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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2018

OR

o **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.)

201 Mission Street, Suite 2375
San Francisco, California 94105
(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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

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

Large accelerated filer o	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company x Emerging growth company x

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

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

As of August 13, 2018, there were 9,528,103 shares of voting common stock, par value $0.0001 per share, outstanding, 40,301,237 shares of non-voting common shares, par value $0.0001 per share, outstanding, and 5,524,926 shares of convertible preferred stock outstanding, par value $0.0001 per

share.

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PART I. — FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 2018 (Unaudited)	December 31, 2017 [1]
Assets		
Current assets:		
Cash	$ 2,411,473	$ 520,698
Restricted cash	—	239,169
Accounts receivable, net	583,612	467,658
Other receivable	70,456	1,380
Inventory, net	2,844,505	2,072,817
Prepaid expenses and other current assets	966,084	497,373
Total current assets	6,876,130	3,799,095
Land, property and equipment, net	1,198,424	1,222,068
Goodwill	5,210,821	5,210,821
Intangible assets, net	32,553,889	33,397,222
Other assets	317,000	—
Total assets	$ 46,156,264	$ 43,629,206
Liabilities, Convertible Preferred Stock and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,000,748	$ 7,354,932
Deferred revenue	—	177,389
Accrued expenses	2,636,460	2,204,133
Warrant liability	74,471	103,860
Derivative liability	8,000	11,000
Conversion option liability	—	111,841
Convertible notes payable, net of discount	660,022	2,672,215
Notes payable, net of discount	3,990,104	1,141,153
Current portion of long-term debt	—	1,609,244
Total current liabilities	12,369,805	15,385,767
Convertible long-term debt, net of discount	10,768,163	10,982,437
Total liabilities	$ 23,137,968	$ 26,368,204
Commitments and Contingencies (See Note 6)		
Series A convertible preferred stock: $0.0001 par value, 10,000,000 shares authorized at June 30, 2018 and December 31, 2017; 5,524,926 and 0 shares issued and outstanding at June 30, 2018 and December 31, 2017; (liquidation preference of $9,199,002 at June 30, 2018)	$ 9,000,002	$ —

Stockholders' Equity:		
Common stock: $0.0001 par value, 150,000,000 shares and 250,000,000 authorized at June 30, 2018 and December 31, 2017, respectively; 8,736,579 and 4,180,484 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively.	874	418
Common stock - non-voting: $0.0001 par value, 50,000,000 shares authorized at June 30, 2018 and December 31, 2017; 40,301,237 and 42,617,893 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively.	4,030	4,262
Additional paid-in capital	89,771,932	79,661,044
Accumulated deficit	(75,758,542)	(62,404,722)
Total stockholders' equity	14,018,294	17,261,002
Total liabilities, convertible preferred stock and stockholders' equity	$ 46,156,264	$ 43,629,206

(1) The condensed consolidated balance sheet at December 31, 2017 is derived from the audited consolidated financial statements at that date included in the Company's Form 10-K filed with the Securities and Exchange Commission on April 9, 2018.

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

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JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Product revenue	$ 883,846	$ 61,445	$ 1,510,813	$ 135,989
Collaboration revenue	—	835,076	$ 177,389	1,582,942
Total revenue	883,846	896,521	1,688,202	1,718,931
Operating Expenses				
Cost of product revenue	608,024	24,762	1,072,185	40,907
Research and development expense	1,604,886	926,791	2,362,752	2,182,243
Sales and marketing expense	2,690,262	157,231	4,402,452	280,143
General and administrative expense	3,059,748	2,137,990	6,058,148	5,441,493
Total operating expenses	7,962,920	3,246,774	13,895,537	7,944,786
Loss from operations	(7,079,074)	(2,350,253)	(12,207,335)	(6,225,855)
Interest expense	(711,802)	(156,129)	(1,313,824)	(336,201)
Other income	15,204	—	312,704	1,448
Change in fair value of warrants and conversion option liability	118,489	700,740	(145,365)	247,321
Loss on extinguishment of debt	—	—	—	(207,713)
Net loss	(7,657,183)	(1,805,642)	(13,353,820)	(6,521,000)
Deemed dividend attributable to preferred stock	(995,000)	—	(995,000)	—
Net loss attributable to common shareholders	$ (8,652,183)	$ (1,805,642)	$ (14,348,820)	$ (6,521,000)
Net loss per share — basic and diluted	$ (0.76)	$ (1.84)	$ (1.43)	$ (6.78)
Weighted average shares outstanding, basic and diluted	11,375,433	979,621	10,010,862	961,821

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

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JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED STATEMENT OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

(Unaudited)

	Series A Convertible Preferred Stock		Common Stock - Voting		Common Stock - Non-voting		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount			
Balances - December 31, 2017	—	$ —	4,180,484	$ 418	42,617,893	$ 4,262	$ 79,661,044	$ (62,404,722)	$ 17,261,002
Issuance of preferred stock and common stock in a private investment in	5,524,926	9,000,002	1,960,794	196	—	—	4,999,804	—	5,000,000

public entities March 2018									
Beneficial conversion feature of the series A convertible preferred stock	—	(995,000)	—	—	—	—	995,000	—	995,000
Deemed dividend on the series A convertible preferred stock	—	995,000	—	—	—	—	(995,000)	—	(995,000)
Issuance of common stock in a private investment in public entities with new investors	—	—	716,425	72	—	—	1,305,702	—	1,305,774
Issuance of common stock in a private investment in public entities with existing investors	—	—	478,853	48	—	—	750,052	—	750,100
Issuance of common stock in exchange for redemption of convertible debt	—	—	956,553	96	—	—	1,607,325	—	1,607,421
Issuance of common stock in exchange for services	—	—	3,333	—	—	—	6,425	—	6,425
Issuance of common stock in exchange for payment of interest expense	—	—	285,694	29	—	—	704,696	—	704,725
Conversion of non-voting common stock to voting common stock	—	—	154,443	15	(2,316,656)	(232)	217	—	—
Fractional common stock shares repurchased	—	—	—	—	—	—	(30)	—	(30)
Stock-based compensation	—	—	—	—	—	—	736,697	—	736,697
Net loss	—	—	—	—	—	—	—	(13,353,820)	(13,353,820)
Balances - June 30, 2018	5,524,926	$ 9,000,002	8,736,579	$ 874	40,301,237	$ 4,030	$ 89,771,932	$ (75,758,542)	$ 14,018,294

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

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

	Six Months Ended	
	June 30, 2018	June 30, 2017
Cash Flows from Operating Activities		
Net loss	$ (13,353,820)	$ (6,521,000)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	659,230	30,062
Interest paid on the conversion of debt to equity	59,737	—
Common stock issued in exchange for services rendered	6,425	—
Loss on extinguishment of debt	—	207,713
Stock-based compensation	736,697	444,170
Amortization of debt issuance costs and debt discount	817,927	180,670
Change in fair value of warrants and extinguishment of the conversion option liability	(141,230)	(247,321)
Change in fair value of derivative liability	(3,000)	—
Changes in assets and liabilities		

Accounts receivable	(115,954)	(7,228)
Other receivable	(69,075)	(197,876)
Inventory	(771,688)	16,579
Prepaid expenses and other assets	(785,711)	(57,807)
Deferred offering costs	—	61,780
Accounts payable	(2,354,183)	2,909,770
Accrued expenses	473,522	184,864
Due from former parent	—	77,624
Deferred collaboration revenue	(177,389)	1,451,789
Total cash used in operations	(15,018,512)	(1,466,211)
Cash Flows from Investing Activities		
Purchase of equipment	(6,527)	—
Total cash used in investing activities	(6,527)	—
Cash Flows from Financing Activities		
Proceeds from issuance of long-term debt	2,310,000	—
Repayment of long-term debt	(1,689,200)	(991,749)
Proceeds from issuance of convertible debt	—	1,700,000
Proceeds from issuance of common stock in a private investment in public entities June 2016	—	2,071,317
Issuance costs associated with the issuance of common stock in a private investment in public entities June 2016	—	(61,781)
Proceeds from issuance of common stock in a private investment in public entities June 2017	—	50,000
Issuance costs associated with the proceeds from the issuance of common stock in a private investment in public entities June 2017	—	(3,000)
Proceeds from issuance of common stock through a stock purchase agreement with a new private investor	1,305,774	—
Proceeds from the issuance of common stock in a private investment in public entities with existing investors	750,100	—
Proceeds from the issuance of common stock in a private investment in public entities March 2018	5,000,000	—
Proceeds from the issuance of convertible preferred stock in private investment in public entities March 2018	9,199,002	—
Issuance costs associated with the issuance of convertible preferred stock in a private investment in public entities March 2018	(199,000)	—
Fractional common stock shares repurchased	(30)	—
Total Cash Provided by Financing Activities	16,676,646	2,764,787
Net increase in cash and restricted cash	1,651,607	1,298,576
Cash and restricted cash at beginning of period	759,866	1,462,272
Cash and restricted cash at end of period	$ 2,411,473	$ 2,760,848
Supplemental Schedule of Non-Cash Financing and Investing Activities		
Interest paid on long-term debt	$ 19,344	$ —
Common stock issued as redemption of Jaguar notes payable and related interest	$ 1,153,408	$ —
Common stock issued as redemption of Napo notes payable and related interest	$ 1,158,738	$ —
Deemed dividend attributable to preferred stock	$ 995,000	$ —

Cash and Restricted Cash:

	June 30, 2018	June 30, 2017
Cash	$ 2,411,473	$ 2,760,848
Restricted cash	—	—
Total cash and restricted cash	$ 2,411,473	$ 2,760,848

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

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JAGUAR HEALTH, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Business

Jaguar Health, Inc. (“Jaguar”, “we” or the “Company”), formerly known as Jaguar Animal Health, Inc., was incorporated on June 6, 2013 (inception) in Delaware. The Company was a majority-owned subsidiary of Napo Pharmaceuticals, Inc. (“Napo” or the “Former Parent”) 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 gastrointestinal products for companion and production animals and horses. The Company’s first commercial product, Neonorm Calf, was launched in 2014 and Neonorm Foal was launched in the first quarter of 2016. The Company’s activities are subject to significant risks and uncertainties, including failing to secure additional funding in order to timely compete the development and commercialization of products.

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 our 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 and the ongoing commercialization of Mytesi, a Napo drug product approved by the U.S. FDA for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy.

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

Reverse stock-split

On May 18, 2018, the stockholders of Jaguar approved at the 2018 Annual Meeting of Stockholders of the Company and the Board approved, in accordance with the authority granted by the Company's stockholders at the Annual Meeting, a 1-for-15 reverse stock split of the Company's issued and outstanding shares of Common Stock, effective June 1, 2018. The reverse split has been reflected in all voting common stock, warrants, and common stock option shares disclosed in these financial statements. The non-voting common stock and the convertible preferred stock were excluded from the reverse split.

Liquidity

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. The Company has incurred recurring operating losses since inception and has an accumulated deficit of $75,758,542 as of June 30, 2018. The Company expects to incur substantial losses in future periods. Further, the Company's future operations are dependent on the success of the Company's ongoing development and commercialization efforts, as well as the securing of additional financing. There is no assurance that profitable operations, if ever achieved, could be sustained on a continuing basis.

The Company plans to finance its operations and capital funding needs through equity and/or debt financing, collaboration arrangements with other entities, as well as revenue from future product sales. However, there can be no assurance that additional funding will be available to the Company on acceptable terms on a timely basis, if at all, or that the Company will generate sufficient cash from operations to adequately fund operating needs or ultimately achieve profitability. If the Company is unable to obtain an adequate level of financing needed for the long-term development and commercialization of its products, the Company will need to curtail planned activities and reduce costs. Doing so will likely have an adverse effect on the Company's ability to execute on its business plan. These matters raise substantial doubt about the ability of the Company to continue in existence as a going concern within one year after the issuance date of the financial statements. The accompanying financial statements do not include any adjustments that might result from the outcome of these uncertainties.

In June 2016, the Company entered into a Common Stock Purchase Agreement with a private investor (the "CSPA"), which provides that, upon the terms and subject to the conditions and limitations set forth therein, the investor is committed to purchase up to an aggregate of $15.0 million of the Company's common stock over the approximately 30-month term of the agreement. Through June 30, 2018 the Company sold 6,000,000 shares for gross cash proceeds of $5,063,785. The CSPA limited the number of shares that the Company can sell thereunder to 2,027,490 shares, which equals 19.99% of the Company's outstanding shares as of the date of the CSPA (such limit, the "19.99% exchange cap"), unless either (i) the Company obtains stockholder approval to issue more than such 19.99% exchange cap or (ii) the average price paid for all shares of the Company's common stock issued under the CSPA is equal to or greater than $1.32 per share (the closing price on the date the CSPA was signed), in either case in compliance with Nasdaq Listing Rule 5635(d).

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At the 2017 Annual Stockholders' Meeting on May 8, 2017, the Company's stockholders voted on the approval, pursuant to Nasdaq Listing Rule 5635(d), of the issuance of an additional 3,555,514 shares of the Company's common stock under the CSPA, which when combined with the 2,444,486 shares that the Company has already sold pursuant to the CSPA, equals an aggregate of 6,000,000 shares.

2. Summary of Significant Accounting Policies

Basis of Presentation

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC"). Our unaudited condensed financial statements reflect all adjustments, which are, in the opinion of management, necessary for a fair presentation of our financial position and results of operations. Such adjustments are of a normal recurring nature, unless otherwise noted. The balance sheet as of June 30, 2018 and the results of operations for the three and six months ended June 30, 2018 are not necessarily indicative of the results to be expected for the entire year. These interim unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2017. The condensed consolidated balance sheet at December 31, 2017 has been derived from the audited consolidated financial statements at that date, but does not include all disclosures, including notes, required by GAAP for complete financial statements.

There have been no material changes to the Company's significant accounting policies during the three and six months ended June 30, 2018, as compared to the significant accounting policies described in Note 2 of the "Notes to Financial Statements" in the Company's Annual Report on Form 10-K for the year ended December 31, 2017 except for the adoption of new revenue recognition standard pursuant to ASC 606 as of January 1, 2018 as described in more detail below.

Principles of Consolidation

The consolidated financial statements have been prepared in accordance with US GAAP and applicable rules and regulations of the Securities and Exchange Commission ("SEC") and include the accounts of the Company and its wholly owned subsidiary. All inter-company transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of the accompanying condensed financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the condensed financial statements, and the reported amounts of revenue and expenses during the periods reported. Actual results could differ from those estimates.

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 insurance limits. The carrying value of cash approximates fair value at June 30,

2018 and December 31, 2017.

Through June 30, 2018, substantially all of the Company's product revenue has been derived from the sale of Mytesi. The Company earned Mytesi revenue primarily from three major pharmaceutical distributors in the United States, each of which amounted to a percentage of total net revenue of at least 10%. Revenue earned from each as a percentage of total net revenue follow:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Customer 1	34%	—%	33%	—%
Customer 2	29%	—%	30%	—%
Customer 3	27%	—%	28%	—%
	90%	—%	91%	—%

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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. The Company's significant pharmaceutical distributors and their related accounts receivable balance as a percentage of total accounts receivable were as follows:

	June 30, 2018	December 31, 2017
Customer 1	32%	31%
Customer 2	31%	35%
Customer 3	26%	30%

No other customer represented more than 10% of the Company's accounts receivable balances as of those dates.

The Company is subject to credit risk from its inventory suppliers. The Company sources drug substance from a single supplier and drug product from a single supplier.

Goodwill and Indefinite-lived Intangible Assets

Goodwill is tested for impairment on an annual basis and in between annual tests if events or circumstances indicate that an impairment loss may have occurred. The test is based on a comparison of the reporting unit's book value to its estimated fair market value. The Company performs the annual impairment test during the fourth quarter of each fiscal year using the opening consolidated balance sheet as of the first day of the fourth quarter, with any resulting impairment recorded in the fourth quarter of the fiscal year.

If the carrying value of a reporting unit's net assets exceeds its fair value, the goodwill would be considered impaired and would be reduced to its fair value. The goodwill was entirely allocated to the human health reporting unit as the goodwill relates to the Napo Merger. The decline in market capitalization during the year ended December 31, 2017 was determined to be a triggering event for potential goodwill impairment. Accordingly the Company performed the goodwill impairment analysis. The Company utilized the market capitalization plus a reasonable control premium in the performance of its impairment test. The market capitalization was based on the outstanding shares and the average market share price for the 30 days prior to December 31, 2017. Based on the results of the Company's impairment test, the Company recorded an impairment charge of $16,827,000 during the year ended December 31, 2017. If the market capitalization decreases in the future, a reasonable possibility exists that goodwill could be further impaired in the near term and that such impairment may be material to the financial statements.

Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions, estimates and market factors. Estimating the fair value of individual reporting units and indefinite-lived intangible assets requires us to make assumptions and estimates regarding our future plans, as well as industry and economic conditions. These assumptions and estimates include projected revenues and income growth rates, terminal growth rates, competitive and consumer trends, market-based discount rates, and other market factors. If current expectations of future growth rates are not met or market factors outside of our control, such as discount rates, change significantly, this may lead to a further goodwill impairment in the future.

Acquired in-process research and development (IPR&D) are intangible assets 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. We booked an impairment of $2,300,000 in the year ended December 31, 2017. The impairment loss is measured based on the excess of the carrying amount over the asset's fair value. The loss resulted from the Company's termination of the clostridium dificil infection program.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers ("ASC 606"), which was adopted on January 1, 2018, using the modified retrospective method, which was elected to apply to all active contracts as of the adoption date. Application of the modified retrospective method did not impact amounts previously reported by the Company, nor did it require a cumulative effect adjustment upon adoption, as the Company's method of recognizing revenue under ASC 606 yielded similar results to the method utilized immediately prior to adoption. Accordingly, there was no effect to each financial statement line item as a result of applying the new revenue standard.

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Practical Expedients, Elections, and Exemptions

The Company recognizes revenue in accordance with the core principal 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 used a practical expedient available under ASC 606-10-65-1(f)4 that permits us to consider the aggregate effect of all contract modifications that occurred before the beginning of the earliest period presented when identifying satisfied and unsatisfied performance obligations, transaction price, and allocating the transaction price to the satisfied and unsatisfied performance obligations.

The Company also used a practical expedient available under ASC 606-10-32-18 that permits it to 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

Napo entered into a Marketing and Distribution Agreement ("M&D Agreement") with BexR Logistix, LLC ("BexR" or "Mission Pharmacal" or "Mission"), in April 2016 to appoint BexR as its distributor with the right to market and sell, and the exclusive right to distribute Mytesi (formerly Fulyzaq) in US. The term of the M&D Agreement is 4 years. The M&D Agreement will renew automatically for successive one year terms unless either party provides a written notice of termination not less than 90 days prior to the expiration of the initial or subsequent terms. Napo retains control of Mytesi held at Mission.

Napo sells Mytesi through Mission, who then sells Mytesi to its distributors and wholesalers — McKesson, Cardinal Health, AmerisourceBergen Drug Corporation ("ABC"), HD Smith, Smith Drug and Publix (together "Distributors"). Mission sells Mytesi to their Distributors, on behalf of Napo, under agreements executed by Mission with these Distributors and Napo abides by the terms and conditions of sales agreed to between Mission and their Distributors. Health care providers order Mytesi through pharmacies who obtain Mytesi through Mission's Distributors. Napo considers Mission as the sales agent and the Distributors of Mission as its customers.

Mission's Distributors are the customers of the Company with respect to purchase of Mytesi. The M&D Agreement with Mission, Mission's agreement with its Distributors and the related purchase order will together meet the contract existence criteria under ASC 606-10-25-1.

Jaguar's Neonorm and Botanical extract products are primarily sold to distributors, who then sell the products to the end customers. Since 2014, the Company has entered into several distribution agreements with established distributors such as Animart, Vedco, VPI, RJ Matthews, Henry Schein, and Stockmen Supply to distribute the Company's products in the United States, Japan, and China. The distribution agreements and the related purchase order together meet the contract existence criteria under ASC 606-10-25-1. Jaguar sells directly to its customers without the use of an agent.

Performance obligations

For the products sold by each of Napo and Jaguar, the single performance obligation identified above is the Company's promise to transfer the Company's product Mytesi to Distributors based on specified payment and shipping terms in the arrangement. Product warranties are assurance type warranties that does not represent a performance obligation.

Transaction price

For both Jaguar and Napo, the transaction price is the amount of consideration to which the Company expects to collect in exchange for transferring promised goods or services to a customer. The transaction price of Mytesi and Neonorm is the Wholesaler Aquisition Cost ("WAC"), net of discounts, returns, and price adjustments. The transaction price of the products represents a form of variable consideration for which the Company uses the expected value method to calculate the expected consideration the Company is entitled to. Historical results and management experience in estimating returns and discounts allows the Company to overcome the variable consideration constraints in its calculation of the expected consideration.

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Allocate transaction price

For both Napo and Jaguar, the entire transaction price is allocated to the single performance obligaton contained in each contract.

Point in time recognition

For both Napo and Jaguar, a 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.

Disaggregation of Product Revenue

Human

Sales of Mytesi are recognized as revenue when the products are delivered to the wholesalers. Net revenues from the sale of Mytesi were $854,170 and $1,437,439 in the three and six months ended June 2018 and $0 in the same pre-merger periods in 2017.

Animal

The Company recognized Neonorm revenues of $29,676 and $61,445 for the three months ended June 30, 2018 and 2017, and $73,374 and $105,989 for the six months ended June 30, 2018 and 2017, respectively. Botanical Extract revenues were $0 in the three months ended June 30, 2018 and

2017, and $0 and $30,000 in the six months ended June 30, 2018 and 2017, respectively. Revenues are recognized upon shipment which is when title and control is transferred to the buyer . Sales of Neonorm Calf and Foal to distributors are made under agreements that may provide distributor price adjustments and rights of return under certain circumstances.

