Returns are accepted for product that will expire within six months or that have expired up to one year after their expiration dates. Estimates for expected returns of expired products are based primarily on an ongoing analysis of our historical return patterns.

See "Results of Operations" below for more detailed discussion on revenues.

Cost of Revenue

Cost of revenue consists of direct drug substance and drug product materials expense, direct labor, distribution fees, royalties and other related expenses associated with the sale of our products.

Research and Development Expense

Research and development expenses consist primarily of clinical and contract manufacturing expense, personnel and related benefits expense, stock-based compensation expense, employee travel expense, and reforestation expenses. Clinical and contract manufacturing expense consists primarily of costs to conduct stability, safety and efficacy studies, and manufacturing startup at an outsourced API provider in Italy. It also includes expenses with a third-party provider for the transfer of the Mytesi manufacturing process, and the related feasibility and validation activities.

We typically use our employee and infrastructure resources across multiple development programs. We track outsourced development costs by prescription drug product candidate and non-prescription product and we track personnel or other internal costs related to development to specific programs or development compounds.

The timing and amount of our research and development expenses will depend largely upon the outcomes of current and future trials for our prescription drug product candidates as well as the related regulatory requirements, the outcomes of current and future species-specific formulation studies for our non-prescription products, manufacturing costs and any costs associated with the advancement of our line extension programs. We cannot determine with certainty the duration and completion costs of the current or future development activities.

The duration, costs and timing of trials, formulation studies and development of our prescription drug and non-prescription products will depend on a variety of factors, including:

- the scope, rate of progress, and expense of our ongoing, as well as any additional clinical trials, formulation studies and other research and development activities;
- future clinical trial and formulation study results;
- potential changes in government regulations; and
- the timing and receipt of any regulatory approvals.

A change in the outcome of any of these variables with respect to the development of a prescription drug product candidate or non-prescription product could mean a significant change in the costs and timing associated with our development activities.

We expect research and development expense to increase due to the start-up costs associated with our clinical trials for other indications.

Sales and Marketing Expense

Sales and marketing expenses consist of personnel and related benefits expense, stock-based compensation expense, direct sales and marketing expense, employee travel expense, and management consulting expense. We currently incur sales and marketing expenses to promote Mytesi. We do not have significant marketing or promotional expenses related to Neonorm Calf or Neonorm Foal for the three months ended March 31, 2023, and 2022.

We expect sales and marketing expense to increase going forward as we focus on expanding our market access activities and commercial partnerships for the development of follow-on indications of Mytesi and crofelemer.

General and Administrative Expense

General and administrative expenses consist of personnel and related benefits expense, stock-based compensation expense, employee travel expense, legal and accounting fees, rent and facilities expense, and management consulting expense.

In the near term, we expect general and administrative expense to remain flat as we focus on our pipeline development and market access expansion. This will include efforts to grow the business.

Interest Expense

Interest expense consists primarily of non-cash and cash interest costs related to our borrowings.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles ("U.S. GAAP"), requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures in the consolidated financial statements. Critical accounting policies are those accounting policies that may be material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change, and that have a material impact on financial condition or operating performance. While we base our estimates and judgments on our experience and on various other factors that we believe to be reasonable under the circumstances, actual results may differ from these estimates under different assumptions or conditions. Our significant accounting policies are described in Note 2 of the unaudited condensed consolidated financial statements. Our critical accounting policies and estimates were described in Part II, Item 7, Critical Accounting Policies and Estimates, in our Annual Report on Form 10-K for the year ended December 31, 2022.

Results of Operations

Comparison for the three months ended March 31, 2023 and 2022

The following table summarizes the Company's results of operations with respect to the items set forth in such table for the three months ended March 31, 2023 and 2022 together with the change in such items in dollars and as a percentage.