Collaboration Revenue

On January 27, 2017, the Company entered into a licensing, development, co-promotion and commercialization agreement with Elanco US Inc. ("Elanco") to license, develop and commercialize Canalevia, the Company's drug product candidate under investigation for treatment of acute and chemotherapy-induced diarrhea in dogs, and other drug product formulations of crofelemer for treatment of gastrointestinal diseases, conditions and symptoms in cats and other companion animals. Under the terms of the agreement, the Company received an initial non-refundable upfront payment of $2,548,689, inclusive of reimbursement of past product and development expenses of $1,048,689, which was recognized as revenue ratably over the estimated development period of one year resulting in revenue of $0 and $835,076 in the three months ended June 30, 2018 and 2017, and $177,389 and $1,582,942 in revenue in the six months ended June 30, 2018 and 2017, respectively.

On November 1, 2017, the Company received a letter from Elanco serving as formal notice of their decision to terminate the agreement by giving the Company 90 days written notice. According to the agreement, termination became effective on January 30, 2018.

Comprehensive Loss

Comprehensive loss is defined as changes in stockholders' equity exclusive of transactions with owners (such as capital contributions and distributions). There was no difference between net loss and comprehensive loss for the three and six months ended June 30, 2018 and 2017.

Segment Data

Prior to the merger with Napo, the Company managed its operations as a single segment for the purposes of assessing performance and making operating decisions. The Company reorganized their segments to reflect the change in the organizational structure resulting from the merger with Napo. Post-merger with Napo, the Company manages its operations through two segments. 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 of human products and the ongoing commercialization of Mytesi™, which is approved by the U.S. FDA for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy.

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The Company's reportable segments net revenues and net loss consisted of:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Revenue				
Human Health	$ 854,170	$ —	$ 1,437,439	$ —
Animal Health	29,676	896,521	250,763	1,718,931
Consolidated Totals	$ 883,846	$ 896,521	$ 1,688,202	$ 1,718,931
Segment net loss				
Human Health	$ (4,474,324)	$ —	$ (7,373,630)	$ —
Animal Health	(3,182,859)	(1,805,642)	(5,980,190)	(6,521,000)
Total	$ (7,657,183)	$ (1,805,642)	$ (13,353,820)	$ (6,521,000)

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, *Leases*. Under the new guidance, lessees will be required to recognize substantially all leases on the balance sheet as a right-of-use asset and recognize a corresponding lease liability. The accounting applied by a lessor is largely unchanged from that applied under previous U.S. GAAP. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently evaluating the impact of this accounting standard on our financial position, results of operation or cash flows.

3. Business Combination

As discussed in Note 1—Organization and Business, the Company completed a merger with Napo on July 31, 2017. Napo now operates as a wholly-owned subsidiary of Jaguar focused on human health and the ongoing commercialization of Mytesi, a Napo drug product approved by the U.S. FDA for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy.

The merger was accounted for under the acquisition method of accounting for business combinations and Jaguar was considered to be the acquiring company. Under the acquisition method of accounting, total consideration exchanged was:

	(Unaudited)
Fair value of Jaguar common stock	$ 25,303,859
Fair value of Jaguar common stock warrants	630,859
Fair value of replacement restricted stock units	3,300,555
Fair value of replacement stock options	5,691
Cash	2,000,000
Effective settlement of receivable from Napo	464,295
Total consideration exchanged	$ 31,705,259

The purchase price allocation to assets and liabilities assumed in the transaction was:

Current assets	$	2,578,114
Non-current assets		396,247
Identifiable intangible assets		36,400,000
Current liabilities		(4,052,180)
Convertible notes		(12,473,501)
Deferred tax liability		(13,181,242)
Net assets acquired		9,667,438
Goodwill on acquisition		22,037,821
Total consideration	$	31,705,259

Under the acquisition method of accounting, certain identifiable assets and liabilities of Napo including identifiable intangible assets, inventory, debt and deferred revenue were recorded based on their estimated fair values as of the effective time of the Napo Merger. Tangible and other assets and liabilities were valued at their respective carrying amounts, which management believes approximated their fair values.

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Acquired intangible assets included Developed Technology (DT) related to the development and commercial processing of Mytesi™ (crofelemer 125mg delayed-release tablets), which is an antidiarrheal indicated for the symptomatic relief of noninfectious diarrhea in adult patients with HIV/AIDS on antiretroviral therapy. The DT is a definite lived asset and is being amortized over a 15-year estimated useful life.

The acquired trademarks include Mytesi product trademark, domain names, and other brand related intellectual property. Trademark is a definite lived asset and is being amortized over a 15-year estimated useful life.

The acquired IPR&D projects relate to developing the proprietary technology into a commercially viable product for the several follow-on indications related to formulations of crofelemer. Crofelemer is in development for rare disease indications for infants and children with congenital diarrheal disorders (CDD) and short bowel syndrome (SBS), and for irritable bowel syndrome (IBS). These indications have completed some studies of clinical testing for safety and/or proof of concept efficacy at the time of the merger and the projects were determined to have substance. IPR&D is not amortized during the development period and is tested for impairment at least annually, or more frequently if indicators of impairment are identified. The Company terminated development of the indication for C. difficile infection (CDI) in Q4 2017. This indication was included as part of IPR&D at the time of the merger, and an impairment loss of $2,300,000 was recorded in Q4 2017 as a result of the decision to abandon the project in favor of the prioritization of the following: Mytesi is in development for follow-on indications in cancer therapy-related diarrhea (CTD), an important supportive care indication for patients undergoing primary or adjuvant therapy for cancer treatment; as supportive care for post-surgical inflammatory bowel disease patients (IBD); and as a second-generation anti-secretory agent for use in cholera patients. These indications did not have substance at the time of the merger and were not recognized as an asset apart from Goodwill.

The fair value of IPR&D, trademark, and DT was determined using the income approach, which was based on forecasts prepared by management.

The Napo Merger resulted in $22,037,821 of goodwill relating principally to synergies expected to be achieved from the combined operations and planned growth in new markets. Goodwill has been allocated to the human health segment.

As none of the goodwill, IPR&D, and developed technology acquired are expected to be deductible for income tax purposes, it was determined that a deferred income tax liability of $14,498,120 was required to reflect the book to tax differences of the merger. A deferred tax asset of $1,316,878 was accounted for as an element of consideration for the replacement share-based payment awards as the replacement awards are expected to result in a future tax deduction.

The Company valued convertible debt assumed in the Napo Merger based on the value of the debt and the conversion option at $12,473,501 (see note 8). The Company incurred total acquisition related costs of $3,554,250. The acquisition related costs includes the fair value of $151,351 for 270,270 shares of Company's common stock issued to a former creditor of Napo towards reimbursement of acquisition related costs. Acquisition related costs were expensed as incurred to general and administrative expenses in the condensed consolidated statements of operations.

Unaudited Proforma Information

The following table provides unaudited proforma results, prepared in accordance with ASC 805, for the three and six months ended June 30, 2017, as if Napo was acquired on January 1, 2016.

	Three Months Ended June 30, 2017		Six Months Ended June 30, 2017	
Net sales	$	1,300,232	$	2,640,776
Net loss	$	(7,312,831)	$	(14,959,855)
Net loss per share, basic and diluted	$	(7.46)	$	(15.55)

The unaudited proforma results include adjustments to eliminate the interest on Napo's historical convertible debt not assumed by Jaguar and debt exchanged for Jaguar common stock, record interest on convertible debt assumed by Jaguar, eliminate Napo impairment of investment in related party, and eliminate Napo's loss from investment in related party. The Company made proforma adjustments to exclude the acquisition related costs for the three and six months ended June 30, 2017 because such costs are nonrecurring and are directly related to the Napo Merger.

Unaudited pro forma amounts are not necessarily indicative of results had the Napo Merger occurred on January 1, 2017 or of future results.

4. 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—Quoted prices in active markets for identical assets or liabilities;
- Level 2—Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data; and
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The following table presents information about the Company’s derivative, conversion option and warrant liabilities that were measured at fair value on a recurring basis as of June 30, 2018 and December 31, 2017 and indicates the fair value hierarchy of the valuation:

	June 30, 2018			
	Level 1	Level 2	Level 3	Total
Warrant liability	$ —	$ —	$ 74,471	$ 74,471
Derivative liability	—	—	8,000	8,000
Conversion option liability	—	—	—	—
Total fair value	$ —	$ —	$ 82,471	$ 82,471

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Warrant liability	$ —	$ —	$ 103,860	$ 103,860
Derivative liability	—	—	11,000	11,000
Conversion option liability	—	—	111,841	111,841
Total fair value	$ —	$ —	$ 226,701	$ 226,701

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

	Six Months Ended June 30, 2018		
	Warrant liability	Derivative Liability	Conversion Option Liability
Beginning fair value of level 3 liability	$ 103,860	$ 11,000	$ 111,841
Extinguishment	—	—	(286,595)
Change in fair value of level 3 liability	(29,389)	(3,000)	174,754
Ending fair value of level 3 liability	$ 74,471	$ 8,000	$ —

Warrant Liability

The warrants associated with the level 3 liability were issued in 2016. The $103,860 valuation at December 31, 2017 was computed using the Black-Scholes-Merton pricing model using a stock price of $0.1398, the strike price was $0.75 per share, the expected life was 4.41 years, the volatility was 96.36% and the risk free rate was 2.14%. The $74,471 valuation at June 30, 2018 was computed using the Black-Scholes-Merton pricing model using a stock price of $1.42, the strike price was $11.25 per share, the expected life was 3.91 years, the volatility was 113.87% and the risk free rate was 2.68%. The resulting $29,389 gain is included in change in fair value of warrants in the statements of operations.

Derivative Liability

The derivative liability associated with the level 3 liability were associated with the June 2017 issuance of a convertible note payable. The Company computed fair values at the date of issuance of $15,000 and $5,000 for the repayment and the interest rate increase feature, respectively, using the Binomial Lattice Model, which was based on the generalized binomial option pricing formula. The $20,000 combined fair value was carved out and is included as a derivative liability on the Balance Sheet. The derviatives were revalued at December 31, 2017 using the same Model resulting in a combined fair value of $11,000. The derivatives were revalued again at June 30, 2018 using the same Model resulting in a combined fair value of $8,000. The resulting $3,000 gain is included in other income and expense in the Company’s statements of operations.

Conversion Option Liability

In March 2017, Napo entered into an exchangeable note purchase agreement with two lenders for the funding of face amount of $1,312,500 in two $525,000 tranches of face amount $656,250. The Company assumed the notes at fair value of $1,312,500 as part of the Napo Merger. In December 2017, Napo amended the exchangeable note purchase agreement to extend the maturity of the first tranche and second tranche of notes to February 15, 2018 and April 1, 2018, respectively, increase the principal amount by 12%, and reduce the conversion price from $0.56 per share to $0.20 per share. The Company also issued 2,492,084 shares of common stock to the lenders in connection with this amendment to partially redeem $299,050 from the first tranche of the notes. The optional conversion option in the notes was bifurcated and accounted as a derivative liability at its fair value of $111,841 using the Black-Scholes-

Merton model and the following criteria: stock price of $0.14 per share, conversion prices of $0.20 per share, expected life of 0.13 to 0.25 years, volatility of 86.29% to 160.78%, risk free rate of 1.28% to 1.39% and dividend rate of 0%. The $111,841 was included in conversion option liability on the balance sheet and in loss on extinguishment of debt on the statements of operations. The fair value of the conversion option liability was again revalued at March 23, 2018 using the Black-Scholes-Merton model using the following criteria: stock price of $0.21 per share, expected life of 0.11 years, volatility of 288.16%, risk free rate of 1.69% and dividend rate of 0%, resulting in an increase of $174,754 to the fair value of the conversion option liability and included in the change in fair value of warrants and conversion option liability in the statements of operations. The underlying debt was paid off in March of 2018 and the $286,595 conversion option liability was written off to other income in the statements of operations.

5. Balance Sheet Components

Goodwill

The change in the carrying amount of goodwill at June 30, 2018 and December 31, 2017 was as follows:

	June 30, 2018	December 31, 2017
Beginning balance	$ 5,210,821	$ —
Goodwill acquired in conjunction with the Napo merger	—	22,037,821
Impairment	—	(16,827,000)
Ending balance	$ 5,210,821	$ 5,210,821

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Intangible assets

Intangible assets at June 30, 2018 and December 31, 2017 consisted of the following:

	June 30, 2018	December 31, 2017
Developed technology	$ 25,000,000	$ 25,000,000
Accumulated developed technology amortization	(1,527,778)	(694,445)
Developed technology, net	23,472,222	24,305,555
In process research and development	8,800,000	11,100,000
Impairment	—	(2,300,000)
	8,800,000	8,800,000
Trademarks	300,000	300,000
Accumulated trademark amortization	(18,333)	(8,333)
Trademarks, net	281,667	291,667
Total intangible assets, net	$ 32,553,889	$ 33,397,222

Amortization expense was $421,667 and $843,333 in the three and six months ended June 30, 2018, respectively and $0 in the three and six months ended June 30, 2017.

6. Commitments and Contingencies

Effective July 1, 2015, the Company leases its San Francisco, California headquarters under a non-cancelable sub-lease agreement that expires August 31, 2018. The Company provided cash deposits of $122,163, consisting of a security deposit of $29,539 and prepayment of the last three months of the lease of $92,623, which are included in prepaid expenses and other current assets on the Company's balance sheet. Future minimum lease payments under non-cancelable operating leases as of June 30, 2018 are $62,083 due in 2018.

The Company recognizes rent expense on a straight-line basis over the non-cancelable lease period. Rent expense under the non-cancelable operating lease was $90,278 and $180,556 for the three and six months ended June 30, 2018, respectively and $90,278, and $180,556 for the three and six months ended June 30, 2017, respectively. Rent expense is included in general and administrative expense in the statements of operations.

Asset transfer and transition commitment

On September 25, 2017, Napo entered into the Termination, Asset Transfer and Transition Agreement dated September 22, 2017 with Glenmark Pharmaceuticals Ltd. ("Glenmark"). As a result of the agreement, Napo 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, Napo agrees to pay Glenmark 25% of any payment it receives from a third party to whom Napo grants a license or sublicense or with whom Napo 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 million. No payments have been made to date.

Revenue sharing commitment

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 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. Upon termination for any reason, the Company remains obligated to make Revenue Sharing Payments to SEED until the end of 2018. No payments have been made to date.

Purchase Commitment

As of June 30, 2018, the Company had issued non-cancelable purchase orders to a vendor for $1.6 million, which will be filled in the period August through December 2018.

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Legal Proceedings

On July 20, 2017, a putative class action complaint was filed in the United States District Court, Northern District of California, Civil Action No. 3:17-cv-04102, by Tony Plant (the "Plaintiff") on behalf of shareholders of the Company who held shares on June 30, 2017 and were entitled to vote at the 2017 Special Shareholders Meeting, against the Company and certain individuals who were directors as of the date of the vote (collectively, the "Defendants"), in a matter captioned Tony Plant v. Jaguar Animal Health, Inc., et al., making claims arising under Section 14(a) and Section 20(a) of the Exchange Act and Rule 14a-9, 17 C.F.R. § 240.14a-9, promulgated thereunder by the SEC. The claims allege false and misleading information provided to investors in the Joint Proxy Statement/Prospectus on Form S-4 (File No. 333-217364) declared effective by the Commission on July 6, 2017 related to the solicitation of votes from shareholders to approve the merger and certain transactions related thereto. The Company accepted service of the complaint and summons on behalf of itself and the United States-based director Defendants on November 1, 2017. The Company has not accepted service on behalf of, and Plaintiff has not yet served, the non-U.S.-based director Defendants. On October 3, 2017, Plaintiff filed a motion seeking appointment as lead plaintiff and appointment of Monteverde & Associates PC as lead counsel. That motion has been granted. Plaintiff filed an amended complaint against the Company and the United States-based director Defendants on January 10, 2018. If the Plaintiff were able to prove its allegations in this matter and to establish the damages it asserts, then an adverse ruling could have a material impact on the Company. However, the Company disputes the claims asserted in this putative class action case and is vigorously contesting the matter. The Defendants filed a motion to dismiss on March 12, 2018, for which oral arguments were held on June 14, 2018. The court has not yet ruled on the motion. The Company believes that it is not probable that an asset has been impaired or a liability has been incurred as of the date of the financial statements and the amount of any potential loss is not reasonably estimable.

Other than as described above, there are currently no claims or actions pending against us, the ultimate disposition of which could have a material adverse effect on our results of operations, financial condition or cash flows.

Contingencies

From time to time, the Company may be involved in legal proceedings (other than those noted above) arising in the ordinary course of business. The Company believes there is no litigation pending that could have, individually or in the aggregate, a material adverse effect on the financial position, results of operations or cash flows.

7. Debt and Warrants

Convertible Notes

Convertible notes at June 30, 2018 and December 31, 2017 consist of the following:

	June 30, 2018	December 31, 2017
February 2015 convertible notes payable	$ —	$ 150,000
June 2017 convertible note payable	703,586	1,613,089
Napo convertible notes	10,768,163	12,153,389
	$ 11,471,749	$ 13,916,478
Less: unamortized debt discount and debt issuance costs	(43,564)	(261,826)
Net convertible notes payable obligation	$ 11,428,185	$ 13,654,652
Convertible notes payable — non-current	$ 10,768,163	$ 10,982,437
Convertible notes payable - current	$ 660,022	$ 2,672,215

Interest expense on the convertible notes for the three and six months ended June 30, 2018 and 2017 follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
February 2015 convertible note nominal interest	$ (2,958)	$ 4,438	$ 1,480	$ 4,438
June 2017 convertible note nominal interest	14,465	—	33,329	—
June 2017 convertible note accretion of debt discount	119,338	—	238,261	—
Napo convertible note nominal interest	145,303	—	251,194	—
Total interest expense on convertible debt	$ 276,148	$ 4,438	$ 524,264	$ 4,438

Interest expense is classified as such in the statements of operations.

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February 2015 Convertible Note

In February 2015, the Company issued convertible promissory notes to two accredited investors in the aggregate principal amount of $250,000. These notes were issued pursuant to the convertible note purchase agreement dated December 23, 2014. In March of 2018, the debtor agreed to accept the Company's common stock as payment for all outstanding principal and interest. And in April of 2018, the Company issued 2,034,082 shares of common stock to pay off the principal and interest balance.

June 2017 Convertible Note

On June 29, 2017, the Company issued a secured convertible promisorry note to Chicago Venture Partners, L.P. ("CVP") in the aggregate principal amount of $2,155,000 less an original issue discount of $425,000 and less $30,000 to cover the lender's legal fees for net cash proceeds of $1,700,000. Interest on the outstanding balance will be paid 8% per annum from the purchase price date until the balance is paid in full. All principal and interest on the debt is due in full on August 2, 2018. Effective August 13, 2018, the Company entered into an acknowledgement agreement with CVP extending the maturity date to August 26, 2019.

The Note provides for two separate features that result in a derivative liability:

1. Repayment of mandatory default amount upon an event of default—upon the occurrence of any event of default, the lendor may accelerate the Note resulting in the outstanding balance becoming immediately due and payable in cash; and

2. Automatic increase in the interest rate on and during an event of default—during an event of default, the interest rate will increase to the lesser of 17% per annum or the maximum rate permitted under applicable law.

The Company computed fair values at the date of issuance of $15,000 and $5,000 for the repayment and the interest rate increase feature, respectively, using the Binomial Lattice Model, which was based on the generalized binomial option pricing formula. The $20,000 combined fair value was carved out and is included as a derivative liability on the Balance Sheet. The derviatives were revalued at December 31, 2017 using the same Model resulting in a combined fair value of $11,000. The derviatives were revalued again at June 30, 2018 using the same Model resulting in a combined fair value of $8,000. The resulting $3,000 gain is included in other income and expense in the Company's statements of operations.

The balance of the note payable of $660,022, consisting of the $2,155,000 face value of the note less note discounts and debt issuance costs of $509,000, less the $20,000 derivative liability, less principal payments of $1,451,454, plus the accretion of the debt discount and debt issuance costs of $485,476, is included in convertible notes payable on the balance sheet.

Napo Convertible Notes

March 2017 Convertible Notes

In March 2017, Napo entered into an exchangeable Note Purchase Agreement with two lenders for the funding of face amount of $1,312,500 in two $525,000 tranches of face amount $656,250. The notes bear interest at 3% and mature on December 1, 2017. The Company assumed the notes at fair value of $1,312,500 as part of the Napo Merger.

First Amendment to Note Purchase Agreement and Notes

In December 2017, Napo amended the exchangeable note purchase agreement to extend the maturity of the first tranche and second tranche of notes to February 15, 2018 and April 1, 2018, respectively, increase the principal amount by 12%, and reduce the conversion price from $0.56 per share to $0.20 per share. The Company also issued 2,492,084 shares of common stock to the lenders in connection with this amendment to partially redeem $299,050 from the first tranche of the notes. The amended face value of the notes was $1,170,950. This amendment resulted in the Company treating the notes as having been extinguished and replaced with new notes for accounting purposes due to meeting the 10% cash flow test. The conversion option in the notes was bifurcated and accounted as a conversion option liability at its fair value as further disclosed in Note 4.

Second Amendment to Note Purchase Agreement and Notes

On February 16, 2018, Napo amended the exchangeable note purchase agreement to extend the maturity date of the Second Tranche Notes from April 1, 2018 to May 1, 2018. In addition, the Company also issued 3,783,444 shares of Common Stock to the Purchasers as repayment of the remaining $435,950 aggregate principal amount and $18,063 in accrued and unpaid interest thereon. On March 23, 2018, the Company paid off the remaining $735,000 of principal and $20,699 in interest due on the second tranche debt

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in cash with proceeds from the March 23, 2018 equity financing. The fair value of the conversion option liability was again revalued at March 23, 2018 using the Black-Scholes-Merton model using the following criteria: stock price of $0.21 per share, expected life of 0.11 years, volatility of 288.16%, risk free rate of 1.69% and dividend rate of 0%, resulting in an increase of $174,754 to the fair value of the conversion option liability and included in the change in fair value of warrants and conversion option liability in the statements of operations. The underlying debt was paid off in March of 2018 and the $286,595 conversion option liability was written off to other income in the statements of operations.