	Three Months Ended March 31,			
(in thousands)	2023	2022	Variance	Variance %
Product revenue	$ 1,972	$ 2,625	$ (653)	(24.9)%
Operating Expenses				
Cost of product revenue	345	455	(110)	(24.2)%
Research and development	4,775	4,945	(170)	(3.4)%
Sales and marketing	1,884	2,835	(951)	(33.5)%
General and administrative	4,813	6,144	(1,331)	(21.7)%
Total operating expenses	11,817	14,379	(2,562)	(17.8)%
Loss from operations	(9,845)	(11,754)	1,909	(16.2)%
Interest expense	(2,181)	(4,194)	2,013	(48.0)%
Loss on extinguishment of debt	—	(2,815)	2,815	(100.0)%
Change in fair value of financial instruments and hybrid instrument designated at Fair Value Option	(359)	(233)	(126)	54.1 %
Other income (expense)	(12)	832	(844)	(101.4)%
Loss before income tax	(12,397)	(18,164)	5,767	(31.7)%
Income tax expense	—	—	—	100.0 %
Net loss	(12,397)	(18,164)	5,767	(31.7)%
Net loss attributable to noncontrolling interest	(195)	(178)	(17)	9.6 %
Net loss attributable to common stockholders	$ (12,202)	$ (17,986)	$ 5,784	(32.2)%

Revenue

Product revenue

We transitioned from selling to the wholesalers that resell the product to retail pharmacies to the closed Specialty Pharmacy distribution networks throughout the year 2021 and we fully transitioned in the fourth quarter of the year 2022. The transition caused a one-time inventory draw-down of Mytesi across our third-party logistics warehouse, wholesalers, distributors, and retail stores. This significantly contributed to the decrease of $598,000 of Mytesi gross revenue.

Sales discounts were $303,000 and $320,000 for the three months ended March 31, 2023 and 2022, respectively, a decrease of $27,000, in line with our switch to the closed Specialty Pharmacy distribution network. No wholesaler fees were recognized for the three months ended March 31, 2023.

Medicaid and AIDS Drug Assistance Program ("ADAP") rebates accounted for $560,000 and $504,000 for the three months ended March 31, 2023 and 2022, respectively, an increase of $56,000 primarily due to the WAC decrease implemented by the Company which resulted in lower government rebates from Medicaid, ADAP, public health services programs.

Due to the Company's arrangements, including elements of variable consideration, gross product sales are reduced in order to reflect the expected consideration to arrive at net product sales. Deductions to reduce gross product sales to net product sales for the three months ended March 31, 2023 and 2022 were as follows:

	Three Months Ended March 31,			
(in thousands)	2023	2022	Variance	Variance %
Gross product sales				
Mytesi	$ 2,797	$ 3,395	$ (598)	(17.6)%
Canalevia	28	44	(16)	(36.4)%
Neonorm	18	20	(2)	(10.0)%
Total gross product sales	2,843	3,459	(616)	(17.8)%
Medicaid rebates	(560)	(504)	(56)	11.1 %
Sales discounts	(303)	(320)	17	(5.3)%
Sales returns	(8)	(10)	2	(20.0)%
Wholesaler fee	—	—	—	— %
Net product sales	$ 1,972	$ 2,625	$ (653)	(24.9)%

Our gross product revenues were $2.8 million and $3.5 million for the three months ended March 31, 2023 and 2022, respectively. These periods reflect revenue from the sale of our human drug Mytesi and our animal products branded as Neonorm Calf and Neonorm Foal.

Our Canalevia product was recently launched in 2022 with revenues of $28,000 and $44,000 for the three months ended March 31, 2023 and 2022, respectively. Sales and marketing expenses for Canalevia products are not significant during 2023.

Our Neonorm product revenues were $18,000 and $20,000 the three months ended March 31, 2023 and 2022, respectively. Sales and marketing expenses for Neonorm products are not significant during 2023 and during the same period in 2023.