December 2016 Convertible Notes

In December 2016, Napo entered into a note purchase agreement which provided for the sale of up to $12,500,000 face amount of notes and issued convertible promissory notes (the Napo December 2016 Notes) in the aggregate face amount of $2,500,000 to three lenders and received proceeds of $2,000,000 which resulted in $500,000 of original issue discount. In July 2017, Napo issued convertible promissory notes (the Napo July 2017 Notes) in the aggregate face amount of $7,500,000 to four lenders and received proceeds of $6,000,000 which resulted in $1,500,000 of original issue discount. The Napo December 2016 Notes and the Napo July 2017 Notes mature on December 30, 2019 and bear interest at 10% with interest due each six-month period after December 30, 2016. On June 30, 2017, the accrued interest of $125,338 was added to principal of the Napo December Notes, and the new principal balance became $2,625,338. Interest may be paid in cash or in the stock of Jaguar per terms of the note purchase agreement. In each one year period beginning December 30, 2016, up to one-third of the principal and accrued interest on the notes may be converted into the common stock of the merged entity at a

conversion price of $0.925 per share. The Company assumed these convertible notes at fair value of $11,161,000 as part of the Napo Merger. The $1,035,661 difference between the fair value of the notes and the principal balance is being amortized over the twenty-nine (29) month period from July 31, 2017 to December 31, 2019 or $178,562 and is recorded as a contra interest expense in the statements of operations. Interest expense is paid every six months through the issuance of common stock. On March 16, 2018, $534,775 of interest accrued through January 31, 2018 and $169,950 of certain legal expenses were paid through the issuance of 4,285,423 shares of the Company's common stock. At June 30, 2018 and December 31, 2017, the unamortized balance of the convertible note payable is $10,768,163 and $10,982,438 which are included in Convertible Long-term Debt on the balance sheet.

Long-term Debt

As of June 30, 2018 and December 31, 2017, the net Jaguar long-term debt obligation was as follows:

	June 30, 2018	December 31, 2017
Debt and unpaid accrued end-of-term payment	$ —	$ 1,636,639
Unamortized note discount	—	(6,615)
Unamortized debt issuance costs	—	(20,780)
Net debt obligation	$ —	$ 1,609,244
Current portion of long-term debt	$ —	$ 1,609,244
Long-term debt, net of discount	—	—
Total	$ —	$ 1,609,244

Interest expense on the Jaguar long-term debt for the three and six months ended June 30, 2018 and 2017 was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Nominal interest	$ —	$ 67,273	$ 19,344	$ 146,134
Accretion of debt discount	—	9,961	20,779	21,639
Accretion of end-of-term payment	—	41,505	52,561	90,160
Accretion of debt issuance costs	—	31,085	6,616	67,524
Total interest expense on convertible debt	$ —	$ 149,824	$ 99,300	$ 325,457

In August 2015, the Company entered into a loan and security agreement with a lender for up to $8.0 million, which provided for an initial loan commitment of $6.0 million. The agreement has a term of three years, with interest only payments through February 29, 2016. Thereafter, principal and interest payments will be made with an interest rate of 9.9%. Additionally, there will be a balloon payment of $600,000 on August 1, 2018 (as modified in the third amendment to the Loan Agreement). This amount is being recognized over the term of the loan agreement and the effective interest rate, considering the balloon payment, is 15.0%. Proceeds to the Company were net of a $134,433 debt discount under the terms of the loan agreement.

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On April 21, 2016, the loan and security was amended upon which the Company repaid $1.5 million of the debt out of restricted cash. The amendment modified the repayment amortization schedule providing a four-month period of interest only payments for the period from May through August 2016.

On July 7, 2017, the Company entered into the third amendment to the Loan Agreement upon which the Company paid $1.0 million of the outstanding loan balance, and the Lender waived the Prepayment Charge associated with such prepayment. The Third Amendment modified the repayment schedule providing a three-month period of interest only payments for the period from August 2017 through October 2017.

On March 23, 2018, the Company paid off the remaining $689,345 of principal, $4,471 of interest, and the end-of-term payment of $600,000 in cash with proceeds from the March 23, 2018 equity financing.

Notes Payable

As of June 30, 2018 and December 31, 2017, the net Jaguar short-term notes payable was as follows:

	Notes Payable	
	June 30, 2018	December 31, 2017
December 2017 note payable	$ 1,587,500	$ 1,587,500
February 2018 note payable	2,240,909	—
March 2018 note payable	1,090,341	—
	4,918,750	1,587,500
Less: unamortized net discount and debt issuance costs	(928,646)	(446,347)
Net convertible notes payable obligation	$ 3,990,104	$ 1,141,153

Interest expense on the Jaguar short-term notes payable for the three and six months ended June 30, 2018 and 2017 was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Nominal interest	$ 101,650	$ —	$ 151,309	$ —
Accretion of debt discount	334,004	—	538,951	—
Total interest expense on convertible debt	$ 435,654	$ —	$ 690,260	$ —

On December 8, 2017, the Company entered into a securities purchase agreement with CVP pursuant to which the Company issued a promissory note in the aggregate principal amount of $1,587,500 for an aggregate purchase price of $1,100,000. The Note carries an original issue discount of $462,500, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. The Company will use the proceeds for general corporate purposes. The Note bears interest at the rate of 8% per annum and matures on September 8, 2018. The balance of the note payable as of June 30, 2018 of $1,463,536 consists of the $1,587,500 face value of the note less note discounts and debt issuance costs of $487,500, plus the accretion of the debt discount and debt issuance costs of $363,536, is included in notes payable in the current liabilities section of the balance sheet. Effective August 13, 2018, the Company entered into an acknowledgement agreement with CVP extending the maturity date to August 26, 2019.

On February 26, 2018, the Company entered into a securities purchase agreement with CVP, pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of $2,240,909 for an aggregate purchase price of $1,560,000. The Note carries an original issue discount of $655,909, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. The Company will use the proceeds for general corporate purposes and working capital. The Note bears interest at the rate of 8% per annum and matures on (i) August 26, 2019 if the Company has raised at least $12 million in equity after the issuance date of the Note (the "Redemption Start Condition") and on or before April 1, 2018 or (ii) November 26, 2018 if the Redemption Start Condition is not satisfied on or before April 1, 2018. The balance of the note payable as of June 30, 2018 of $1,713,718 consisting of the $2,240,909 face value of the note less note discounts and debt issuance costs of $680,909, plus the accretion of the debt discount and debt issuance costs of $153,718, is included in notes payable in the current liabilities section of the balance.

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On March 21, 2018, the Company entered into a securities purchase agreement with CVP, pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of $1,090,341 for an aggregate purchase price of $750,000. The Note carries an original issue discount of $315,341, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. The Company will use the proceeds to fully repay certain prior secured and unsecured indebtedness. The Note bears interest at the rate of 8% per annum and matures on September 21, 2019. The balance of the note payable as of June 30, 2018 of $812,850 consisting of the $1,090,341 face value of the note less note discounts and debt issuance costs of $340,341, plus the accretion of the debt discount and debt issuance costs of $62,850, is included in notes payable in the current liabilities section of the balance sheet.

Since the Redemption Start Condition (i.e., the Company raised at least $12 million in equity after the issuance date of the Note) was satisfied by April 1, 2018 as a result of the consummation of the Preferred Stock Offering and Common Stock Offering, the Company and CVP agreed to amend the Notes issued to CVP on June 29, 2017, December 8, 2017 and February 26, to limit the aggregate amount that CVP is permitted to redeem on a monthly basis to $500,000, which amount is the maximum aggregate redemption amount for the Notes collectively.

Warrants

The Company's warrant activity is summarized as follows for the six months ended June 30, 2018 and for the year ended December 31, 2017:

	Six Months Ended June 30, 2018	Year Ended December 31, 2017
	(in shares)	
Beginning balance	321,314	397,904
Warrants granted	—	106,376
Warrants exercised	—	(60,553)
Warrants expired	(50,553)	(122,413)
Ending balance	270,761	321,314

8. Convertible Preferred Stock

In March 2018, the Company entered into a stock purchase agreement with Sagard Capital Partners, L.P. pursuant to which the Company, in a private placement, agreed to issue and sell to Sagard 5,524,926 shares of the Company's series A convertible participating preferred stock, $0.0001 par value per share, for an aggregate purchase price of $9,199,002. Each share of preferred stock is initially convertible into nine shares of common stock at the option of the holder at an effective conversion price of $0.185 per share (based on an original price per Preferred Share of $1.665), provided that, at any time prior to the time the Company obtains stockholder approval, as required pursuant to Nasdaq Rule 5635(b) any conversion of Preferred Stock by a holder into shares of the Common Stock would be prohibited if, as a result of such conversion, the holder, together with such holder's attribution parties, would beneficially own more than 19.99% of the total number of shares of the Common Stock issued and outstanding after giving effect to such conversion. Subject to certain limited exceptions, the shares of Preferred Stock cannot be offered, pledged or sold by Sagard for one year from the date of issuance. The conversion price is subject to certain adjustments in the event of any stock dividend, stock split, reverse stock split, combination or other similar recapitalization.

Holders of the Series A shares are entitled to participate equally and ratably with the holders of common stock shares in all dividends paid and distributions made to the holders of the common stock as if, immediately prior to each record date of the common stock, the shares of Series A then outstanding were converted into shares of common stock.

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company or deemed liquidation event, the holders of Series A shares then outstanding shall be entitled to be paid in cash out of the assets of the Company before any payment shall be made to the holders of common stock or shares of any series or class of preferred or other capital stock then outstanding that by its terms is junior to the Series A in respect of the preferences as to distributions and payments upon such liquidation event by reason of their ownership, an amount per share of Series A equal to one times the Series A original issue price.

The redemption and liquidation value of the series A preferred stock is $12,738,822 and $9,199,002, respectively. If a Redemption Event occurs as of the Measurement Date (the later of April 30, 2021 and the date on which the Company files its Form 10-Q for the three months ending March 31, 2021, but in no event later than June 30, 2021), the holders of at least a majority of the shares of Series A then outstanding may require the Company to redeem all Series A shares at a per share purchase price equal to $2.3057; any one of the following conditions can result in a Redemption Event that is not solely within the Company's control: Revenues attributable to the Mytesi product for the six-month period ended March 31, 2021 are less than $22.0 million or the average VWAP for the Company's common stock for the 30 days prior to a Measurement Date is less than $1.00.

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The effective conversion price is $0.185 per share while the fair value of the Company's common stock at the commitment date was $0.205 per share based on the closing price of common stock on March 23, 2018. As a result, the Company determined that there is a Beneficial Conversion Feature ("BCF") amounting to approximately $995,000, which is computed by taking the difference between the closing price of the stock on March 23, 2018 and the conversion price multiplied by the as if converted 49,724,334 shares (5,524,926 preferred shares multiplied by the conversion factor of 9). The Company's Series A shares do not have a stated conversion date and are immediately convertible at the issuance date. As such, the Company will record an accretion of the BCF to net loss. Based on the guidance above, the Company recorded a deemed dividend charge of $995,000 for the accretion of the discount on the Series A shares. The deemed dividend was a non-cash transaction and is reflected below net loss to arrive at net loss available to common stockholders on the Company's condensed consolidated statement of operations for the three and six months ended June 30, 2018.

The preferred stock has been classified outside of stockholders' equity in accordance with authoritative guidance for the classification and measurement of potentially redeemable securities.

9. Stockholders' Equity

Common Stock

On May 18, 2018, the stockholders of Jaguar approved at the 2018 Annual Meeting of Stockholders of the Company and

the Board approved, in accordance with the authority granted by the Company's stockholders at the Annual Meeting, a 1-for-15 reverse stock split of the Company's issued and outstanding shares of Common Stock. On May 29, 2018, the Company filed the Certificate of Second Amendment to its Certificate Of Incorporation with the Secretary of State of the State of Delaware to effect the Reverse Stock Split, effective June 1, 2018.

Also on May 18, 2018, the stockholders of the Company approved at the Annual Meeting a proposal to decrease the number of authorized shares of Common Stock to 150,000,000 shares, contingent upon the approval and effectuation of the Reverse Stock Split. On June 1, 2018, the Company filed a Certificate of Third Amendment (the "Third Amendment") to its COI with the Secretary of State of the State of Delaware to decrease the total number of authorized shares of Common Stock so that the total number of the shares that the Company has authority to issue is 210,000,000 shares, of which 150,000,000 shares are Common Stock, 50,000,000 are non-voting common stock and 10,000,000 shares are "blank check" preferred stock.

Concurrently with the consummation of the preferred stock offering as more fully discussed in Note 10, in March 2018, the Company entered into share purchase agreements with certain institutional investors pursuant to which the Company issued 1,960,783 shares of the Company's common stock in exhcnage for $5.0 million in cash.

As of June 30, 2018 and 2017, the Company had reserved shares of common stock for issuance as follows:

	June 30, 2018	June 30, 2017
Options issued and outstanding	2,704,692	168,576
Inducement options issued and outstanding	209,531	—
Options available for grant	402,348	24,180
RSUs issued and outstanding	392,904	1,385
Warrants issued and outstanding	270,761	422,652
Convertible notes	789,386	4,657
Total	4,769,622	621,450

10. Stock Incentive Plans

2013 Equity Incentive Plan

Effective November 1, 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 33,769 option shares outstanding at June 30, 2018.

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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 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 last day of the preceding calendar year. The 2014 Plan replaces the 2013 Plan except that all outstanding options under the 2013 Plan remain outstanding until exercised, cancelled or until they expire. There were 2,670,923 option shares outstanding and 402,348 option shares available for grant at June 30, 2018.

Stock Options and Restricted Stock Units ("RSUs")

The following table summarizes incentive plan activity for the years ended June 30, 2018 and December 31, 2017:

	Shares Available for Grant	Stock Options Outstanding	RSUs Outstanding	Weighted Average Stock Option Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value *
Combined Incentive Plan Balance—December 31, 2017	3,619	229,575	392,904	$ 28.05	8.31	$ —
Additional shares authorized	2,877,766					
Options granted	(2,554,453)	2,554,453				
Options cancelled	75,416	(79,336)				
Combined Incentive Plan Balance—June 30, 2018	402,348	2,704,692	392,904	$ 6.40	1.65	$ —
Options vested and exercisable —June 30, 2018		495,801		$ 21.94	2.78	$ —
Options vested and expected to vest—June 30, 2018		2,296,958		$ 29,40	9.44	$ —

* Fair market value of JAGX stock on June 29, 2018 was $1.42 per share.

The weighted average grant date fair value of stock options granted was $1.70 and $7.50 per share during the six months ended June 30, 2018 and 2017.

The number of option shares that vested in the six months ended June 30, 2018 and 2017 was 395,350 shares and 25,001 shares, respectively. The grant date weighted average fair value of option shares that vested in the six months ended June 30, 2018 and 2017 was $177,862 and $383,370, respectively.

No options were exercised in the six months ended June 30, 2018 and 2017.

The intrinsic value is computed as the options granted multiplied by the difference between the fair market value of the Company's common stock of $1.42 on June 29, 2018 and the grant date stock option exercise price.

The Company also granted 209,531 of inducement options in the six months ended June 30, 2018 to new employees. The options are all non-statutory and were not issued from the 2014 Stock Plan. The weighted average fair value of the options was $1.3441 per share. No option shares vested in the six months ended June 30, 2018.

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Stock-Based Compensation

The following table summarizes stock-based compensation expense related to stock options, inducement stock options and RSUs for the three and six months ended June 30, 2018 and 2017, and are included in the statements of operations as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Research and development expense	$ 145,035	$ 58,173	$ 224,749	$ 123,972
Sales and marketing expense	18,167	7,711	20,552	15,369
General and administrative expense	301,252	150,250	491,396	304,829
Total	$ 464,454	$ 216,134	$ 736,697	$ 444,170

As of June 30, 2018, the Company had $3,483,742 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 2.39 years.

11. Net Loss Per Share Attributable to Common Stockholders

The following table presents the calculation of basic and diluted net loss per common share for the three and six months ended June 30, 2018 and 2017:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Net loss attributable to common shareholders	$ (8,652,183)	$ (1,805,642)	$ (14,348,820)	$ (6,521,000)
Net loss per share — basic and diluted	$ (0.76)	$ (1.84)	$ (1.43)	$ (6.78)
Weighted average shares outstanding, basic and diluted	11,375,433	979,621	10,010,862	961,821

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 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.

12. Subsequent Events

Share Purchase Agreement

Pursuant to the November 24, 2017 share purchase agreement with an investor, on July 12, 2018 the Company received $624,897 in exchange for 470,781 shares of its voting common stock.

Secured Convertible Promissory Note and Secured Promissory Note

Effective August 13, 2018, the Company entered into an acknowledgement agreement with CVP extending the maturity date of the $2,155,000 secured convertible promissory note dated July 29, 2017 from August 2, 2018 to August 26, 2019 and also extending the maturity date of the $1,587,500 secured promissory note dated December 8, 2017 from September 8, 2018 to August 26, 2019.

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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 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 financial statements and the related notes included in our Annual Report on Form 10-K for the year ended December 31, 2017.

The discussion and analysis below includes certain forward-looking statements related to our research and development and commercialization of our products in the U.S., our future financial condition and results of operations and potential for profitability, the sufficiency of our cash resources, our ability to obtain additional equity or debt financing, if needed, possible partnering or other strategic opportunities for the development of our products, as well as other statements related to the progress and timing of product development, present or future licensing, collaborative or financing arrangements or that otherwise relate to future periods, which are all forward-looking statements as defined by the Private Securities Litigation Reform Act of 1995. These statements represent, among other things, the expectations, beliefs, plans and objectives of management and/or assumptions underlying or judgments concerning the future financial performance and other matters discussed in this document. The words "may," "will," "should," "plan," "believe," "estimate," "intend," "anticipate," "project," and "expect" and similar expressions are intended to connote forward-looking statements. All forward-looking statements involve certain risks, uncertainties and other factors described in our Annual Report on Form 10-K, that could cause our actual commercialization efforts, financial condition and results of operations, and business prospects and opportunities to differ materially from these expressed in, or implied by, those forward-looking statements. We caution investors not to place significant reliance on the forward-looking statements contained in this report. These statements, like all statements in this report, speak only as of the date of this report (unless another date is indicated), and we undertake no obligation to update or revise forward-looking statements.

Overview

We are a commercial stage pharmaceuticals company focused on developing novel, sustainably derived gastrointestinal products on a global basis. Our wholly-owned subsidiary, Napo Pharmaceuticals, Inc. ("Napo"), focuses on developing and commercializing proprietary human gastrointestinal pharmaceuticals for the global marketplace from plants used traditionally in rainforest areas. Our Mytesi (crofelemer) product is 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. In the field of animal health, we are focused on developing and commercializing first-in-class gastrointestinal products for companion and production animals, foals, and high value horses.

Jaguar was founded in San Francisco, California as a Delaware corporation on June 6, 2013. Napo formed Jaguar to develop and commercialize animal health products. Effective as of December 31, 2013, Jaguar was a wholly-owned subsidiary of Napo, and Jaguar was a majority-owned subsidiary of Napo until the close of the Company's initial public offering on May 18, 2015. On July 31, 2017, the merger of Jaguar Animal Health, Inc. and Napo became effective, at which point Jaguar Animal Health's name changed to Jaguar Health, Inc. and Napo began operating as a wholly-owned subsidiary of Jaguar focused on human health and the ongoing commercialization of, and development of follow-on indications for, Mytesi.

We believe Jaguar is poised to realize a number of synergistic, value adding benefits—and an expanded pipeline of potential blockbuster human follow-on indications, a second-generation anti-secretory agent, as well as a pipeline of important animal indications for crofelemer, upon which to build global partnerships. As previously announced, Jaguar, through Napo, now controls commercial rights for Mytesi for all indications, territories and patient populations globally, and crofelemer manufacturing is being conducted at a multimillion-dollar commercial manufacturing facility that has been FDA-inspected and approved. Additionally, several of the drug product candidates in Jaguar's Mytesi pipeline are backed by strong Phase 2 evidence from completed Phase 2 trials.

Mytesi is a novel, first-in-class anti-secretory agent which has a basic normalizing effect locally on the gut, and this mechanism of action has the potential to benefit multiple disorders. Mytesi is in development for multiple possible follow-on indications, including cancer therapy-related diarrhea; orphan-drug indications for infants and children with congenital diarrheal disorders and short bowel syndrome (SBS); supportive care for inflammatory bowel disease (IBD); irritable bowel syndrome (IBS); and as a second-generation anti-secretory agent for use in cholera patients. Mytesi has received orphan-drug designation for SBS.

Financial Operations Overview

On a consolidated basis, we have not yet generated enough revenue to date to achieve break even or positive cash flow, and we expect to continue to incur significant research and development and other expenses. Our net loss was $13,353,820 and $6,521,000 for the six months ended June 30, 2018 and 2017, respectively. As of June 30, 2018, we had total stockholders' equity of $14,018,294,

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accumulated deficit of $75,758,542, and cash and cash equivalents of $2,411,473. 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.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers ("ASC 606"), which was adopted on January 1, 2018, using the modified retrospective method, which was elected to apply to all active contracts as of the adoption date. Application of the modified retrospective method did not impact amounts previously reported by the Company, nor did it require a cumulative effect adjustment upon adoption, as the Company's method of recognizing revenue under ASC 606 yielded similar results to the method utilized immediately prior to adoption. Accordingly, there was no effect to each financial statement line item as a result of applying the new revenue standard.

Practical Expedients, Elections, and Exemptions

We recognize revenue in accordance with the core principal 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 we expect to be entitled to in exchange for those goods or services.

We used a practical expedient available under ASC 606-10-65-1(f)4 that permits us to consider the aggregate effect of all contract modifications that occurred before the beginning of the earliest period presented when identifying satisfied and unsatisfied performance obligations, transaction price, and allocating the transaction price to the satisfied and unsatisfied performance obligations.

We also used a practical expedient available under ASC 606-10-32-18 that permits us not to 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.

We have elected to treat shipping and handling activities as fulfillment costs.

Additionally, we have elected to record revenue net of sales and other similar taxes.

Contracts

Our Napo subsidiary entered into a Marketing and Distribution Agreement ("M&D Agreement") with BexR Logistix, LLC ("BexR" or "Mission Pharmacal" or "Mission"), in April 2016 to appoint BexR as its distributor with the right to market and sell, and the exclusive right to distribute Mytesi (formerly Fulyzaq) in US. The term of the M&D Agreement is 4 years. The M&D Agreement will renew automatically for successive one year terms unless either party provides a written notice of termination not less than 90 days prior to the expiration of the initial or subsequent terms. Napo retains control of Mytesi held at Mission.

Napo sells Mytesi through Mission, who then sells Mytesi to its distributors and wholesalers — McKesson, Cardinal Health, AmerisourceBergen Drug Corporation ("ABC"), HD Smith, Smith Drug and Publix (together "Distributors"). Mission sells Mytesi to their Distributors, on behalf of Napo, under agreements executed by Mission with these Distributors and Napo abides by the terms and conditions of sales agreed to between Mission and their Distributors. Health care providers order Mytesi through pharmacies who obtain Mytesi through Mission's Distributors. Napo considers Mission as the sales agent and the Distributors of Mission as its customers.

Mission's Distributors are our customers with respect to purchase of Mytesi. The M&D Agreement with Mission, Mission's agreement with the Distributors and the related purchase order will together meet the contract existence criteria under ASC 606-10-25-1.

Our Neonorm and Botanical extract products are primarily sold to distributors, who then sell the products to the end customers. Since 2014, we entered into several distribution agreements with established distributors such as Animart, Vedco, VPI, RJ Matthews, Henry Schein, and Stockmen Supply to distribute the Company's products in the United States, Japan, and China. The distribution agreements and the related purchase order together meet the contract existence criteria under ASC 606-10-25-1. Jaguar sells directly to its customers without the use of an agent.

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Performance obligations

For the products sold by each of Napo and Jaguar, the single performance obligation identified above is our promise to transfer our Mytesi product to Distributors based on specified payment and shipping terms in the arrangement. Product warranties are assurance type warranties that does not represent a performance obligation.

Transaction price

For both Jaguar and our Napo subsidiary, the transaction price is the amount of consideration to which we expect to collect in exchange for transferring promised goods or services to a customer. The transaction price of Mytesi and Neonorm is the Wholesaler Aquisition Cost ("WAC"), net of discounts, returns, and price adjustments. The transaction price of the products represents a form of variable consideration for which we use the expected value method to calculate the expected consideration we are entitled to. Historical results and management experience in estimating returns and discounts allows us to overcome the variable consideration constraints in its calculation of the expected consideration.

Allocate transaction price

For both Jaguar and our Napo subsidiary, the entire transaction price is allocated to the single performance obligaton contained in each contract.

Point in time recognition

For both Jaguar and our Napo subsidiary, 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 when the products are delivered to the wholesalers. Net revenues from the sale of Mytesi were $854,170 and $1,437,439 in the three and six months ended June 2018 and $0 in the same pre-merger periods in 2017. We recorded a reserve for estimated product returns under terms of agreements with wholesalers based on its historical returns experience. Reserves for returns at June 30, 2018 and December 31, 2017 were immaterial. If actual returns differed from our historical experience, changes to the reserved could be required in future periods.

Animal

We recognized Neonorm revenues of $29,676 and $61,445 for the three months ended June 30, 2018 and 2017, and $73,374 and $105,989 for the six months ended June 30, 2018 and 2017, respectively. Botanical Extract revenues were $0 in the three months ended June 30, 2018 and 2017, and $0 and $30,000 in the six months ended June 30, 2018 and 2017, respectively. Revenues are recognized upon shipment which is when title and control is transferred to the buyer . Sales of Neonorm Calf and Foal to distributors are made under agreements that may provide distributor price adjustments and rights of return under certain circumstances.

Collaboration Revenue

On January 27, 2017, we entered into a licensing, development, co-promotion and commercialization agreement with Elanco US Inc. (“Elanco”) to license, develop and commercialize Canalevia, our drug product candidate under investigation for treatment of acute and chemotherapy-induced diarrhea in dogs, and other drug product formulations of crofelemer for treatment of gastrointestinal diseases, conditions and symptoms in cats and other companion animals. Under the terms of the agreement, we received an initial non-refundable upfront payment of $2,548,689, inclusive of reimbursement of past product and development expenses of $1,048,689, which was recognized as revenue ratably over the estimated development period of one year resulting in revenue of $0 and $835,076 in the three months ended June 30, 2018 and 2017, and $177,389 and $1,582,942 in revenue in the six months ended June 30, 2018 and 2017, respectively.

On November 1, 2017, we received a letter from Elanco serving as formal notice of their decision to terminate the agreement by giving the Company 90 days written notice. According to the agreement, termination became effective on January 30, 2018.

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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 benefit 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 expenses at an outsourced API provider in Italy.

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 but do not allocate 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 significantly as we add personnel, commence additional clinical studies and other activities to develop our prescription drug product candidates and non-prescription products.

Sales and Marketing Expense

Sales and marketing expenses consist of personnel and related benefit 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 and Neonorm calf and foal sales.

We expect sales and marketing expense to increase significantly as we develop and commercialize new products and grow our existing Mytesi and Neonorm markets. We will need to add sales and marketing headcount to promote the sales of existing and new products.

General and Administrative Expense

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

We expect general and administrative expense to increase in order to enable us to effectively manage the overall growth of the business. This will include adding headcount, enhancing information systems and potentially expanding corporate facilities.

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Interest Expense

Interest expense consists primarily of interest on convertible promissory notes, promisorry notes, and the loan and security agreement (long-term debt arrangement). We also include accretion of debt issuance costs, debt discount amortization and the accretion of an end-of-term long-term debt payment in interest expense in the statements of operations.

Results of Operations

Comparison of the six months ended June 30, 2018 and 2017

The following table summarizes the Company's results of operations with respect to the items set forth in such table for the six months ended June 30, 2018 and 2017 together with the change in such items in dollars and as a percentage:

	Six Months Ended June 30,			
	2018	2017	Variance	Variance %
Product revenue	$ 1,510,813	$ 135,989	$ 1,374,824	1,011.0%
Collaboration revenue	177,389	1,582,942	(1,405,553)	(88.8)%
Total revenue	1,688,202	1,718,931	(30,729)	(1.8)%
Operating Expenses				
Cost of revenue	1,072,185	40,907	1,031,278	2,521.0%
Research and development expense	2,362,752	2,182,243	180,509	8.3%
Sales and marketing expense	4,402,452	280,143	4,122,309	1,471.5%
General and administrative expense	6,058,148	5,441,493	616,655	11.3%
Total operating expenses	13,895,537	7,944,786	5,950,751	74.9%
Loss from operations	(12,207,335)	(6,225,855)	(5,981,480)	(96.1)%
Interest expense, net	(1,313,824)	(336,201)	(977,623)	(290.8)%
Other income	312,704	1,448	311,256	21,495.6%
Change in fair value of warrants and conversion option liability	(145,365)	247,321	(392,686)	(158.8)%
Loss on extinguishment of debt	—	(207,713)	207,713	100.0%
Net loss	(13,353,820)	(6,521,000)	(6,832,820)	(104.8)%
Deemed dividend attributable to preferred stock	(995,000)	—	(995,000)	N/A
Net loss attributable to common shareholders	$ (14,348,820)	$ (6,521,000)	$ (7,827,820)	(120.0)%

Revenue

Product revenue

Our product revenue of $1,510,813 for the six months ended June 30, 2018 reflects revenue from the sale of our human drug Mytesi, our animal products branded as Neonorm Calf and Neonorm Foal and botanical extract. Product revenues of $135,989 and related cost of revenue of $40,907 for the six months ended June 30, 2017 only includes the sale of our branded animal products as the merger with Napo was effective July 31, 2017.

Human

Sales of Mytesi are recognized as revenue when the products are delivered to the wholesalers. Revenues from the sale of Mytesi were $1,437,439 and $0 in the six months ended June 30, 2018 and 2017, respectively due to the Napo merger which was effective July 31, 2018.

Animal

We recognized Neonorm revenues of $73,734 and $105,989 for the six months ended June 30, 2018 and 2017, respectively. Botanical Extract revenues were $0 and $30,000 in the six months ended June 30, 2018 and 2017. The decrease was due to a reduced focus on the animal health part of the business.

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Collaboration Revenue

On January 27, 2017, we entered into a licensing, development, co-promotion and commercialization agreement with Elanco US Inc. to license, develop and commercialize Canalevia, the Company's drug product candidate under investigation for treatment of acute and chemotherapy-induced diarrhea in dogs, and other drug product formulations of crofelemer for treatment of gastrointestinal diseases, conditions and symptoms in cats and other companion animals. Under the terms of the agreement, we received an initial upfront payment of $2,548,689, inclusive of reimbursement of past product and development expenses of $1,048,689, which was recognized as revenue ratably over the estimated development period of one year resulting in $177,389 and $1,582,942 in collaboration revenue in the six months ended June 30, 2018 and 2017, respectively. Elanco terminated the arrangement effective January 30, 2018 and all remaining deferred revenue was recognized at that time.

Cost of Revenue

The following table presents the components of cost of revenue for the six months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Six Months Ended June 30,			
	2018	2017	Variance	Variance %
Cost of Revenue				
Material cost	$ 476,156	$ 40,907	$ 435,249	1,064.0%
Direct labor	265,703	—	265,703	N/A
Distribution fees	163,118	—	163,118	N/A
Royalties	43,223	—	43,223	N/A
Other	123,985	—	123,985	N/A
Total	$ 1,072,185	$ 40,907	$ 1,031,278	2,521.0%

Cost of revenue increased $1,031,278 from $40,907 in the six months ended June 30, 2017 to $1,072,185 for the same period in 2018. Napo related cost of revenue for Mytesi was $1,000,097 and $0 in the six months ended June 30, 2018 and 2017 as the merger was effective July 31, 2017.

Research and Development Expense

The following table presents the components of research and development expense for the six months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Six Months Ended June 30,			
	2018	2017	Variance	Variance %
R&D:				
Personnel and related benefits	$ 1,145,473	$ 888,077	$ 257,396	29.0%
Materials expense and tree planting	106,324	63,531	42,793	67.4%
Travel, other expenses	47,096	123,010	(75,914)	(61.7)%
Clinical and contract manufacturing	619,426	436,210	183,216	42.0%
Stock-based compensation	224,749	123,972	100,777	81.3%
Other	219,684	547,443	(327,759)	(59.9)%
Total	$ 2,362,752	$ 2,182,243	$ 180,509	8.3%

Research and development expense increased $180,509 from $2,182,243 from the six months ended June 30, 2017 to $2,362,752 for the same period in 2018 due primarily to:

- Personnel and related benefits increased $257,396 from $888,077 in the six months ended June 30, 2017 to $1,145,473 in the same period in 2018 due to $719,000 of Napo personnel expenses in 2018 net of $510,000 of employee leasing charges in the period. The remainder of the difference is due to changes in headcount personnel and related salaries quarter over quarter.

- Clinical and contract manufacturing expense increased $183,216 from $436,210 in the six months ended June 30, 2017 to $619,426 in the same period in 2018 primarily due to an increase in contract manufacturing costs due to the completion of SP-303 API manufacturing readiness work, for costs associated with the implementation and maintenance of serialization, and for costs for in-process Mytesi drug product readiness work in 2018. Clinical trial work decreased due to the temporary termination of canalevia studies.

- Stock-based compensation increased $100,777 from $123,972 in the six months ended June 30, 2017 to $224,749 in the same period in 2018 primarily due to an increase in the number of option grants and outstanding options six months over six months.

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- Other expenses, consisting primarily of consulting, formulation and regulatory fees, decreased $327,759 from $547,443 in the six months ended June 30, 2017 to $219,684 in the same period in 2018. Consulting expenses decreased due to a decrease in clinical trial consultants consistent with

the temporary termination of clinical trials and a decrease in R&D testing consultant work, net of an increase in Napo consulting expense. Formulation expenses were relatively constant in the comparative periods. Regulatory expenses decreased due to Napo receiving a waiver of fee payment from the FDA.

We plan to increase our research and development expense as we continue developing our drug candidates. Our research and development expenses include $1,158,078 of Napo research and development expenses for the six month period ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

We continued to increase our level of support for the reforestation of croton lechleri trees in South America, which is reflected in an increase in spend of $42,793 from $63,531 in the six months ended June 30, 2017 to $106,324 in the same period in 2018. We value and take to heart the responsibility to replenish trees consumed in order to extract the raw material to manufacture our primary commercial product and the drug product for use in clinical trials.

Sales and Marketing Expense

The following table presents the components of sales and marketing expense for the six months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Six Months Ended June 30,			
	2018	2017	Variance	Variance %
S&M:				
Personnel and related benefits	$ 1,684,098	$ 130,436	$ 1,553,662	1,191.1%
Stock-based compensation	20,552	15,369	5,183	33.7%
Direct Marketing Fees	2,201,051	59,208	2,141,843	3,617.5%
Other	496,751	75,130	421,621	561.2%
Total	$ 4,402,452	$ 280,143	$ 4,122,309	1,471.5%

Sales and marketing expense increased $4,122,309 from $280,143 in the six months ended June 30, 2017 to $4,402,452 in the same period in 2018 due primarily to:

- Personnel and related benefits increased $1,553,662 from $130,436 in the six months ended June 30, 2017 to $1,684,098 in the same period in 2018 due to $1,646,000 in salary and related benefits for our Napo subsidiary employees in the six months ended June 30, 2018, net of $46,000 in employee leasing in the six months ended June 30, 2017. The remainder of the difference is due to changes in headcount personnel and related salaries quarter over quarter.

- Direct marketing and sales expense increased $2,141,843 from $59,208 in the six months ended June 30, 2017 to $2,201,051 for the same period in 2018 due to an increase $2,184,000 in marketing programs to promote the Napo Mytesi product.

- Other expenses, consisted primarily of travel expense, consulting expense and office supplies expense, which collectively increased $421,621 from $75,130 in the six months ended June 30, 2017 to $496,751 in the same period in 2018 due primarily to an increase in travel, consulting and office supplies expenses of $457,000.

In addition to the significant changes noted above:

- Stock based compensation expense increased $5,183 from $15,369 in the six months ended June 30, 2017 to $20,552 in the same period in 2018 due to an increase in the volume of new options granted to new and existing employees.

We plan to expand sales and marketing spend to promote our Mytesi products. Sales and marketing expenses include $4,287,382 in Napo sales and marketing expenses for the three months ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

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General and Administrative Expense

The following table presents the components of general and administrative expense for the six months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Six Months Ended June 30,			
	2018	2017	Variance	Variance %
G&A:				
Personnel and related benefits	$ 878,758	$ 786,163	$ 92,595	11.8%
Accounting fees	355,386	336,651	18,735	5.6%
Third-party consulting fees and Napo service fees	837,113	1,007,779	(170,666)	(16.9)%
Legal fees	1,386,192	2,004,492	(618,300)	(30.8)%
Travel	153,132	105,669	47,463	44.9%
Stock-based compensation	491,396	304,829	186,567	61.2%
Rent and lease expense	198,757	156,999	41,758	26.6%
Public company expenses	386,431	335,546	50,885	15.2%
Other	1,370,983	403,365	967,618	239.9%
Total	$ 6,058,148	$ 5,441,493	$ 616,655	11.3%

General and administrative expenses increased $616,655 from $5,441,493 in the six months ended June 30, 2017 to $6,058,148 for the same period in 2018 due primarily to an increases in intangible asset amortization, consulting expense and stock-based compensation expense:

- Other general and administrative expenses increased $967,618 from $403,365 in the six months ended June 30, 2017 to $1,370,983 in the same period in 2018. The increase was primarily driven by intangible asset amortization of $843,000 from $0 in the six months ended June 30, 2017 to $843,000 in the same period in 2018, These intangible assets were derived as part of the July 2017 merger with Napo.

- Consulting fees decreased $170,666 from $1,007,779 in the six months ended June 30, 2017 to $837,113 in the same period in 2018. The decrease is comprised of a $664,000 decrease in finance consulting services, net of an increase of $65,000 in human resources consulting services and $428,000 of Napo consulting fees.

- Stock-based compensation expense increased $186,567 from $304,829 in the six months ended June 30, 2017 to $491,396 in the same period in 2018 due to a significant increase in the volume of option grants to new and existing employees.

- Legal fees decreased $618,300 from $2,004,492 in the six months ended June 30, 2017 to $1,386,192 in the same period in 2018 due to a reduction in merger related legal fees period over period.

In addition to the significant changes noted above:

- Personnel and related benefits increased $92,595 from $786,163 in the six months ended June 30, 2017 to $878,758 in the same period in 2018 due to changes in headcount personnel and related salaries quarter over quarter.

- Accounting fees increased $18,735 from $336,651 in the six months ended June 30, 2017 to $355,386 in the same period in 2018 due primarily to greater complexity of accounting issues in the first quarter of 2018.

- Travel expenses increased $47,463 from $105,669 in the six months ended June 30, 2017 to $153,132 in the same period in 2018 due to $30,000 in Napo related travel in 2018 and the remainder due to an increase in travel for general business and fund-raising purposes.

- Rent and lease expense increased $41,758 from $156,999 in the six months ended June 30, 2017 to $198,757 in the same period in 2018 due primarily to $64,000 in leased rent charged to Napo (pre-merger) in 2017, offset by $24,000 in company apartment rent in 2017 versus $0 in 2018.

- Public company expenses increased $50,885 from $335,546 in the six months ended June 30, 2017 to $386,431in the same period in 2018 due primarily to an increase of $41,000 in investor relations and $69,000 in investor services expenses period over period due to the issuance of more press releases and increased stock transfer agent services, net of a decrease of $71,000 in printer fees due to fewer filings period over period.

We expect to incur additional general and administrative expense as a result of operating as a public company and as we grow our business, including expenses related to compliance with the rules and regulations of the SEC, additional insurance expenses, investor relations activities and other administrative and professional services. General and administrative expenses include $2,193,210 in Napo general and administrative expenses for the six month period ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

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Comparison of the three months ended June 30, 2018 and 2017

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 June 30, 2018 and 2017 together with the change in such items in dollars and as a percentage:

	Three Months Ended June 30,			
	2018	2017	Variance	Variance %
Product revenue	$ 883,846	$ 61,445	$ 822,401	1,338.4%
Collaboration revenue	—	835,076	(835,076)	(100.0)%
Total revenue	883,846	896,521	(12,675)	(1.4)%
Operating Expenses				
Cost of revenue	608,024	24,762	583,262	2,355.5%
Research and development expense	1,604,886	926,791	678,095	73.2%
Sales and marketing expense	2,690,262	157,231	2,533,031	1611.0%
General and administrative expense	3,059,748	2,137,990	921,758	43.1%
Total operating expenses	7,962,920	3,246,774	4,716,146	145.3%
Loss from operations	(7,079,074)	(2,350,253)	(4,728,821)	(201.2)%
Interest expense, net	(711,802)	(156,129)	(555,673)	(355.9)%
Other income	15,204	—	15,204	N/A
Change in fair value of warrants and conversion option liability	118,489	700,740	(582,251)	(83.1)%
Net loss	(7,657,183)	(1,805,642)	(5,851,541)	(324.1)%
Deemed dividend attributable to preferred stock	—	—	—	—
Net loss attributable to common shareholders	$ (7,657,183)	$ (1,805,642)	$ (5,851,541)	(324.1)%

Revenue

Product revenue

Our product revenue of $883,846 for the three months ended June 30, 2018 reflects revenue from the sale of our human drug Mytesi, our animal products branded as Neonorm Calf and Neonorm Foal and botanical extract. Product revenues of $61,445 and related cost of revenue of $24,762 for the three

months ended June 30, 2017 only includes the sale of our branded animal products as the merger with Napo which became effective July 31, 2017.

Human

Sales of Mytesi are recognized as revenue when the products are delivered to the wholesalers. Revenues from the sale of Mytesi were $854,170 and $0 in the three months ended June 30, 2018 and 2017, respectively, due to the Napo merger which was effective July 31, 2018.

Animal

We recognized Neonorm revenues of $29,676 and $61,445 for the three months ended June 30, 2018 and 2017, respectively. The decrease was due to a reduced focus on the animal health part of the business.

Collaboration Revenue

On January 27, 2017, we entered into a licensing, development, co-promotion and commercialization agreement with Elanco US Inc. to license, develop and commercialize Canalevia, the Company's drug product candidate under investigation for treatment of acute and chemotherapy-induced diarrhea in dogs, and other drug product formulations of crofelemer for treatment of gastrointestinal diseases, conditions and symptoms in cats and other companion animals. Under the terms of the agreement, we received an initial upfront payment of $2,548,689, inclusive of reimbursement of past product and development expenses of $1,048,689, which was recognized as revenue ratably over the estimated development period of one year resulting in $0 and $835,076 in collaboration revenue in the three months ended June 30, 2018 and 2017, respectively. Elanco terminated the arrangement effective January 30, 2018.