Cost of Product Revenue

(in thousands)	Three Months Ended March 31, 2023	2022	Variance	Variance %
Cost of Product Revenue				
Material cost	$ 188	$ 250	$ (62)	(24.8)%
Direct labor	282	162	120	74.1 %
Royalties	—	8	(8)	(100.0)%
Distribution fees	(2)	7	(9)	(128.6)%
Other	(123)	28	(151)	(539.3)%
Total	$ 345	$ 455	$ (110)	(24.2)%

The change in cost of product revenue of $110,000 for the month three months ended March 31, 2023 compared to 2022 was primarily due to:

- Direct labor increased $120,000 from $162,000 for the three months ended March 31 2022 to $282,000 in 2023, due to increased resources in manufacturing.
- Material cost decreased $62,000 from $250,000 for the three months ended March 31, 2022 to $188,000 in 2023, due to decreased in materials used in manufacturing.
- Other costs decreased $151,000 from $28,000 for the three months ended March 31, 2022 to negative $123,000 in the same period in 2023 due to additions in write-offs of non-conforming inventory.

Research and Development

The following table presents the components of research and development (“R&D”) expense for the three months ended March 31, 2023 and 2022 together with the change in such components in dollars and as a percentage:

(in thousands)	Three Months Ended March 31, 2023	2022	Variance	Variance %
Research and Development:				
Clinical and contract manufacturing	$ 2,247	$ 1,645	$ 602	36.6 %
Personnel and related benefits	1,448	2,002	(554)	(27.7)%
Stock-based compensation	227	348	(121)	(34.8)%
Materials expense and tree planting	96	71	25	35.2 %
Travel, other expenses	60	21	39	185.7 %
Other	697	858	(161)	(18.8)%
Total	$ 4,775	$ 4,945	$ (170)	(3.4)%

The decrease in R&D expense of $170,000 for the three months ended March 31, 2023 compared to the same period in 2022 was largely due to:

- Personnel and related benefits decreased $554,000 from $2.0 million for the three months ended March 31, 2022 to $1.4 million in the same period in 2023 due to the lesser headcount.

- Clinical and contract manufacturing expenses increased $602,000 from $1.6 million for the three months ended March 31, 2022 to $2.2 million in the same period in 2023 largely due to increased clinical trial activities related to start-up of CTD and other indications, additional CMC manufacturing, consulting and contractors' expenses, and cholera/lechlemer research expenses.

- Stock-based compensation decreased $121,000 from $348,000 in the n three months ended March 31, 2022 to $227,000 in the same period in 2023 primarily due to lesser options and RSUs granted during the period as compared to 2022.

- Materials expense and tree planting increased $25,000 from $71,000 for the three months ended March 31, 2022 to $96,000 in the same period in 2023 primary due to higher number of activities involving tree planting activities.

- Travel, and other expenses increased $39,000 from $21,000 for the three months ended March 31, 2022 to $60,000 in the same period in 2023 primarily due to more travel activities with the clinical trials.

- Other expenses consisting of consulting, formulation and regulatory fees decreased $161,000 from $858,000 for the three months ended March 31, 2022 to $697,000 in the same period in 2023.

Sales and Marketing

The following table presents the components of sales and marketing ("S&M") expense for the three months ended March 31, 2023, and 2022 together with the change in such components in dollars and as a percentage:

	Three Months Ended March 31,			
(in thousands)	2023	2022	Variance	Variance %
Sales and Marketing:				
Personnel and related benefits	$ 893	$ 1,157	$ (264)	(22.8)%
Direct marketing fees and expense	565	1,101	(536)	(48.7)%
Stock-based compensation	49	82	(33)	(40.2)%
Other	377	495	(118)	(23.8)%
Total	$ 1,884	$ 2,835	$ (951)	(33.5)%

The decrease in S&M expense of $951,000 for the three months ended March 31, 2023 compared to the same period in 2022 was largely due to:

- Direct marketing fees and expenses decreased $536,000 from $1.1 million for the three months ended March 31, 2022 to $565,000 in the same period in 2023 due to decreased patient access programs and other Mytesi marketing initiatives.

- Personnel and related benefits decreased $264,000 from $1.2 million for the three months ended March 31, 2022 to $893,000 in the same period in 2023 due to decrease in headcount in sales and marketing.

- Stock-based compensation decreased $33,000 from $82,000 for the three months ended March 31, 2022 to $49,000 in the same period in 2023 primarily due to fewer options and RSUs granted during the period.

- Other expenses decreased $118,000 from $495,000 for the three months ended March 31, 2022 to $377,000 in the same period in 2023 due to lower consulting and contractor services and a greater number of travels for sales and marketing personnel.

General and Administrative

The following table presents the components of general and administrative ("G&A") expense for the three months ended March 31, 2023, and 2022 together with the change in such components in dollars and as a percentage:

(in thousands)	Three Months Ended March 31, 2023	2022	Variance	Variance %
General and Administrative:				
Personnel and related benefits	$ 1,210	$ 1,794	$ (584)	(32.6)%
Public company expense	489	748	(259)	(34.6)%
Stock-based compensation	204	633	(429)	(67.8)%
Legal services	711	522	189	36.2 %
Third-party consulting services	142	378	(236)	(62.4)%
Audit, tax and accounting services	316	232	84	36.2 %
Travel, other expenses	75	157	(82)	(52.2)%
Rent and lease expense	209	115	94	81.7 %
Other	1,457	1,565	(108)	(6.9)%
Total	$ 4,813	$ 6,144	$ (1,331)	(21.7)%

The decrease in G&A expenses of $1.3 million for the three months ended March 31, 2023 compared to the same period in 2022 was largely due to:

- Personnel and related benefits decreased $584,000 from $1.8 million for the three months ended March 31, 2022 to $1.2 million in the same period in 2023 due to lower headcount.
- Public company expense decreased $259,000 from $748,000 for the three months ended March 31, 2022 to $489,000 in the same period in 2023 due less investor relations and communications consulting expenses, and no expense related to the annual shareholder meeting.
- Stock-based compensation decreased $429,000 from $633,000 for the three months ended March 31, 2022 to $204,000 in the same period in 2023 primarily due to fewer options and RSUs granted during the period.
- Audit, tax and accounting services fees increased $84,000 from $232,000 for the three months ended March 31, 2022 to $316,000 in the same period in 2023 mostly due to accounting services made during the period.
- Rent and lease expense increased $94,000 from $115,000 for the three months ended March 31, 2022 to $209,000 in the same period in 2023 primarily due to increase in fees related to occupancy of new spaces and use of vehicles.
- Travel, and other expenses decreased $82,000 from $157,000 for the three months ended March 31, 2022 to $75,000 in the same period in 2023.
- Other expenses decreased $108,000 from $1.6 million for the three months ended March 31, 2022 to $1.5 million in the same period in 2023 due to lower consulting and contractual fees, compliance expense and dues and subscription fees.

Interest Expense, net

Interest expense decreased $2.0 million from $4.2 million for the three months ended March 31, 2022 to $2.2 million for the same period in 2023 primarily due to interest expense incurred on royalty interest agreements and Exchange Note 2.

Change in Fair Value of Financial Instruments and Hybrid Instrument Designated at FVO

Change in fair value of financial instrument and hybrid instrument designated at FVO decreased $126,000 from a loss of $233,000 for the three months ended March 31, 2022, to a loss of $359,000 for the same period in 2023 primarily due to fair value adjustments in liability classified warrants and notes payable designated at FVO.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred net losses since our inception. For the three months ended March 31, 2023, and 2022, we had net losses of $12.4 million and $18.2 million, respectively. We expect to incur additional losses in the near-term future. At March 31, 2023, we had an accumulated deficit of $279.2 million. To date, we have generated only limited revenue, and we may never achieve revenue sufficient to offset our expenses.

We had cash of $14.4 million as of March 31, 2023. We do not believe our current capital is sufficient to fund our operating plan through one year from the issuance of these unaudited condensed consolidated financial statements.

We have funded our operations primarily through the issuance of debt and equity securities, in addition to sales of our commercial products. Cash provided by financing activities for the three months ended March 31, 2023, were generated from the issuance of an aggregate of 10,463,983 shares of common stock under the ATM Agreement for total net proceeds of $17.9 million.