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Cost of Revenue

The following table presents the components of cost of revenue for the three months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Three Months Ended June 30,			
	2018	2017	Variance	Variance %
Cost of Revenue				
Material cost	$ 246,885	$ 24,762	$ 222,123	897.0%
Direct labor	114,688	—	114,688	N/A
Distribution fees	94,168	—	94,168	N/A
Royalties	31,727	—	31,727	N/A
Other	120,556	—	120,556	N/A
Total	$ 608,024	$ 24,762	$ 583,262	2,355.5%

Cost of revenue increased $583,262 from $24,762 in the three months ended June 30, 2017 to $608,024 for the same period in 2018. Napo related cost of revenue related to Mytesi was $598,316 and $0 in the three months ended June 30, 2018 and 2017 as the merger was effective July 31, 2017.

Research and Development Expense

The following table presents the components of research and development expense for the three months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Three Months Ended June 30,			
	2018	2017	Variance	Variance %
R&D:				
Personnel and related benefits	$ 559,340	$ 427,458	$ 131,882	30.9%
Materials expense and tree planting	44,315	25,430	18,885	74.3%
Travel, other expenses	26,602	50,440	(23,838)	(47.3)%
Clinical and contract manufacturing	593,956	140,706	453,250	322.1%
Stock-based compensation	145,035	58,173	86,862	149.3%
Other	235,638	224,584	11,054	4.9%
Total	$ 1,604,886	$ 926,791	$ 678,095	73.2%

Research and development expense increased $678,095 from $926,791 from the three months ended June 30, 2017 to $1,604,886 for the same period in 2018 due primarily to:

- Personnel and related benefits increased $131,882 from $427,458 in the three months ended June 30, 2017 to $559,340 in the same period in 2018 due to $371,000 of Napo personnel expenses in 2018 net of $231,000 of employee leasing charges in the period.

- Clinical and contract manufacturing expense increased $453,250 from $140,706 in the three months ended June 30, 2017 to $593,956 in the same period in 2018 primarily due to an increase in contract manufacturing costs due to the completion of SP-303 API manufacturing readiness work, for costs associated with the implementation and maintenance of serialization, and for costs for in-process Mytesi drug product readiness work in 2018. Clinical trial work decreased due to the temporary termination of canalevia studies.

- Stock-based compensation increased $86,862 from $58,173 in the three months ended June 30, 2017 to $145,035 in the same period in 2018 primarily due to an increase in the number of option grants and outstanding options quarter over quarter.

- Other expenses, consisting primarily of consulting, formulation and regulatory fees, increased $11,054 from $224,584 in the three months ended June 30, 2017 to $235,638 in the same period in 2018. Consulting, formulation and regulatory expenses were constant in the comparative periods, e period in 2018 in the three months ended June 30, 2017 to $55,000 for the same period in 2018.

We plan to increase our research and development expense as we continue developing our drug candidates. Our research and development expenses include $844,838 of Napo research and development expenses for the three month period ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

We continued to increase our level of support for the reforestation of croton lechleri trees in South America, which is reflected in an increase in spend of $18,885 from $25,430 in the three months ended June 30, 2017 to $44,315 in the same period in 2018. We value and take to heart the responsibility to replenish trees consumed in order to extract the raw material to manufacture our primary commercial product and the drug product for use in clinical trials.

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Sales and Marketing Expense

The following table presents the components of sales and marketing expense for the three months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Three Months Ended June 30,			
	2018	2017	Variance	Variance %
S&M:				
Personnel and related benefits	$ 1,052,234	$ 65,546	$ 986,688	1,505.3%
Stock-based compensation	18,167	7, 711	10 ,456	135.6%
Direct Marketing Fees	1,168,973	29,332	1,139,641	3,885.3%
Other	450,888	54,642	396,246	725.2%
Total	$ 2,690,262	$ 157,231	$ 2,533,031	1,611.0%

Sales and marketing expense increased $2,533,031 from $157,231 in the three months ended June 30, 2017 to $2,690,262 in the same period in 2018 due primarily to:

- Personnel and related benefits increased $986,688 from $65,546 in the three months ended June 30, 2017 to $1,052,234 in the same period in 2018 due to $1,033,000 in salary and related benefits for our Napo subsidiary employees in the three months ended June 30, 2018.

- Direct marketing and sales expense increased $1,139,641 from $29,332 in the three months ended June 30, 2017 to $1,168,973 for the same period in 2018 due to an increase $1,158,000 in marketing programs to promote the Napo Mytesi product.

- Other expenses, consisted primarily of travel expense, consulting expense and royalty expense, which collectively increased $376,000 from $50,000 in the three months ended June 30, 2017 to $426,000 in the same period in 2018 due primarily to Napo travel, consulting and office supplies expenses of $434,000.

In addition to the significant changes noted above:

- Stock based compensation expense increased $10,456 from $7,711 in the three months ended June 30, 2017 to $18,167 in the same period in 2018 due to an increase in the volume of new options granted to new and existing employees.

We plan to expand sales and marketing spend to promote our Mytesi products. Sales and marketing expenses include $2,628,495 in Napo sales and marketing expenses for the three months ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

General and Administrative Expense

The following table presents the components of general and administrative expense for the three months ended June 30, 2018 and 2017 together with the change in such components in dollars and as a percentage:

	Three Months Ended June 30,			
	2018	2017	Variance	Variance %
G&A:				
Personnel and related benefits	$ 472,715	$ 404,051	$ 68,664	17.0%
Accounting fees	105,780	159,473	(53,693)	(33.7)%
Third-party consulting fees and Napo service fees	439,296	63,518	375,778	591.6%
Legal fees	656,622	803,277	(146,655)	(18.3)%
Travel	78,878	38,288	40,590	106.0%
Stock-based compensation	301,252	150,250	151,002	100.5%
Rent and lease expense	97,928	78,012	19,916	25.5%
Public company expenses	188,903	256,122	(67,219)	(26.2)%
Other	718,374	184,999	533,375	288.3%
Total	$ 3,059,748	$ 2,137,990	$ 921,758	43.1%

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General and administrative expenses increased $921,758 from $2,137,990 in the three months ended June 30, 2017 to $3,059,748 for the same period in 2018 due primarily to an increases in intangible asset amortization, consulting expense and stock-based compensation expense:

- Other general and administrative expenses increased $533,375 from $184,999 in the three months ended June 30, 2017 to $718,374 in the same period in 2018. The increase was primarily driven by intangible asset amortization of $422,000 from $0 in the three months ended June 30, 2017 to $422,000 in the same period in 2018, These intangible assets were derived as part of the July 2017 merger with Napo.

- We incurred an increase in consulting fees of $375,778 from $63,518 in the three months ended June 30, 2017 to $439,296 in the same period in 2018. Of the increase, $194,000 is Napo related, $139,000 is an increase in finance consulting services, and $43,000 is for human resources consulting services.

- Stock-based compensation expense increased $151,002 from $150,250 in the three months ended June 30, 2017 to $301,252 in the same period in 2018 due to a significant increase in the volume of option grants to new and existing employees.

In addition to the significant changes noted above:

- Personnel and related benefits increased $68,664 from $404,051 in the three months ended June 30, 2017 to $472,715 in the same period in 2018 due to changes in headcount personnel and related salaries quarter over quarter.

- Accounting fees decreased $53,693 from $159,473 in the three months ended June 30, 2017 to $105,780 in the same period in 2018 due primarily to a reduced complexity of accounting issues in the current quarter.

- Legal fees decreased $146,655 from $803,277 in the three months ended June 30, 2017 to $656,622 in the same period in 2018 due to a reduction in merger related legal fees quarter over quarter.

- Travel expenses increased $40,590 from $38,288 in the three months ended June 30, 2017 to $78,878 in the same period in 2018 due to $14,000 in Napo related travel in 2018 and the remainder due to an increase in travel for general business and fund-raising purposes.

- Rent and lease expense increased $19,916 from $78,012 in the three months ended June 30, 2017 to $97,928 in the same period in 2018 due primarily to $32,000 in leased rent charged to Napo (pre-merger) in 2017, offset by $12,000 in company apartment rent in 2017 versus $0 in 2018.

- Public company expenses decreased $67,219 from $256,122 in the three months ended June 30, 2017 to $188,903 in the same period in 2018 due primarily to a decrease of $109,000 in printer fees, net of an increase of $37,000 in investor services expenses quarter over quarter.

We expect to incur additional general and administrative expense as a result of operating as a public company and as we grow our business, including expenses related to compliance with the rules and regulations of the SEC, additional insurance expenses, investor relations activities and other administrative and professional services. General and administrative expenses include $886,692 in Napo general and administrative expenses for the three month period ended June 30, 2018 compared to $0 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

Liquidity and Capital Resources

Sources of Liquidity

We had an accumulated deficit of $75,758,542 as a result of incurring net losses since our inception primarily because we have not generated enough revenue to cover costs and expenses to date. Our net loss was $13,353,820 for the six months ended June 30, 2018. We expect to continue to incur additional losses through the end of fiscal year 2018 and into future years due to expected significant expenses for toxicology, safety and efficacy clinical trials of our products and product candidates, for establishing contract manufacturing capabilities, and for the commercialization of one or more of our product candidates, if approved.

We had cash of $2,411,473 as of June 30, 2018. We do not believe our existing cash and cash equivalents will be sufficient to meet our anticipated cash requirements for the next 12 months. Our independent registered public accounting firm has included an explanatory paragraph in its audit report included in our Form 10-K for the years ended December 31, 2017 and 2016 regarding our assessment of substantial doubt about our ability to continue as a going concern. Our financial statements do not include any adjustments that may result from the outcome of this uncertainty.

We have funded our operations primarily through the issuance of equity securities, short-term convertible promissory notes, and long-term debt, in addition to sales of our commercial products. Our funding activities in the first six months of 2018 follow:

- In January 2018, the Company issued 50,000 shares of common stock to an existing investor in exchange for $6,425 in services rendered.

- In the first quarter of 2018, the Company issued 12,314,291 shares of its common stock in exchange for redemption of certain convertible debt.

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- On February 26, 2018, the Company entered into a securities purchase agreement with CVP, pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of $2,240,909 for an aggregate purchase price of $1,560,000. The Note carries an original issue discount of $655,909, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. The Note bears interest at the rate of 8% per annum and matures on (i) August 26, 2019 if the Company has raised at least $12 million in equity after the issuance date of the Note (the "Redemption Start Condition") and on or before April 1, 2018 or (ii) November 26, 2018 if the Redemption Start Condition is not satisfied on or before April 1, 2018.

- On March 21, 2018, the Company entered into a securities purchase agreement with CVP, pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of $1,090,341 for an aggregate purchase price of $750,000. The Note carries an original issue

discount of $315,341, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. The Note bears interest at the rate of 8% per annum and matures on September 21, 2019.

- In March of 2018, the Company issued 4,285,423 shares of its common stock in exchange for payment of interest expense on certain long-term convertible debt.

- In March 2018, the Company entered into a stock purchase agreement with Sagard Capital Partners, L.P. pursuant to which the Company, in a private placement, agreed to issue and sell to Sagard 5,524,926 shares of the Company's series A convertible participating preferred stock, $0.0001 par value per share, for an aggregate purchase price of $9,199,001. Each share of preferred stock is initially convertible into nine shares of common stock at an effective conversion price of $0.185 per share (based on an original price per Preferred Share of $1.665), provided that, at any time prior to the time the Company obtains stockholder approval, as required pursuant to Nasdaq Rule 5635(b) any conversion of Preferred Stock by a holder into shares of the Common Stock would be prohibited if, as a result of such conversion, the holder, together with such holder's attribution parties, would beneficially own more than 19.99% of the total number of shares of the Common Stock issued and outstanding after giving effect to such conversion. Subject to certain limited exceptions, the shares of Preferred Stock cannot be offered, pledged or sold by Sagard for one year from the date of issuance. The conversion price is subject to certain adjustments in the event of any stock dividend, stock split, reverse stock split, combination or other similar recapitalization. Concurrently with the consummation of the preferred stock offering, the Company entered into share purchase agreements with certain institutional investors pursuant to which the Company issued 29,411,766 shares of the Company's common stock in exhcnage for $5.0 million in cash.

We expect our expenditures will continue to increase as we continue our efforts to develop animal health products, expand our commercially available Neonorm product and continue development of our pipeline in the near term. We do not believe our current capital is sufficient to fund our operating plan through June 2019. We will need to seek additional funds through public or private equity or debt financings or other sources, such as strategic collaborations. Such financing may result in dilution to stockholders, imposition of debt covenants and repayment obligations or other restrictions that may affect our business. In addition, 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 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. These matters raise substantial doubt about the ability of the Company to continue in existence as a going concern within one year after issuance date of the financial statements.

Cash Flows for the Six Months Ended June 30, 2018 Compared to the Six Months Ended June 30, 2017

The following table shows a summary of cash flows for the six months ended June 30, 2018 and 2017:

	Six Months Ended	
	June 30, 2018	June 30, 2017
Total cash used in operations	$ (15,018,512)	$ (1,466,211)
Total cash used in investing activities	(6,527)	—
Total cash provided by financing activities	16,676,646	2,764,787
	$ 1,651,607	$ 1,298,576

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Cash Used in Operating Activities

During the six months ended June 30, 2018, cash used in operating activities of $15,018,512 resulted from our net loss of $13.4 million, adjusted by non-cash accretion of end of term payment, debt discounts and debt issuance costs of $818,000, stock-based compensation of $737,000, the extinguishment of the conversion option liability of $286,000, the reduction in the fair value of warrant liability of $145,000, common stock issued in exchange for services rendered of $6,000, depreciation and amortization expenses of $659,000, interest paid on the conversion of debt to equity of $60,000, and gain on revaluation of derivative liability of $3,000, net of changes in operating assets and liabilities of $3.8 million.

During the six months ended June 30, 2017, cash used in operating activities of $1,466,211 resulted from our net loss of $6.5 million, offset by non-cash accretion of end of term payment, debt discounts and debt issuance costs of $181,000, stock-based compensation of $444,000, reduction in the fair value of warrants of $247,000, loss on extinguishment of debt of $208,000, depreciation expense of $30,000, net of changes in operating assets and liabilities of $4.4 million.

Cash Used In Investing Activities

During the six months ended June 30, 2018, cash used in investing activities of $6,527 consisted of cash used to purchase property and equipment.

Cash Provided by Financing Activities

During the six months ended June 30, 2018, cash provided by financing activities of $16,676,646 primarily consisted of $1.3 million and $750,000 received in separate PIPE financings, $14.0 million in net proceeds from the Sagard financing, including $5.0 million in net proceeds received from the issuance of common stock and $9.0 million in net proceeds received from the issuance of convertible preferred stock, and $2.3 million received in the issuance of non-convertible debt, offset by $1.7 million in principal payments of our long-term debt.

During the six months ended June 30, 2017, cash provided by financing activities of $2,764,787 primarily consisted of $2.0 million in net proceeds received in the CSPA, $47,000 in net proceeds received in a PIPE financing, $1.7 million received in the issuance of convertible debt, offset by $992,000 in principal payments on our long-term debt.

Debt and Warrants

Convertible Notes

Convertible notes at June 30, 2018 and December 31, 2017 consist of the following:

	June 30, 2018	December 31, 2017
February 2015 convertible notes payable	$ —	$ 150,000
June 2017 convertible note payable	703,586	1,613,089
Napo convertible notes	10,768,163	12,153,389
	$ 11,471,749	$ 13,916,478
Less: unamortized debt discount and debt issuance costs	(43,564)	(261,826)
Net convertible notes payable obligation	$ 11,428,185	$ 13,654,652
Convertible notes payable – non-current	$ 10,768,163	$ 10,982,437
Convertible notes payable - current	$ 660,022	$ 2,672,215

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Interest expense on the convertible notes for the three and six months ended June 30, 2018 and 2017 follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
February 2015 convertible note nominal interest	$ (2,958)	$ 4,438	$ 1,480	$ 4,438
June 2017 convertible note nominal interest	14,465	—	33,329	—
June 2017 convertible note accretion of debt discount	119,338	—	238,261	—
Napo convertible note nominal interest	145,303	—	251,194	—
Total interest expense on convertible debt	$ 276,148	$ 4,438	$ 524,264	$ 4,438

Interest expense is classified as such in the statements of operations.

February 2015 Convertible Note

In February 2015, we issued convertible promissory notes to two accredited investors in the aggregate principal amount of $250,000. These notes were issued pursuant to the convertible note purchase agreement dated December 23, 2014. In March of 2018, the debtor agreed to accept the Company's common stock as payment for all outstanding principal and interest. And in April of 2018, the Company issued 2,034,082 shares of common stock to pay off the principal and interest balance.

June 2017 Convertible Note

On June 29, 2017, we issued a secured convertible promisorry note to Chicago Venture Partners, L.P. ("CVP") in the aggregate principal amount of $2,155,000 less an original issue discount of $425,000 and less $30,000 to cover the lender's legal fees for net cash proceeds of $1,700,000. Interest on the outstanding balance will be paid 8% per annum from the purchase price date until the balance is paid in full. All principal and interest on the debt is due in full on August 2, 2018. Effective August 13, 2018, we entered into an acknowledgement agreement with CVP extending the maturity date to August 26, 2019.

The Note provides for two separate features that result in a derivative liability:

1. Repayment of mandatory default amount upon an event of default—upon the occurrence of any event of default, the lendor may accelerate the Note resulting in the outstanding balance becoming immediately due and payable in cash; and

2. Automatic increase in the interest rate on and during an event of default—during an event of default, the interest rate will increase to the lesser of 17% per annum or the maximum rate permitted under applicable law.

We computed fair values at the date of issuance of $15,000 and $5,000 for the repayment and the interest rate increase feature, respectively, using the Binomial Lattice Model, which was based on the generalized binomial option pricing formula. The $20,000 combined fair value was carved out and is included as a derivative liability on the balance sheet. The derviatives were revalued at December 31, 2017 using the same Model resulting in a combined fair value of $11,000. The derviatives were revalued again at June 30, 2018 using the same Model resulting in a combined fair value of $8,000. The resulting $3,000 gain is included in other income and expense in the statements of operations.

The balance of the note payable of $660,022, consisting of the $2,155,000 face value of the note less note discounts and debt issuance costs of $509,000, less the $20,000 derivative liability, less principal payments of $1,451,454, plus the accretion of the debt discount and debt issuance costs of $485,476, is included in convertible notes payable on the balance sheet.

Napo Convertible Notes

March 2017 Convertible Notes

In March 2017, our Napo subsidiary entered into an exchangeable Note Purchase Agreement with two lenders for the funding of face amount of $1,312,500 in two $525,000 tranches of face amount $656,250. The notes bear interest at 3% and mature on December 1, 2017. The Company assumed the notes at fair value of $1,312,500 as part of the merger with Napo.

First Amendment to Note Purchase Agreement and Notes

In December 2017, our Napo subsidiary amended the exchangeable note purchase agreement to extend the maturity of the first tranche and second tranche of notes to February 15, 2018 and April 1, 2018, respectively, increase the principal amount by 12%, and reduce the conversion price from $0.56 per share to $0.20 per share. We also issued 2,492,084 shares of common stock to the lenders in connection with this amendment to partially redeem $299,050 from the first tranche of the notes. The amended face value of the notes was $1,170,950. This amendment resulted in our treating the notes as having been extinguished and replaced with new notes for accounting purposes due to meeting the 10% cash flow test. The conversion option in the notes was bifurcated and accounted as a conversion option liability at its fair value as further disclosed in Note 4.

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Second Amendment to Note Purchase Agreement and Notes

On February 16, 2018, our Napo subsidiary amended the exchangeable note purchase agreement to extend the maturity date of the Second Tranche Notes from April 1, 2018 to May 1, 2018. In addition, we also issued 3,783,444 shares of common stock to the purchasers as repayment of the remaining $435,950 aggregate principal amount and $18,063 in accrued and unpaid interest thereon. On March 23, 2018, we paid off the remaining $735,000 of principal and $20,699 in interest due on the second tranche debt in cash with proceeds from the March 23, 2018 equity financing. The fair value of the conversion option liability was again revalued at March 23, 2018 using the Black-Scholes-Merton model using the following criteria: stock price of $0.21 per share, expected life of 0.11 years, volatility of 288.16%, risk free rate of 1.69% and dividend rate of 0%, resulting in an increase of $174,754 to the fair value of the conversion option liability and included in the change in fair value of warrants and conversion option liability in the statements of operations. The underlying debt was paid off in March of 2018 and the $286,595 conversion option liability was written off to other income in the statements of operations.

December 2016 Convertible Notes

In December 2016, our Napo subsidiary entered into a note purchase agreement which provided for the sale of up to $12,500,000 face amount of notes and issued convertible promissory notes (the Napo December 2016 Notes) in the aggregate face amount of $2,500,000 to three lenders and received proceeds of $2,000,000 which resulted in $500,000 of original issue discount. In July 2017, Napo issued convertible promissory notes (the Napo July 2017 Notes) in the aggregate face amount of $7,500,000 to four lenders and received proceeds of $6,000,000 which resulted in $1,500,000 of original issue discount. The Napo December 2016 Notes and the Napo July 2017 Notes mature on December 30, 2019 and bear interest at 10% with interest due each six-month period after December 30, 2016. On June 30, 2017, the accrued interest of $125,338 was added to principal of the Napo December Notes, and the new principal balance became $2,625,338. Interest may be paid in cash or in the stock of Jaguar per terms of the note purchase agreement. In each one year period beginning December 30, 2016, up to one-third of the principal and accrued interest on the notes may be converted into the common stock of the merged entity at a conversion price of $0.925 per share. We assumed these convertible notes at fair value of $11,161,000 as part of the Napo Merger. The $1,035,661 difference between the fair value of the notes and the principal balance is being amortized over the twenty-nine (29) month period from July 31, 2017 to December 31, 2019 or $178,562 and is recorded as a contra interest expense in the statements of operations. Interest expense is paid every six months through the issuance of common stock. On March 16, 2018, $534,775 of interest accrued through January 31, 2018 and $169,950 of certain legal expenses were paid through the issuance of 4,285,423 shares of our common stock. At June 30, 2018 and December 31, 2017, the unamortized balance of the convertible note payable is $10,768,163 and $10,982,438 which are included in Convertible Long-term Debt on the balance sheet.

Long-term Debt

As of June 30, 2018 and December 31, 2017, the net Jaguar long-term debt obligation was as follows:

	June 30, 2018	December 31, 2017
Debt and unpaid accrued end-of-term payment	$ —	$ 1,636,639
Unamortized note discount	—	(6,615)
Unamortized debt issuance costs	—	(20,780)
Net debt obligation	$ —	$ 1,609,244
Current portion of long-term debt	$ —	$ 1,609,244
Long-term debt, net of discount	—	—
Total	$ —	$ 1,609,244

Interest expense on the Jaguar long-term debt for the three and six months ended June 30, 2018 and 2017 was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Nominal interest	$ —	$ 67,273	$ 19,344	$ 146,134
Accretion of debt discount	—	9,961	20,779	21,639
Accretion of end-of-term payment	—	41,505	52,561	90,160
Accretion of debt issuance costs	—	31,085	6,616	67,524
Total interest expense on convertible debt	$ —	$ 149,824	$ 99,300	$ 325,457

In August 2015, we entered into a loan and security agreement with a lender for up to $8.0 million, which provided for an initial loan commitment of $6.0 million. The agreement has a term of three years, with interest only payments through February 29, 2016. Thereafter, principal and interest payments will be made with an interest rate of 9.9%. Additionally, there will be a balloon payment of $600,000 on August 1, 2018 (as modified in the third amendment to the Loan Agreement). This amount is being recognized over the term of the loan agreement and the effective interest rate, considering the balloon payment, is 15.0%. Proceeds to us were net of a $134,433 debt discount under the terms of the loan agreement.

On April 21, 2016, the loan and security was amended upon which we repaid $1.5 million of the debt out of restricted cash. The amendment modified the repayment amortization schedule providing a four-month period of interest only payments for the period from May through August 2016.

On July 7, 2017, we entered into the third amendment to the Loan Agreement upon which we paid $1.0 million of the outstanding loan balance, and the lender waived the prepayment charge associated with such prepayment. The Third Amendment modified the repayment schedule providing a three-month period of interest only payments for the period from August 2017 through October 2017.

On March 23, 2018, we paid off the remaining $689,345 of principal, $4,471 of interest, and the end-of-term payment of $600,000 in cash with proceeds from the March 23, 2018 equity financing.

Notes Payable

As of June 30, 2018 and December 31, 2017, the net Jaguar short-term notes payable was as follows:

	Notes Payable	
	June 30, 2018	December 31, 2017
December 2017 note payable	$ 1,587,500	$ 1,587,500
February 2018 note payable	2,240,909	—
March 2018 note payable	1,090,341	—
	4,918,750	1,587,500
Less: unamortized net discount and debt issuance costs	(928,646)	(446,347)
Net convertible notes payable obligation	$ 3,990,104	$ 1,141,153

Interest expense on the Jaguar short-term notes payable for the three and six months ended June 30, 2018 and 2017 was as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Nominal interest	$ 101,650	$ —	$ 151,309	$ —
Accretion of debt discount	334,004	—	538,951	—
Total interest expense on convertible debt	$ 435,654	$ —	$ 690,260	$ —

On December 8, 2017, we entered into a securities purchase agreement with CVP pursuant to which we issued a promissory note in the aggregate principal amount of $1,587,500 for an aggregate purchase price of $1,100,000. The Note carries an original issue discount of $462,500, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. We will use the proceeds for general corporate purposes. The Note bears interest at the rate of 8% per annum and matures on September 8, 2018. The balance of the note payable as of June 30, 2018 of $1,463,536 consists of the $1,587,500 face value of the note less note discounts and debt issuance costs of $487,500, plus the accretion of the debt discount and debt issuance costs of $363,536, is included in notes payable in the current liabilities section of the balance sheet. Effective August 13, 2018, we entered into an acknowledgement agreement with CVP extending the maturity date to August 26, 2019.

On February 26, 2018, we entered into a securities purchase agreement with CVP, pursuant to which we issued a promissory note in the aggregate principal amount of $2,240,909 for an aggregate purchase price of $1,560,000. The Note carries an original issue discount of $655,909, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. We will use the proceeds for general corporate purposes and working capital. The Note bears interest at the rate of 8% per annum and matures on (i) August 26, 2019 if we have raised at least $12 million in equity after the issuance date of the Note (the "Redemption Start Condition") and on or before April 1, 2018 or (ii) November 26, 2018 if the Redemption Start Condition is not satisfied on or before April 1, 2018. The balance of the note payable as of June 30, 2018 of $1,713,718 consisting of the $2,240,909 face value of the note less note discounts and debt issuance costs of $680,909, plus the accretion of the debt discount and debt issuance costs of $153,718, is included in notes payable in the current liabilities section of the balance.

On March 21, 2018, we entered into a securities purchase agreement with CVP, pursuant to which we issued a promissory note in the aggregate principal amount of $1,090,341 for an aggregate purchase price of $750,000. The Note carries an original issue discount of $315,341, and the initial principal balance also includes $25,000 to cover CVP's transaction expenses. We will use the proceeds to fully repay certain prior secured and unsecured indebtedness. The Note bears interest at the rate of 8% per annum and matures on September 21, 2019. The balance of the note payable as of June 30, 2018 of $812,850 consisting of the $1,090,341 face value of the note less note discounts and debt issuance costs of $340,341, plus the accretion of the debt discount and debt issuance costs of $62,850, is included in notes payable in the current liabilities section of the balance sheet.

Since the Redemption Start Condition (i.e., we have raised at least $12 million in equity after the issuance date of the Note) was satisfied by April 1, 2018 as a result of the consummation of the Preferred Stock Offering and Common Stock Offering, the Company and CVP agreed to amend the Notes issued to CVP on June 29, 2017, December 8, 2017 and February 26, to limit the aggregate amount that CVP is permitted to redeem on a monthly basis to $500,000, which amount is the maximum aggregate redemption amount for the Notes collectively.

Warrants

Our warrant activity is summarized as follows for the six months ended June 30, 2018 and for the year ended December 31, 2017:

	Six Months Ended June 30, 2018	Year Ended December 31, 2017
	(in shares)	
Beginning balance	321,314	397,904
Warrants granted	—	106,376
Warrants exercised	—	(60,553)
Warrants expired	(50,553)	(122,413)
Ending balance	270,761	321,314

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles, or 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 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. We believe the following critical accounting policies used in the preparation of our financial statements require significant judgments and estimates. For additional information relating to these and other accounting policies, see Note 2 to our audited financial statements, appearing elsewhere in this report.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers ("ASC 606"), which was adopted on January 1, 2018, using the modified retrospective method, which was elected to apply to all active contracts as of the adoption date. Application of the modified retrospective method did not impact amounts previously reported by the Company, nor did it require a cumulative effect adjustment upon adoption, as the Company's method of recognizing revenue under ASC 606 yielded similar results to the method utilized immediately prior to adoption. Accordingly, there was no effect to each financial statement line item as a result of applying the new revenue standard.

Practical Expedients, Elections, and Exemptions

We recognize revenue in accordance with the core principal 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 we expect to be entitled to in exchange for those goods or services.

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We used a practical expedient available under ASC 606-10-65-1(f)4 that permits us to consider the aggregate effect of all contract modifications that occurred before the beginning of the earliest period presented when identifying satisfied and unsatisfied performance obligations, transaction price, and allocating the transaction price to the satisfied and unsatisfied performance obligations.

We also used a practical expedient available under ASC 606-10-32-18 that permits us not to 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.

We have elected to treat shipping and handling activities as fulfillment costs.

Additionally, we have elected to record revenue net of sales and other similar taxes.

Contracts

Our Napo subsidiary entered into a Marketing and Distribution Agreement ("M&D Agreement") with BexR Logistix, LLC ("BexR" or "Mission Pharmacal" or "Mission"), in April 2016 to appoint BexR as its distributor with the right to market and sell, and the exclusive right to distribute Mytesi (formerly Fulyzaq) in US. The term of the M&D Agreement is 4 years. The M&D Agreement will renew automatically for successive one year terms unless either party provides a written notice of termination not less than 90 days prior to the expiration of the initial or subsequent terms. Napo retains control of Mytesi held at Mission.

Napo sells Mytesi through Mission, who then sells Mytesi to its distributors and wholesalers — McKesson, Cardinal Health, AmerisourceBergen Drug Corporation ("ABC"), HD Smith, Smith Drug and Publix (together "Distributors"). Mission sells Mytesi to their Distributors, on behalf of Napo, under agreements executed by Mission with these Distributors and Napo abides by the terms and conditions of sales agreed to between Mission and their Distributors. Health care providers order Mytesi through pharmacies who obtain Mytesi through Mission's Distributors. Napo considers Mission as the sales agent and the Distributors of Mission as its customers.

Mission's Distributors are our customers with respect to purchase of Mytesi. The M&D Agreement with Mission, Mission's agreement with the Distributors and the related purchase order will together meet the contract existence criteria under ASC 606-10-25-1.

Our Neonorm and Botanical extract products are primarily sold to distributors, who then sell the products to the end customers. Since 2014, we entered into several distribution agreements with established distributors such as Animart, Vedco, VPI, RJ Matthews, Henry Schein, and Stockmen Supply to distribute the Company's products in the United States, Japan, and China. The distribution agreements and the related purchase order together meet the contract existence criteria under ASC 606-10-25-1. Jaguar sells directly to its customers without the use of an agent.

Performance obligations

For the products sold by each of Napo and Jaguar, the single performance obligation identified above is our promise to transfer our Mytesi product to Distributors based on specified payment and shipping terms in the arrangement. Product warranties are assurance type warranties that does not represent a performance obligation.

Transaction price

For both Jaguar and our Napo subsidiary, the transaction price is the amount of consideration to which we expect to collect in exchange for transferring promised goods or services to a customer. The transaction price of Mytesi and Neonorm is the Wholesaler Aquisition Cost ("WAC"), net of discounts, returns, and price adjustments. The transaction price of the products represents a form of variable consideration for which we use the expected value method to calculate the expected consideration we are entitled to. Historical results and management experience in estimating returns and discounts allows us to overcome the variable consideration constraints in its calculation of the expected consideration.

Allocate transaction price

For both Jaguar and our Napo subsidiary, the entire transaction price is allocated to the single performance obligaton contained in each contract.

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Point in time recognition

For both Jaguar and our Napo subsidiary, 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.

Goodwill and Indefinite-lived Intangible Assets

Goodwill is tested for impairment on an annual basis and in-between annual tests if events or circumstances indicate that an impairment loss may have occurred. The test is based on a comparison of the reporting unit's book value to its estimated fair market value. We perform annual impairment test during the fourth quarter of each fiscal year using the opening consolidated balance sheet as of the first day of the fourth quarter, with any resulting impairment recorded in the fourth quarter of the fiscal year.

If the carrying value of a reporting unit's net assets exceeds its fair value, the goodwill would be considered impaired and would be reduced to its fair value. The goodwill was entirely allocated to the human health reporting unit as the goodwill relates to the Napo Merger. The decline in market capitalization during the year ended December 31, 2017 was determined to be a triggering event for potential goodwill impairment. Accordingly we performed the goodwill impairment analysis. The Company utilized the market capitalization plus a reasonable control premium in the performance of its impairment test. The market capitalization was based on the outstanding shares and the average market share price for the 30 days prior to December 31, 2017. Based on the results of our impairment test, the Company recorded an impairment charge of $16,827,000 during the year ended December 31, 2017. If the market capitalization decreases in the future, a reasonable possibility exists that goodwill could be further impaired in the near term and that such impairment may be material to the financial statements.

Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions, estimates and market factors. Estimating the fair value of individual reporting units and indefinite-lived intangible assets requires us to make assumptions and estimates regarding our future plans, as well as industry and economic conditions. These assumptions and estimates include projected revenues and income growth rates, terminal growth rates, competitive and consumer trends, market-based discount rates, and other market factors. If current expectations of future growth rates are not met or market factors outside of our control, such as discount rates, change significantly, this may lead to a further goodwill impairment in the future. Acquired in-process research and development (IPR&D) are intangible assets 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. Based on the results of our impairment test, the Company recorded an impairment charge of $2,300,000 during the year ended December 31, 2017. In connection with each annual impairment assessment and any interim impairment assessment in which indicators of impairment have been identified, we compare the fair value of the asset as of the date of the assessment with the carrying value of the asset on the consolidated balance sheet. If impairment is indicatd by this test, the intangible asset is written down by the amount by which the discounted cash flows expected from the intangible asset exceeds its carrying value.

Additionally, as goodwill and intangible assets associated with recently acquired businesses are recorded on the balance sheet at their estimated acquisition date fair values, those amounts are more susceptible to an impairment risk if business operating results or macroeconomic conditions deteriorate.

In connection with each annual impairment assessment and any interim impairment assessment in which indicators of impairment have been identified, we compare the fair value of the asset as of the date of the assessment with the carrying value of the asset on the consolidated balance sheet. If impairment is indicatd by this test, the intangible asset is written down by the amount by which the discounted cash flows expected from the intangible asset exceeds its carrying value.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate accrued research and development expenses. Estimated accrued expenses include fees paid to vendors and clinical sites in connection with our clinical trials and studies. We review new and open contracts and communicate with applicable internal and vendor personnel to identify services that have been performed on our behalf and estimate the level of service performed and the associated costs incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost for accrued expenses. The majority of our service providers invoice us monthly in arrears for services performed or as milestones are achieved in relation to our contract manufacturers. We make estimates of our accrued expenses as of each reporting date.

We base our accrued expenses related to clinical trials and studies on our estimates of the services received and efforts expended pursuant to contracts with vendors, our internal resources, and payments to clinical sites based on enrollment projections. The financial terms of the vendor agreements

are subject to negotiation, vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors such as the successful enrollment of animals and the

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completion of development milestones. We estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the related expense accrual accordingly on a prospective basis. If we do not identify costs that have been incurred or if we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates. To date, we have not made any material adjustments to our estimates of accrued research and development expenses or the level of services performed in any reporting period presented.

The Company expenses the total cost of a certain long-term manufacturing development contract ratably over the estimated life of the contract, or the total amount paid if greater.

Accounting for Stock-Based Compensation

Beginning in the second quarter of 2014, we awarded options and restricted stock units. We measure stock-based awards granted to employees and directors at fair value on the date of grant and recognize 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. The Company revalues non-employee options each reporting period using the fair market value of the Company's common stock as of the last day of each reporting period.

Key Assumptions. Our Black-Scholes-Merton option-pricing model requires the input of highly subjective assumptions, including the fair value of the underlying common stock, the expected volatility of the price of our common stock, the expected term of the option, risk-free interest rates and the expected dividend yield of our common stock. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future. These assumptions are estimated as follows:

- Fair value of our common stock—Our common stock is valued by reference to the publicly-traded price of our common stock.
- Expected volatility—As we do not have any trading history for our common stock, the expected stock price volatility for our common stock was estimated by taking the average historic price volatility for industry peers based on daily price observations for common stock values over a period equivalent to the expected term of our stock option grants. We did not rely on implied volatilities of traded options in our industry peers' common stock because the volume of activity was relatively low. We intend to continue to consistently apply this process using the same or similar public companies until a sufficient amount of historical information regarding the volatility of our own common stock share price becomes available.
- Expected term—The expected term represents the period that our stock-based awards are expected to be outstanding. It is based on the "simplified method" for developing the estimate of the expected life of a "plain vanilla" stock option. Under this approach, the expected term is presumed to be the midpoint between the average vesting date and the end of the contractual term for each vesting tranche. We intend to continue to apply this process until a sufficient amount of historical exercise activity is available to be able to reliably estimate the expected term.
- Risk-free interest rate—The risk-free interest rate is based on the yields of U.S. Treasury securities with maturities similar to the expected term of the options for each option group.
- Dividend yield—We have never declared or paid any cash dividends and do not presently plan to pay cash dividends in the foreseeable future. Consequently, we used an expected dividend yield of zero.
- Forfeitures—We estimate forfeitures at the time of grant and revise those estimates periodically in subsequent periods. We use historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest.

The fair market value per share of our common stock for purposes of determining stock-based compensation is now the closing price of our common stock as reported on The NASDAQ Stock Market on the applicable grant date.

Classification of Securities

We apply the principles of ASC 480-10 "Distinguishing Liabilities From Equity" and ASC 815-40 "Derivatives and Hedging—Contracts in Entity's Own Equity" to determine whether financial instruments such as warrants, contingently issuable shares and shares subject to repurchase should be classified as liabilities or equity and whether beneficial conversion features exist.

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Financial instruments such as warrants that are evaluated to be classified as liabilities are fair valued upon issuance and are remeasured at fair value at subsequent reporting periods with the resulting change in fair value recorded in other income/(expense). The fair value of warrants is estimated using the Black Scholes Merton model and requires the input of subjective assumptions including expected stock price volatility and expected life.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, *Leases*. Under the new guidance, lessees will be required to recognize substantially all leases on the balance sheet as a right-of-use asset and recognize a corresponding lease liability. The accounting applied by a lessor is largely unchanged from that

applied under previous U.S. GAAP. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are currently evaluating the impact of this accounting standard on our financial position, results of operation or cash flows.

JOBS Act

In April 2012, the JOBS Act was enacted. Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period, and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as such term is defined in Rule 13a-15(e) and 15d-15(c) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are designed to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognized that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met. Our disclosure controls and procedures have been designed to meet reasonable assurance standards. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. The design of any disclosure controls and procedures also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Based on their evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q, our Chief Executive Officer and Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures were not effective due to the existence of a material weakness in the design and operating effectiveness of an internal control related to review of our tax provision. This conclusion was based on the material weakness in our internal control over financial reporting further described below.

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A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected in a timely basis. In connection with the audit of our financial statements as of and for the year ended December 31, 2017, we did not adequately and timely review the accounting for income taxes. While we utilize the assistance of an external income tax specialist to prepare our annual tax provision, management has concluded there to be a material weakness in the design of our income tax controls in that our policy that governs the data validation controls over data provided to and received from the external income tax specialist and the management review controls were not designed with appropriate levels of precision and were not undertaken in a timely manner, which resulted in an extension to file our Annual Report on Form 10-K. We plan to enhance existing controls and design and implement new controls applicable to our tax accounting, to ensure that our income tax balances are accurately calculated and appropriately reflected in our financial statements on a timely basis. We plan to devote significant time and attention to remediate the above material weakness as soon as reasonably possible. As we continue to evaluate our controls, we will make the necessary changes to improve the overall design and operation of our controls. We believe these actions will be sufficient to remediate the identified material weakness and strengthen our internal control over financial reporting; however, there can be no guarantee that such remediation will be sufficient. We will continue to monitor the effectiveness of our controls and will make any further changes management determines appropriate.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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PART II. — OTHER INFORMATION

Item 1. Legal Proceedings.

On July 20, 2017, a putative class action complaint was filed in the United States District Court, Northern District of California, Civil Action No. 3:17-cv-04102, by Tony Plant (the "Plaintiff") on behalf of shareholders of the Company who held shares on June 30, 2017 and were entitled to vote at the 2017 Special Shareholders Meeting, against the Company and certain individuals who were directors as of the date of the vote (collectively, the "Defendants"), in a matter captioned Tony Plant v. Jaguar Animal Health, Inc., et al., making claims arising under Section 14(a) and Section 20(a) of the Exchange Act and Rule 14a-9, 17 C.F.R. § 240.14a-9, promulgated thereunder by the SEC. The claims allege false and misleading information provided to investors in the Joint Proxy Statement/Prospectus on Form S-4 (File No. 333-217364) declared effective by the Commission on July 6, 2017 related to the solicitation of votes from shareholders to approve the merger and certain transactions related thereto. The Company accepted service of the complaint and

summons on behalf of itself and the United States-based director Defendants on November 1, 2017. The Company has not accepted service on behalf of, and Plaintiff has not yet served, the non-U.S.-based director Defendants. On October 3, 2017, Plaintiff filed a motion seeking appointment as lead plaintiff and appointment of Monteverde & Associates PC as lead counsel. That motion has been granted. Plaintiff filed an amended complaint against the Company and the United States-based director Defendants on January 10, 2018. If the Plaintiff were able to prove its allegations in this matter and to establish the damages it asserts, then an adverse ruling could have a material impact on the Company. However, the Company disputes the claims asserted in this putative class action case and is vigorously contesting the matter. The Defendants filed a motion to dismiss on March 12, 2018, for which oral arguments were held on June 14, 2018. The court has not yet ruled on the motion. The Company believes that it is not probable that an asset has been impaired or a liability has been incurred as of the date of the financial statements and the amount of any potential loss is not reasonably estimable.

Other than as described above, there are currently no claims or actions pending against us, the ultimate disposition of which could have a material adverse effect on our results of operations, financial condition or cash flows.

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

Other than the shares of our common stock sold pursuant to the common stock purchase agreement with L2 Capital, LLC, as disclosed on our Form 8-K filed with the SEC on November 24, 2017, there were no unregistered sales of equity securities during the period.

Item 6. Exhibits

Exhibit No.	Description
3.1	Third Amended and Restated Certificate of Incorporation of Jaguar Health, Inc. (f/k/a Jaguar Animal Health, Inc.) (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (No. 001-36714) filed on August 1, 2017).
3.2	Certificate of Second Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Form 8-K of Jaguar Health, Inc. filed June 1, 2018, File No. 001-36714).
3.3	Certificate of Third Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to the Form 8-K of Jaguar Health, Inc. filed June 1, 2018, File No. 001-36714).
4.1	Specimen Common Stock Certificate of Jaguar Health, Inc. (incorporated by reference to Exhibit 4.1 to the Form 8-K of Jaguar Health, Inc. filed June 1, 2018, File No. 001-36714).
10.1	Offer Letter, dated May 25, 2018 (incorporated by reference to Exhibit 10.1 to the Form 8-K/A of Jaguar Health, Inc. filed June 11, 2018, File No. 001-36714).
10.2*†	Co-Promotion Agreement, dated June 28, 2018, by and between Napo Pharmaceuticals, Inc. and RedHill Biopharma, Inc.
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	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* 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 the exhibit have been omitted pursuant to a request for confidential treatment.