The Company also raised an additional net proceeds of $_____ from the issuance of _____ shares of common stock under the ATM agreement between April 1, 2023 and May _____, 2023

We expect our expenditures will continue to increase as we continue our efforts to develop our products and continue development of our pipeline in the near term. We may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. We may also not be successful in entering into partnerships that include payment of upfront licensing fees for our products and product candidates for markets outside the United States, where appropriate. If we do not generate upfront fees from any anticipated arrangements, it would have a negative effect on our operating plan. We still plan to finance our operations and capital funding needs through equity and/or debt financing as well as revenue from future product sales. However, there can be no assurance that additional funding will be available to us on acceptable terms on a timely basis, if at all, or that we will generate sufficient cash from operations to adequately fund operating needs or ultimately achieve profitability. If we are unable to obtain an adequate level of financing needed for the long-term development and commercialization of our products, we will need to curtail planned activities and reduce costs. Doing so will likely have an adverse effect on our ability to execute on our business plan.

Cash Flows for the Three Months Ended March 31, 2023 Compared to Three Months Ended March 31, 2022

The following table shows a summary of cash flows for the three months ended March 31, 2023, and 2022:

	Three Months Ended March 31,	
(in thousands)	2023	2022
Total cash used in operating activities	$ (9,945)	$ (7,695)
Total cash used in investing activities	—	—
Total cash provided by financing activities	18,811	8,150
Effects of foreign exchange rate changes on assets and liabilities	32	(50)
Net increase in cash	$ 8,898	$ 405

Cash Used in Operating Activities

During the three months ended March 31, 2023, net cash used in operating activities of $9.9 million resulted from our net comprehensive loss of $12.7 million adjusted by the amortization of debt discounts and debt issuance costs of $1.3 million, stock-based compensation of $480,000, depreciation and amortization expenses of $504,000, change in fair value of financial instrument and hybrid instrument designated at FVO of $359,000, amortization of operating lease right-of-use asset of $47,000, shares issued in exchange of services of $166,000, equity in net loss in joint venture of $31,000 and changes in operating assets and liabilities of $179,000.

Cash Used in Investing Activity

During the three months ended March 31, 2023, cash used in investing activities is zero.

Cash Provided by Financing Activities

During the three months ended March 31, 2023, net cash provided by financing activities of $18.8 million consisted of $17.9 million in net proceeds from shares issued in an At the Market offering and non-controlling interest of $1.2 million, offset by $236,000 repayment of insurance financing, and $50,000 in principal payments of the notes payable.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Our management, Chief Executive Officer and Principal Financial and Accounting Officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2023. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Principal Financial and Accounting Officer, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and Principal Financial and Accounting Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of March 31, 2023.

Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) and 15d-15(c) under the Exchange Act. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of the effectiveness of internal control to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate. Under the supervision and with the participation of our management, including our Chief Executive Officer and Principal Financial and Accounting Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of March 31, 2023, using the criteria established in Internal Control-Integrated Framework (“2013 Framework”) issued by the Committee of Sponsoring Organization of the Treadway Commission (“COSO”). Based on our evaluation using those criteria, our management has concluded that, as of March 31, 2023, our internal control over financial

reporting was effective 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 for the reasons discussed above.

This Quarterly Report on Form 10-Q does not include an attestation report of our registered public accounting firm on our internal control over financial reporting because we are a smaller reporting company and are not subject to auditor attestation requirements under applicable SEC rules.

There were no changes in our internal control over financial reporting that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. — OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Regardless of the outcome, litigation can have a material adverse effect on us due to defense and settlement costs, diversion of our management resources, and other factors. We are not currently subject to any material legal proceedings.

Item 1A. Risk Factors

The following discussion of risk factors contains forward-looking statements. These risk factors may be important to understanding other statements in this Quarterly Report on Form 10-Q, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our unaudited condensed consolidated financial statements and related notes, before making a decision to invest in our common stock. The risks and uncertainties described below are not the only ones we face. Additional risk and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. If any of the events or circumstances described in the following risk factors actually occur, our business, operating results, financial condition, cash flows, and prospects could be materially and adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment.

The business, financial condition and operating results of the Company can be affected by a number of factors, whether currently known or unknown, including but not limited to those described below, any one or more of which could, directly or indirectly, cause the Company’s actual financial condition and operating results to vary materially from past, or from anticipated future, financial condition and operating results. Any of these factors, in whole or in part, could materially and adversely affect the Company’s business, financial condition, operating results, and stock price.

Because of the following factors, as well as other factors affecting the Company’s financial condition and operating results, past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

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

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit No.	Description
3.1	Certificate of Seventh Amendment of the Third Amended and Restated Certificate of Incorporation of Jaguar Health, Inc. (incorporated by reference to Exhibit 3.1 to the Form 8-K of Jaguar Health, Inc. filed January 23, 2023, File No. 001-36714).
3.2	Amended and Restated Bylaws of Jaguar Health, Inc. (incorporated by reference to Exhibit 3.2 to the Form 8-K of Jaguar Health, Inc. filed May 18, 2015, File No. 001-36714).
3.3	First Amendment to the Amended and Restated Bylaws of Jaguar Health, Inc. (incorporated by reference to Exhibit 3.1 to the Form 8-K of Jaguar Health, Inc. filed March 18, 2022, File No. 001-36714).
3.4	Certificate of Designation of Preferences, Rights and Limitations of Series G Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Form 8-K of Jaguar Health, Inc. filed May 9, 2023, File No. 001-36714).
4.1	Form of Warrant (incorporated by reference to Exhibit 4.1 to the Form 8-K of Jaguar Health, Inc. filed May 9, 2023, File No. 001-36714).
10.1	Mutual Termination of License Agreement, dated January 31, 2023, by and among Jaguar Health, Inc., SynWorld Technologies Corporation, C&E Telecom, LTD, and Tao Wang (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed on February 6, 2023, File No. 001-36714).
10.2	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed May 9, 2023, File No. 001-36714).
10.3	Standstill Agreement, dated May 8, 2023, by and among Iliad Research and Trading, L.P., Uptown Capital, LLC, Streeterville Capital, LLC, Jaguar Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.2 to the Form 8-K of Jaguar Health, Inc. filed May 9, 2023, File No. 001-36714).
31.1*	Principal Executive Officer's Certification Pursuant to Section 302 of the Sarbanes- Oxley Act of 2002.
31.2*	Principal Financial Officer's Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification Pursuant to 18 U.S.C. § 1350 (Section 906 of Sarbanes-Oxley Act of 2002).
32.2**	Certification Pursuant to 18 U.S.C. § 1350 (Section 906 of Sarbanes-Oxley Act of 2002).
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Filed herewith.

** In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release No. 34 47986, the certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Form 10 Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or deemed to be incorporated by reference into any filing under the Exchange Act or the Securities Act of 1933 except to the extent that the registrant specifically incorporates it by reference.

Portions of this exhibit have been omitted pursuant to Item 601 of Regulation S-K promulgated under the Securities Act because the information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

SIGNATURE

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.

Date: May 15, 2023

JAGUAR HEALTH, INC.

By: /s/ Carol R. Lizak
Principal Financial and Accounting Officer

Exhibit 31.1

PRINCIPAL EXECUTIVE OFFICER'S CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Lisa A. Conte, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Jaguar Health, Inc. for the quarter ended March 31, 2023;

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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 15, 2023

/s/ Lisa A. Conte
Lisa A. Conte
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

PRINCIPAL FINANCIAL OFFICER'S CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Carol Lizak, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Jaguar Health, Inc. for the quarter ended March 31, 2023;

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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 15, 2023

/s/ Carol Lizak
Carol Lizak
Principal Financial and Accounting Officer

Exhibit 32.1

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 of Jaguar Health, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to such officer's 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.

Date: May 15, 2023

/s/ Lisa A. Conte
Lisa A. Conte
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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 of Jaguar Health, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to such officer's 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.

Date: May 15, 2023

/s/ Carol Lizak
Carol Lizak
Principal Financial and Accounting Officer