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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: August 13, 2018

JAGUAR HEALTH, INC.

By: /s/ Karen S. Wright
Karen S. Wright
Chief Financial Officer
Principal Financial and Accounting Officer

***** TEXT OMITTED AND SUBMITTED SEPARATELY PURSUANT TO CONFIDENTIAL TREATMENT REQUEST**

CO-PROMOTION AGREEMENT

THIS CO-PROMOTION AGREEMENT is made and entered into as of June 28, 2018 (the "**Effective Date**"), by and between Napo Pharmaceuticals, Inc., a California company, having a place of business at 201 Mission Street Suite 2375 San Francisco, CA 94105, USA and all Affiliates thereof ("**Napo**") and RedHill Biopharma, Inc., a Delaware corporation, having an address at 8045 Arco Corporate Drive, Suite 120, Raleigh, North Carolina 27617 and all Affiliates thereof ("**RedHill**"). RedHill and Napo each may be referred to herein individually as a "**Party**," or collectively as the "**Parties.**"

WHEREAS, Napo owns, develops, markets and manufactures the Product (as defined below), and wishes to appoint RedHill, and RedHill wishes to accept such appointment, as the Promoter of the Product to physicians in the Specialty in the Territory in the Field of Use.

NOW THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

1. DEFINITIONS

For purposes of this Agreement, the following terms shall have the following meanings:

1.1 "**Act**" means the Federal Food, Drug, and Cosmetic Act, as amended from time to time, and the rules, regulations, guidelines and requirements of the FDA as may be in effect from time to time**.**

1.2 "**Affiliate**" of a person means any other person that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with such first person. For purposes of this definition only, "control" and, with correlative meanings, the terms "controlled by" and "under common control with" will mean the possession, directly or indirectly, of the power to direct the management or policies of an entity, whether through the ownership of fifty percent or more of the voting securities or other ownership interest of a business entity (or, with respect to a limited partnership or other similar entity, its general partner or controlling entity) of the other organization or entity or by contract relating to voting rights or corporate governance, or otherwise.

1.3 "**Applicable Laws**" means all federal, state and local laws, and the rules, regulations, guidance, guidelines and requirements of governmental authorities in effect from time to time, including those relating to the manufacture, marketing, promotion, distribution (including storage, handling and transportation) and sale of the Product in the Territory including the Act, FDA's Guidance for Industry — Supported Scientific and Educational Activities, other applicable FDA Guidance, the PhRMA Code on Interactions

with Healthcare Professionals, the Department of Health and Human Services Office of the Inspector General's (OIG's) Compliance Program Guidance for Pharmaceutical Manufacturers, "fraud and abuse", anti-kickback, consumer protection and false claims statutes and regulations.

1.4 "**Bankruptcy Event**" means a company: (i) becomes insolvent or admits its inability to pay its debts generally as they become due; (ii) becomes subject, voluntarily or involuntarily, to any proceeding under any domestic or foreign bankruptcy or insolvency law, which is not fully stayed within ten (10) days or is not dismissed or vacated within forty five (45) days after filing; (iii) is dissolved or liquidated or takes any corporate action for such purpose; (iv) makes a general assignment for the benefit of creditors; or has a receiver, trustee, custodian or similar agent appointed by order of any court of competent jurisdiction to take charge of or sell any material portion of its property or business.

1.5 "**Business Day**" means a day that is not a Saturday or Sunday or any other day on which banks in New York, NY, San Francisco, CA, and/or Israel are authorized or required by law to be closed.

1.6 "**Calendar Year**" means each one-year period beginning January 1st and ending on December 31st.

1.7 "**Calendar Quarter**" means each period of three consecutive months starting on January 1st, April 1st, July 1st or October 1st.

1.8 "**Promotional Fee**" has the meaning set forth in Section 9.1 of this Agreement.

1.9 "**Promotion Plan**" means the Promotion Plan annexed hereto as **Annex A**, as may be amended from time to time by the Parties, which shall include call plans to physicians in the Specialty in the Territories, managed market strategy, sampling strategy, promotional and training material, medical affairs strategy, sales activities and reporting obligations and other plans relating to promotion of the Product as the JPC deems appropriate.

1.10 "**Detail**" means any in-person sales presentation of the Product to someone that to the best of RedHill's knowledge is a practicing physician or other HCP in a manner that is customary in the industry for promoting a prescription pharmaceutical product. When used as a verb, "Detail" shall mean to engage in a Detail, also known as "Detailing".

1.11 "**FDA**" means the United States Food and Drug Administration.

1.12 "**Field of Use**" means the labeled indication for the Product as of the Effective Date: for the symptomatic relief of non-infectious diarrhea in adult patients with HIV/AIDS on antiretroviral therapy.

1.13 "**Generic Equivalent**" means receipt by a third-party of an approval for marketing by the FDA pursuant to an abbreviated new drug application of a generic drug product referencing the Product (as approved pursuant to New Drug Application 202292) as the reference listed drug (i.e. such generic drug product is approved as an "AB" therapeutic equivalent to the Product in the Approved Drug Products with Therapeutic Equivalence Evaluations published by the FDA Center for Drug Evaluation and Research).

1.14 "**HCP**" means someone that to the best of RedHill's knowledge is a practicing health care practitioner who is permitted by law to prescribe the Product.

1.15 "**JPC**" shall have the meaning set forth in Section 5.1.

1.16 "**PIRs**" means, collectively, Product Labels and Inserts and Promotional Materials.

1.17 "**Product**" means Mytesi® crofelemer 125 mg delayed-release tablets for the Field of Use.

1.18 "**Product Copyright**" shall mean all copyrightable subject matter included in the PIRs and the Product training programs and materials developed and produced in accordance with this Agreement, whether or not such copyright has been registered and whether or not such materials have been published.

1.19 "**Product Labels and Inserts**" means (a) all labels and other written, printed or graphic matter affixed to any container, packaging or wrapper utilized with the Product or (b) any written material accompanying or explaining the Product, including Product package inserts.

1.20 "**Product Trademarks**" means (a) any Trademarks relating to the Product and the registrations thereof, (b) any pending or future Trademark registration applications relating to the Product, (c) any unregistered Trademark rights relating to the Product as may exist through use prior to or as of the date hereof, (d) any current or future modifications or variants of any of the foregoing Trademarks, and (e) any future Trademarks adopted by Napo for use in connection with the Product, in each case excluding the Napo Trademark and trade name.

1.21 "**Promotion**" and "**Promotional Activities**" means those activities customary in the industry by a pharmaceutical company of RedHill's size and market capitalization in respect of a product with similar commercial potential as the Product to implement promotioning plans and strategies aimed at encouraging the use of a prescription pharmaceutical product, including Detailing. When used as a verb, "Promote" or "Promoting" means engagement in such activities. When used as a noun, "Promoter" means a person or entity engaged in such activities.

1.22 "**Promotional Materials**" has the meaning set forth in Section 3.4.

1.23 "**Regulatory Approval**" means the obtaining of all necessary regulatory approvals required from all applicable Regulatory Authorities in the Territory in order to commercially sell or market the Product for human consumption in such Territory, and satisfaction of any related applicable regulatory registration and notification requirements.

1.24 "**Regulatory Authority**" means any applicable governmental authority regulating or otherwise exercising authority with respect to the manufacture, development and Promotion of the Product in the Territory.

1.25 "**Sample**" means a standard sample unit of Product consistent with industry practices, subject to the provisions of Section 3.7.

1.26 "**Specialty**" means (i) gastroenterologists and other gastro/intestinal specialty HCPs and (ii) other HCPs approved by Napo as of the Effective Date as described in the Promotion Plan, **Annex A** hereto; as well as those other HCPs approved in advance by Napo after the Effective Date who treat patients whose ailments fall within the Field of Use, in accordance with the provisions of Section 2.4; other than those specific HCPs attributed to Napo on **Annex A** hereto.

1.27 "**Tax**" means, except as otherwise addressed herein, all federal, state, local, foreign and other income, gross receipts, sales, use, value added, production ad valorem, transfer, franchise, registration, profits, license, lease, service, service use, withholding, payroll, employment, unemployment, estimated, excise, severance, environmental, stamp, occupation, premium, property (real or personal), real property gains, or windfall profits, together with any interest, additions or penalties with respect thereto and any interest in respect of such interest, additions or penalties determined or assessed by a governmental authority.

1.28 "**Term**" shall be as defined in Section 18.1.

1.29 "**Territory**" shall mean the specified geographical territories within the United States, and a designated exclusive HCP call plan for HCPs in the Specialty as set out in the Promotion Plan, as well as additional geographical territories and pharmacy call points mutually agreed by the Parties as set out in the Promotion Plan. Without derogating from the foregoing, the Parties may mutually agree to expand the Territory to other territories, as shall mutually be determined in the Promotion Plan and/or through the JPC. Final approval for expansion will be provided by both Parties.

1.30 "**Third Party(ies)**" means any party other than Napo, RedHill and their respective Affiliates.

1.31 "**Trademarks**" means any trademark, servicemark, trade dress, brand mark, certification marks, internet domain names, trade name, brand name, corporate name, logo, business symbol, and other indicia of source, whether or not registered, and all registrations and applications therefor including all extensions, modifications, divisions and renewals of the foregoing.

1.32 "**Unit**" means a prescription unit (TRx QTY) of sixty (60) qty individual dosage tablets of the Product in one bottle or separately. For the avoidance of doubt, each refill, whether or not it is part of the original prescription, will be considered a "Unit" for the purpose of this Agreement. By way of example, if a prescription includes two additional refills, it will be considered for the purpose of this Agreement as three (3) Units (i.e. original prescription plus two refills).

1.33 **"Units Dispensed**" in any period means the number of Units of Product dispensed to patients in the relevant period either within the Specialty in the Territory or otherwise attributable to RedHill's Promotional Activities hereunder, determined based on information reported by IQVia (formerly known as QuintilesIMS Incorporated ("**IQvia**")) and the Approved Pharmacies (collectively, the "**Data Source**"), (without overlap).

1.34 **Interpretation**. As used in this Agreement, any reference to gender shall include all genders and any reference to the plural shall include the singular, and the singular shall include the plural. When a reference is made in this Agreement to a section, such reference shall be to a section of this Agreement, unless otherwise clearly indicated to the contrary. Whenever the words "include," "includes" or "including" are used in this Agreement they shall be deemed to be followed by the words "without limitation." The words "hereof," "herein" and "herewith" and words of similar import shall, unless otherwise stated, be construed to refer to in this Agreement as a whole and not to any particular provision of this Agreement, and annex, article, section, paragraph, exhibit, annex and schedule references are references to the annex, articles, sections, paragraphs, exhibits, annexes, and schedules of this Agreement, unless otherwise specified. The captions contained in this Agreement are for convenience only and shall not be deemed a part hereof or affect the interpretation or construction of any provision hereof.

2. APPOINTMENT AND GRANT OF RIGHTS

2.1 **Appointment; Grant of Rights**. Napo hereby appoints RedHill, together with its Affiliates, and grants to RedHill and its Affiliates, the right to Promote the Product to physicians in the Specialty in the Territory for the Field of Use.

2.2 **Limitations on Grant of Other Rights**. Napo shall not, nor shall it permit or authorize any Third Party to, Promote the Product in the Specialty in the Territory for the Field of Use during the Term. Napo shall at all times have the right, or may grant to a Third Party the right, to Promote and otherwise market the Product within the Territory except within the Specialty. Throughout the Term, Napo will continue to supply Product to wholesalers and other customers in the ordinary course of business according to orders received.

2.3 **Continued Development; Regulatory Authorities**. Napo shall contact and communicate with applicable Regulatory Authorities regarding the Product (including market authorization). All regulatory matters regarding the Product, including without limitation, all filings in connection therewith, shall be the obligation and responsibility solely of Napo. Except as required by law, RedHill shall not contact or communicate directly with Regulatory Authorities with respect to matters relating to RedHill and its performance under this Agreement. RedHill shall cooperate with Napo regarding any Regulatory Authority communications relevant to their activities during the Term. Without derogating from the foregoing, Napo shall promptly keep RedHill informed of the relevant regulatory status of the Product and all developments related thereto, both by periodic written reports as well as immediate written notification provided promptly following any material changes in regulatory status and material occurrences regarding development of the Product. RedHill will promptly notify Napo about any communication from a Regulatory Authority concerning the Product. The Parties will promptly provide each other with copies of relevant communications from Regulatory Authorities.

2.4 **Plan.** RedHill will direct all Details and other Promotional Activities hereunder exclusively to HCPs included in the Specialty in the Territory for the Field of Use. To the extent that RedHill shall wish to Promote the Product to additional HCPs not already described on **Annex A** hereto, RedHill shall request Napo's approval for such addition, including by email, and upon Napo's Chief Commercial Officer or Chief Financial Officer approval thereof, including by email, the relevant HCPs shall be deemed to be included in the Specialty.

3. PROMOTION PLAN; PROMOTIONAL ACTIVITIES

3.1 **Promotion Plan**. The Parties have developed the initial Promotion plan annexed hereto as **Annex A** (the "**Promotion Plan**"). For the avoidance of doubt, RedHill's undertakings in relation to the number of territories and related promotion activities pursuant to the Promotion Plan are subject to availability of, among other things, promotional, training and marketing material, as provided herein, as well as availability of the Product in sufficient quantities and adequate quality to support such activities.

3.2 **Promotional Activities**. During the Term, RedHill shall be responsible for the Promotion of the Product for the Field of Use in the Specialty in the Territory and RedHill shall utilize its commercially reasonable efforts to Promote the Product in the Specialty for the Field of Use in the Territory. For clarity, RedHill shall at all times be entitled to promote and/or commercialize other products, at its sole discretion. RedHill shall deploy sales professionals in the Territory in accordance with the Promotion Plan and shall be responsible for all Promotional activities in relation to its own operations and sales professionals. RedHill shall not be prohibited from undertaking Promotional Activities with respect to the Product that are in excess of those for which RedHill is responsible under the then current Promotion Plan, provided that such excess Promotional Activities are not inconsistent with the Promotion Plan, are within the Field of Use, are approved in advance in writing (such approval not to be unreasonably delayed or withheld), and are in compliance with Applicable Laws. In implementing the Promotion Plan, Promoting the Product in the Territory and otherwise exercising its rights and fulfilling its obligations under this Agreement, RedHill shall have full discretion with respect to its own level of expenditure of resources including with respect to the number of sales representatives, fees and remuneration, data sources, advertising media and budget. RedHill's compensation and incentive payments to its sales representatives for the Product and other products it promotes will remain in the sole discretion of RedHill, and RedHill may make any changes to these payments at any point of time with its complete and total discretion.

3.3 **Generic Equivalent**. Notwithstanding anything in this Agreement to the contrary, in the event of the sale into the Territory of a Generic Equivalent for the Product, RedHill may, in its sole discretion, limit or discontinue all or any part of its ongoing Promotional activities.

3.4 **Promotional Materials**. Napo shall, at its own expense, provide RedHill in a timely manner with the necessary promotional materials and quantities thereof as outlined in the Promotion Plan that may include: electronic sales presentations, digital communication, digital advertising, promotional, educational, training and communication materials for marketing, advertising and Promotion of the Product to Third Parties

("**Promotional Materials**") that are consistent with the then current Promotion Plan and that are consistent with any such materials provided to Napo sales personnel. Napo shall own all rights, including copyrights in such Promotional Materials. Napo shall ensure that all Promotional Materials are in strict compliance with all Applicable Laws. In performing Promotional Activities hereunder, RedHill shall not use any promotional materials other than the Promotional Materials provided by Napo under this Section 3.4 or otherwise approved in advance and in writing by Napo.

3.5 **Statements**. Each Party shall make, and shall permit its representatives to make, only such statements and claims regarding the Product, including as to efficacy and safety, as are consistent with the PIRs. Without limitation to the foregoing, each Party shall ensure that its representatives do not make any untrue or misleading statements or comments about the Product, and/or take any action that jeopardizes or could reasonably be expected to jeopardize the goodwill or reputation of the other Party or its products, including the Product. Napo has the exclusive right to determine the appropriate "key selling messages" that pertain to the Product.

3.6 **Training**. Napo shall train RedHill's sales managers and trainers to assist RedHill in the fulfillment of its obligations under this Agreement. Such training provided by Napo shall comply with all Applicable Laws. In connection therewith, Napo shall provide such trainers and lecturers as RedHill may deem reasonably necessary. RedHill shall have the right to review and comment on training materials from medical, legal and regulatory perspectives. Napo shall, in addition to the aforementioned training of RedHill's sales managers and trainers, designate and make available during regular business hours at least one (1) individual to respond to inquiries from RedHill's sales managers and trainers. Napo shall provide RedHill with such training materials as is reasonably required to adequately train RedHill's sales managers and trainers to Promote the Product and in such quantities as RedHill shall reasonably require or request. All RedHill employees engaged in the promotion of the Product within the Territory will be trained to meet competency standards relating to their knowledge of the Product and all promotional materials and Applicable Laws and receive reasonable additional training from Napo to maintain said competence to Promote the Product.

3.7 **Samples**. Napo shall supply to RedHill, at Napo's sole expense, reasonable quantities of Samples of the Product as mutually agreed to by both Parties.

3.8 **Savings Clause**. Neither Party shall be required to perform any obligation under this Agreement or the Promotion Plan, or use any Promotional Materials or otherwise engage in any activity, to the extent that such Party believes, in its reasonable judgment and in good faith, that such obligation, use of Promotional Materials or other activity: (i) violates any Applicable Law; (ii) violates a written corporate policy of such Party; or (iii) would have a material adverse effect on the business, assets, properties, liabilities (actual or contingent), operations, condition (financial or otherwise) or prospects, of such Party.

4. Trademark License.

4.1 Napo hereby grants RedHill the royalty-free right to use any Product Trademarks and Product Copyrights in the Territory in connection with the Promotion of the Product, subject to the provisions of this Agreement. RedHill may not include its name on Promotional Materials unless agreed in writing in advance by Napo's Chief Commercial Officer or Chief Financial Officer *and* Napo's Chief Executive Officer.

4.2 Whenever RedHill uses any Product Trademarks in advertising or in any other manner in connection with the Product, RedHill shall, subject to relevant laws and regulations, clearly indicate Napo's ownership of such Product Trademarks. When using any Product Trademarks under this Agreement, RedHill undertakes to comply with all laws and regulations pertaining to trademarks in force at any time in the Territory. RedHill shall not at any time do, cause to be done, or permit any act or thing inconsistent with, contesting or in any way impairing such ownership. RedHill acknowledges and agrees that Napo or its Affiliates, as the case may be, are the owners of all rights, title and interest in and to any Product Trademarks and the goodwill now and hereafter associated therewith and RedHill agrees that all use of any Product Trademarks shall inure to the benefit of and be on behalf of Napo. RedHill acknowledges that nothing in this Agreement shall give RedHill any right, title or interest in or to any Product Trademarks other than the right to use such Product Trademarks in accordance with Section 4.1 hereof.

4.3 RedHill (upon written request of Napo) shall assist Napo in safeguarding its full rights, title and interest in and to any Product Trademarks, Product Copyrights and all other intellectual property relating to the Product.

4.4 RedHill shall not undertake any action to register or renew any of the Product Trademarks (or any Trademark similar thereto).

5. JOINT PROMOTION COMMITTEE

5.1 Within ten (10) days following the Effective Date, the Parties shall establish a joint promotion committee ("**JPC**"), comprised of up to four (4) members, with up to two (2) members being appointed by Napo, of which one shall be designated the "**Napo Project Leader**", and up to two (2) members being appointed by RedHill, of which one shall be designated the "**RedHill Project Leader**". All such representatives shall be individuals of suitable authority and seniority with significant and relevant experience and expertise. Each Party may remove any member appointed by it for any reason or no reason and appoint another member in his or her stead. Any appointment or removal shall be notified to the other Party in writing.

5.2 The JPC shall be responsible for ensuring full cooperation between the Parties in implementing this Agreement and for monitoring compliance with the Agreement and the Promotion Plan. The JPC shall discuss, inter alia, marketing, promotion and sales strategy for the Promotion of the Product in the Territory.

5.3 The Napo Project Leader and the RedHill Project Leader shall facilitate the flow of information and otherwise promote communications and collaboration within and among the Parties, the JPC, and any other sub-committees or teams that the JPC may appoint or constitute.

5.4 The JPC shall hold meetings at such times requested by either party, which shall be, unless otherwise mutually agreed, at least quarterly. The JPC may conduct meetings in person or by teleconference or videoconference or other means. Meetings shall be chaired alternatively by the Napo Project Leader and the RedHill Project Leader. Each Party shall only be responsible for its own costs related to the JPC and meetings. The Project Leader conducting the meeting also will be responsible for taking and distributing the minutes. At and between meetings of the JPC, each Party shall keep the other fully and

regularly informed as to its progress with its respective tasks and obligations under the Agreement and shall make themselves available to the other members of the JPC for communication purposes.

5.5 At each JPC meeting, at least one (1) member appointed by RedHill and one (1) member appointed by Napo present in person, by teleconference or videoconference or by other means shall constitute a quorum. Each Party shall have equal voting power, whether represented by one or two committee members, on all matters before the JPC and, unless specifically determined otherwise, Napo will have the final tie breaking vote on all topics and activities associated with this Agreement under its responsibility and RedHill will have a final tie breaking vote on all topics and activities associated with this Agreement under its responsibility.

5.6 Either Party may invite other, non-voting, persons to attend meetings of the JPC as appropriate.

5.7 The JPC may act without a meeting if prior to such action the JPC members agree regarding such action and a written consent thereto is confirmed in writing by both Project Leaders.

5.8 The JPC may amend or expand upon the foregoing procedures for its internal operations by unanimous written consent.

5.9 The JPC shall not have any power to amend this Agreement or bind or incur liability on behalf of either Party hereto without such Party's express prior written authorization, and shall have only such powers as are specifically delegated to them hereunder.

5.10 The JPC shall, among its other authorities, have the authority to establish and appoint sub-committees, as the JPC deems necessary. All decisions of a subcommittee are subject to approval by the JPC. The JPC may prescribe rules of procedure for the foregoing subcommittees. In the event that any such other subcommittees fail to reach agreement on an issue within its respective area of oversight, the matter shall be referred to the JPC.

5.11 Unless otherwise expressly stated, nothing contained in this Agreement may be deemed to make any member of the JPC a partner, agent or legal representative of the other, or to create any fiduciary relationship for any purpose whatsoever. No member of the JPC shall have any authority to act for, or to assume any obligation or responsibility on behalf of, any other member of the JPC, or the other Party.

6. SALE, MANUFACTURE AND SUPPLY OF PRODUCT

6.1 During the Term, Napo shall continue to be responsible to take all actions in relation to the promotion, sale, and distribution of the Product in the Territory (other than Promotion of the Product which is RedHill's responsibility pursuant to this Agreement), including:

6.1.1 Manufacturing, packaging, labeling, warehousing and distributing the Product in the Territory.

6.1.2 Accepting orders, invoicing customers, communication with reimbursement systems, and collecting receivables.

6.1.3 Preparing training materials, Territory sales data (in the form of zip code base data), insurance reimbursement data (to the extent available to Napo) and Promotional Materials for RedHill's field sales force.

6.1.4 Providing customer service activities, pharmacovigilance services, medical information services and regulatory filings and activities.

6.1.5. Designing and implementing any patient assistance and patient discount programs; provided, however, that RedHill sales professionals may, at Napo's direction, assist in distributing patient coupons and other materials related to such programs.

6.2 All sales of the Product in the Territory shall be invoiced by Napo.

6.3 All terms of sale, including policies concerning pricing, credit terms, cash discounts and returns and allowances, shall be set by Napo consistent with its normal internal selling and past practices; provided that, without derogating from Napo's discretion it shall consult with RedHill prior to materially changing any such terms of sale, including increasing or decreasing the list price of the Product. Napo shall inform RedHill of catalog price increases or decreases for the Product in the Territory in sufficient time so that such information is provided to RedHill and Napo representatives at approximately the same time. Furthermore, Napo shall inform RedHill regarding the implementation of or changes to any coupon, voucher, or other discount program relating to or affecting the Product.

6.4 RedHill shall not accept any customer orders for the Product. All customer orders for the Product shall be received and executed by Napo or its designee. If RedHill receives any orders, it shall promptly refer such to Napo.

6.5 Napo shall supply the Product during the Term in sufficient quantities to timely satisfy orders for the Product in the Territory. Napo shall maintain reasonable inventory levels of the Product in order to ensure its ability to fulfill its obligations hereunder. All orders for Product shall be subject to acceptance by Napo, which acceptance shall not be unreasonably withheld.

6.6 Napo shall have the sole responsibility and right to accept any returned Product in accordance with Napo's returns policy. RedHill shall not solicit the return of any Product and shall not receive or accept any returned Product. In the event that any such Product is inadvertently returned to RedHill, RedHill shall promptly ship such Product to Napo, along with any documentation or explanation RedHill receives regarding the reason for the return, at Napo's cost and expense.

6.7 Napo shall be responsible for all aspects of contracting with commercial and government customers and third party payors in connection with the Product, including (i) contract strategy, (ii) contracting, (iii) contract administration and claims processing, (iv) contract compliance, monitoring and auditing,

(v) account management and (vi) government reporting, government programs, rebate processing, FSS calculations and pricing schedules. Napo shall promptly update RedHill sales management regarding such managed care activities.

6.8 For the avoidance of doubt, Napo shall be responsible for all costs and expenses of its performance under this Agreement. For the avoidance of doubt, RedHill shall be responsible for all costs and expenses of its performance under this Agreement.

6.9 If there is a change in market conditions, which materially affects the economics of this Agreement, the Parties will discuss modifications to this Agreement in good faith to address such changed market conditions. For the avoidance of doubt, neither Party is required to agree to any modifications to the terms of this Agreement.

7. INFORMATION; REPORTING; RECALLS

7.1 **Information.** Each Party shall promptly notify the other Party of receipt of information from a Regulatory Authority that: (i) raises any material concern regarding the safety or efficacy of the Product, or would affect the Product Label and Insert, Promotion and/or sale of the Product; (ii) indicates a potential material liability for either Party relating to the Product; (iii) is reasonably likely to lead to a recall or market withdrawal of the Product; or (iv) is reasonably likely to impact the manner in which a Party satisfies its obligations hereunder.

7.2 **Adverse Experience Reporting**. Each Party hereto shall give the other Party notice of any Product complaint it receives, including but not limited to any adverse drug experience (as defined in 21 CFR 314.80 or any successor provision thereto) of which such first-mentioned Party obtains information in accordance with the following procedure:

7.2.1 Information concerning any adverse drug experience associated with the Product, as well as information concerning significant quality problems with drug product (pursuant to 21 CFR 314.81(b)(1)) shall be reported to Napo's designated medical liaison within twenty four (24) hours after initial receipt of such information by calling or .

7.2.2 The report shall contain: (i) the date the complaint report was received; (ii) the name of the reporter; (iii) the address and telephone number of the reporter; and (iv) an indication of the adverse drug experience.

7.2.3 All other Product complaints not covered by 7.2.1 above shall be reported in writing at least once each calendar month.

7.3 Napo shall be responsible for all activities relating to medical surveillance within the Territory, including management of a safety database, preparation and filing of safety update reports, conducting post-authorization safety studies, literature search and signal detection. Without derogating from the foregoing, Napo shall investigate all adverse drug experiences and non-clinical complaints associated with the Product, including those reported to Napo by RedHill, and, as appropriate, report such information to the FDA. In addition to the reporting obligations detailed in Section 7.2 above, Napo shall provide RedHill with a summary of all adverse drug experiences and clinical complaints received by Napo, during each Calendar Quarter and all material comments of the FDA with respect thereto within thirty (30) days after the end of such Calendar Quarter; provided, however, that Napo shall provide RedHill prompt written notice of any adverse side effect experienced in response to the use of the Product.

7.4 **Product Recall and Withdrawal**. Napo shall have the sole responsibility with respect to any recall or withdrawal of the Product, and shall bear all costs and expenses relating thereto. At Napo's request, where the Product has been recalled or withdrawn from the market, RedHill shall, as soon as reasonably practical and in accordance with Applicable Law, assist Napo in obtaining the return of any Product not in the direct possession or control of Napo by notifying physicians who have received Samples from RedHill and by returning to Napo samples still in the possession of RedHill, and Napo shall reimburse RedHill for all costs and expenses incurred in taking such actions.

7.5 **Product Medical Inquiries**. Napo shall have the exclusive right and obligation, consistent with Applicable Law, to respond to all questions or requests for information about the Product made by any medical professionals or any other person to RedHill's representatives that warrant a response beyond the information included in the PIRs (all such questions or requests being referred to as "**Product Medical Inquiries**"). RedHill shall direct its representatives to direct all Product Medical Inquiries to Napo.

7.6 **Third Party Actions and Communications**. Napo shall be solely responsible for: (i) taking all actions and conducting all communication with all Third Parties in respect of the Product (other than Promotional Activities performed by RedHill in accordance with the terms hereof), including responding to all Product quality complaints in respect thereof, including complaints related to tampering or contamination; and (ii) investigating all Product quality complaints, adverse events, and field alerts in respect of the Product.

8. REPORTS

8.1 **Napo Reports.** On a Calendar Monthly basis, within five business (5) days following the end of each of Calendar Month or promptly after the relevant data on Units Dispensed first becomes available from the Data Source, if later, Napo shall deliver to RedHill a Napo report in the English language with respect to the relevant Calendar Month

(each, a Napo "**Monthly Report**") showing: (i) the total number of Units of Product dispensed in the relevant period determined using the Data Source and (ii) a calculation of the Promotion Fee, in respect of each geographical area within the Territory (subject to RedHill's review of the total number of Units of Product dispensed).

8.2 **RedHill Reports**. At the request by Napo for its internal evaluation purposes (no more than each calendar month) RedHill shall submit to Napo a high-level report of the Promotional Activities conducted by RedHill during the month. Such reports shall show overall national call data (sample and detail-only), in-services and speaker programs and other Promotional Activities.

8.3 **Additional Information**. In addition, to allow RedHill to execute and monitor its Promotional activities, Napo shall, at its expense, provide RedHill, on a weekly basis or when data is received, depending on availability of information, access to its Data Source information. Napo will also provide coupon data to RedHill on an ongoing basis during the Pilot Term.

8.4 **Payment Transparency Reporting**. RedHill shall provide to Napo, on a monthly basis, such information regarding meals, speaker fees, and other transfers of value from RedHill to HCPs, health care providers, and other entities as Napo requires in order to comply with federal and state payment transparency reporting laws.

8.5 **Final Report and Payment**. Upon termination of this Agreement for any reason, Napo shall deliver a final report, in the English language and the associated Promotion Fee payment to RedHill within fourteen (14) days after the end of the then current Calendar Month.

9. FINANCIAL PROVISIONS

9.1 **Promotion Fee Payments**. During the Term, Napo shall pay RedHill an amount per each Unit Dispensed as specified in **Annex B** hereto (the "**Unit Fee**", and in the aggregate, together with any other payment due to RedHill specified in this Agreement, the "**Promotion Fee**").

9.2 **Napo Monthly Reports and Payments**. All payments due pursuant to the provisions of this Section 9 shall be due and payable to RedHill on a Monthly basis within thirty (30) days of receipt of an appropriate invoice from RedHill for same. If Napo fails to provide the respective Napo Monthly Report in a timely fashion as set forth in Section 8.1, RedHill shall be entitled to invoice the amount of the preceding Monthly period as a down payment being subject to the specific calculation under the Monthly Report yet to be provided by Napo. Napo shall make any additional payments (if any) in accordance with the Monthly Report, following its submission. RedHill shall promptly reimburse Napo for any down payment made by Napo in excess of the actual amount owing.

9.3 **Payment Method**. Any amounts due to RedHill under this Agreement will be paid in US Dollars, by wire transfer in immediately available funds to an account designated in writing in an appropriate invoice at least [***] days in advance by RedHill, as the case may be.

9.4 **Taxes**. All payments shall be net of all Taxes.

10. **RECORDS RETENTION AND AUDIT**

10.1 **Record Retention**. Throughout the Term and for a term of ten (10) years thereafter, Napo will maintain (and will ensure that its Affiliates maintain) complete and accurate books, records and accounts that fairly reflect sales of the Product in the Territory, in sufficient detail to confirm the accuracy of Monthly Reports and Promotion Fee payments made hereunder, which books, records and accounts will be retained for ten (10) years after the end of the period to which such books, records and accounts pertain.

10.2 **Audit**. RedHill will have the right, during the Term and for a period of three (3) years following the expiration or termination of this Agreement for any reason to have an independent certified public accounting firm of nationally recognized standing, reasonably acceptable to Napo and who agrees to be bound by a customary undertaking of confidentiality, have access during Napo's normal business hours, and upon reasonable prior written notice, to Napo's records as may be reasonably necessary to verify the accuracy of Napo's Monthly Reports in respect of any period; provided, however, that RedHill will not have the right to conduct more than two (2) such audits in any Calendar Year. The accounting firm shall not in any way be compensated (in whole or in part) contingent on the outcome of the audit. Any such audit shall be completed within a reasonable time. The costs of the audit are the responsibility of RedHill provided that in the event that there is a shortfall of more than two and one-half percent (2.5%) in the payment due, the audit costs and all related travel costs will be covered by Napo within thirty (30) days of billing. In the event there is a shortfall of more than two and one-half percent (2.5%), RedHill shall be permitted, at its sole discretion and with due notice to Napo, to conduct a subsequent audit in the same Calendar Year.

10.3 **Payment of Additional Amounts**. If the audit report shows that additional payments are owed by Napo under this Agreement, Napo shall make such additional payments plus interest at the rate prescribed in Section 10.6 hereof within fourteen (14) days following RedHill's demand. RedHill shall have the right to conduct additional follow-up audits in the same Calendar Year to ensure that there are no further shortfalls.

10.4 **Interest.** All late payments under this Agreement shall bear interest from the date due until paid at a rate equal to one percent (1%) per month as of the date that such payment was due, or, if lower, the highest rate permitted under Applicable Law, calculated on the number of days such payment is delinquent.

10.5 **Confidentiality**. RedHill will treat all information subject to review under this Section 10 in accordance with the confidentiality provisions of Section 14 below.

***** CONFIDENTIAL TREATMENT REQUESTED**

11. REPRESENTATIONS AND WARRANTIES

11.1 **By the Parties**. Each Party hereby represents, warrants and covenants to the other Parties as of the Effective Date as follows:

11.1.1 Such Party (a) has the power and authority and the legal right to enter into this Agreement and perform its obligations hereunder, and (b) has taken all necessary action on its part required to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This Agreement has been duly executed and delivered on behalf of such Party and constitutes a legal, valid and binding obligation of such Party and is enforceable against it in accordance with its terms subject to the effects of bankruptcy, insolvency or other laws of general application affecting the enforcement of

creditor rights and judicial principles affecting the availability of specific performance and general principles of equity, whether enforceability is considered a proceeding at law or equity.

11.1.2 Such Party has obtained all necessary consents, approvals and authorizations of all Regulatory Authorities and other authorities and parties required to be obtained by such Party in connection with the execution and delivery of this Agreement and the performance of its obligations hereunder, including without limitation all consents required in connection with the grant of Promotion rights in respect of the Product.

11.1.3 The execution and delivery of this Agreement and the performance of such Party's obligations hereunder (a) do not conflict with or violate any requirement of Applicable Law or any provision of the articles of incorporation, bylaws or any similar instrument of such Party, as applicable, in any material way and (b) do not conflict with, violate, or breach or constitute a default or require any consent not already obtained under, any contractual obligation or court or administrative order by which such Party is bound.

11.2 **By Napo**. Napo hereby further represents, warrants, and covenants to RedHill as follows:

11.2.1 It has the sole legal and/or beneficial title to and ownership of the Product, all as is necessary to fulfill its obligations under this Agreement and to grant the rights granted to RedHill pursuant to this Agreement. Napo is not aware of any FDA communication or action suggesting its ability to market or sell the Product in the Territory can or will be diminished or compromised or eliminated.

11.2.2 It has not and during the Term shall not grant any rights to Third Parties in the Specialty in the Territory for the Field of Use that conflict with the rights granted to RedHill hereunder, and there are no agreements which contain any provisions with respect to the Product that may adversely impact the rights granted to RedHill hereunder, including competition restrictions, restrictions on Napo's ability to grant promotion or similar rights, provisions that may impact pricing, or provisions requiring Napo to make payments to third parties in connection with sales of the Product.

11.2.3 The manufacture, use and sale of the Product by Napo, and the exercise by RedHill of its rights granted under this Agreement, do not, and during the Term, will not infringe or otherwise violate any patent, trademark, copyright, trade secret or other intellectual property right of a Third Party.

11.2.4 It has and shall maintain throughout the Term, all Regulatory Approvals necessary for the performance of its obligations hereunder.

11.2.5 Product: (i) shall be manufactured in conformance with all applicable federal, state and local statutes, ordinances and regulations, (including the Act), as the same may be amended from time to time; (ii) at the time of shipment by Napo shall not be adulterated or misbranded within the meaning of the Act; and (iii) at the time of shipment by Napo shall not be a product which would violate any section of the Act if introduced into interstate commerce.

11.2.6. It has not received any written notice from any Third Party asserting or alleging that any research or development of the Product prior to the Effective Date infringed or misappropriated the intellectual property rights of such Third Party.

11.2.7. There are no pending, and to Napo's knowledge, no threatened, adverse actions, suits or proceedings against Napo or its Affiliates involving the Product.

11.2.8 The Product Trademarks have been properly filed and registered with the U.S. Patent and Trademark Office and are valid and in full force and effect, and Napo has the right to use and license the Product Trademarks, free and clear of any liens or encumbrances.

11.2.9 To Napo's knowledge, there are no pending legal suits or proceedings involving the Product; and there are no threatened legal suits or proceedings in the Territory involving the Product.

11.2.10 There are no current pending, or to Napo's knowledge, threatened in writing, product liability, warranty or other similar claims by any Third Party (whether based in contract or tort and whether relating to personal injury, including death, property damage or economic loss) arising from the marketing or sale of the Product.

11.2.11 It will not act in a manner that is intended to and has the effect of materially and detrimentally affecting the operations, prospects, or reputation of RedHill.

11.2.12 It has appropriate insurance coverage in place in respect of the Products, including without limitation coverage for product liability, product recalls, contamination and extortion.

11.2.13 It agrees and undertakes that during the Term (as defined below) and for a period of twenty four (24) months following termination or expiration of this Agreement for any reason, it will not, directly or indirectly, solicit, hire or engage with any person employed by RedHill and/or its Affiliates on the date of such termination or during the preceding twenty four (24) months.

11.3 **By RedHill**. RedHill hereby further represents, warrants, and covenants to Napo that:

11.3.1 RedHill will conduct any activities under this Agreement diligently and in compliance with all Applicable Laws as the same may be amended from time to time. Additionally, RedHill will comply with any law, regulations, rules or requirements of the Laws of Israel that may impact the performance of RedHill under this Agreement.

11.3.2 RedHill and any RedHill personnel will not knowingly use in any capacity in the performance of this Agreement, the services of any person or entity (i), currently or ever debarred under 21 U.S.C. § 335a, (ii) excluded from any Federal health care program (as defined in 42 U.S.C. sec. 1320a-7b(f)), or (iii) convicted of a felony for conduct relating to the regulation or handling of any drug product. RedHill shall use reasonable commercial efforts to insure

adequate staffing and training of all personnel assigned to the territories, including continuing training and instruction or certification with regard to Napo products.

11.3.3 RedHill shall notify Napo promptly if, during the term of this Agreement, it becomes aware that RedHill or any RedHill personnel comes under investigation by the FDA, OIG, or any other federal or state agency for sanctions, debarment, exclusion, or disqualification or is sanctioned, debarred, excluded or disqualified.

11.3.4 RedHill will not act in a manner that is intended to and has the effect of materially and detrimentally affecting the operations, prospects, or reputation of Napo.

11.3.5 RedHill shall, in good faith, assure compliance with any applicable statutory or regulatory requirements of a foreign entity to do business in the United States, including payment of all taxes, license fees and other requirements that may be levied on a foreign based entity doing business in the United States or through a subsidiary.

11.3.6 RedHill shall be solely responsible for compensating and providing medical benefits and other fringe benefits to its employees and retained sales representatives.

11.3.7 RedHill agrees and undertakes that during the Term (as defined below) and for a period of twenty four (24) months following termination or expiration of this Agreement for any reason, it will not, directly or indirectly, solicit, hire or engage with any person employed by Napo and/or its Affiliates on the date of such termination or during the preceding twenty four (24) months.

11.4 Except as otherwise expressly set forth in this Agreement, neither Party MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

12. LIMITATION OF LIABILITY

NEITHER PARTY SHALL BE LIABLE TO THE OTHER OR ANY OF ITS AFFILIATES FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING LOST PROFITS, BUSINESS OR GOODWILL) SUFFERED OR INCURRED BY SUCH OTHER PARTY OR ITS AFFILIATES, WHETHER BASED UPON A CLAIM OR ACTION OF CONTRACT, WARRANTY, NEGLIGENCE OR TORT, OR OTHERWISE, ARISING OUT OF THIS AGREEMENT.

13. **Intellectual Property- Enforcement**

13.1 **Infringement Notice**. If either Party determines that a Third Party is wrongfully marketing, Promoting or selling the Product or infringing any intellectual property of Napo or its Affiliates or licensors relating to the Product, including actual, potential or suspected wrongful marketing, Promoting or selling the Product or infringement, and that such activities could affect the exercise of the rights granted under this Agreement by the other Party, it will notify the other Party in writing without undue delay.

13.2 **Enforcement**. Napo will have the sole, exclusive and first right, but not the obligation, to remove such wrongful marketing, Promotion, selling, infringement and/or misappropriation and to control all litigation to remove such wrongful marketing, Promotion, selling, infringement and/or misappropriation, all as it shall deem appropriate in its sole discretion, and to settle or compromise any such possible infringement by taking such action as Napo or its Affiliates may determine in their sole and absolute discretion. Napo shall be solely responsible for all costs and expenses of such litigation. In the event Napo does take any action to remove such wrongful marketing, Promotion, selling, infringement or misappropriation activity, Napo will keep RedHill informed of the progress of such action and consider any comments made by RedHill.

13.3 **Co-operation**. The Parties will provide reasonable assistance to each other (at no charge or expense, other than with respect to reasonable out-of-pocket expenses), including providing access to relevant documents and other evidence, making its employees available at reasonable business hours, and joining the action to the extent necessary to allow the prosecuting Party to maintain the action.

13.4 **Recovery**. Any amounts recovered in connection with or as a result of any action contemplated by Section 13.2, whether by settlement or judgment, will be used to reimburse the Parties for their reasonable documented costs and expenses in such action (which amounts will be allocated pro rata in accordance with the respective costs and expenses if insufficient to cover the totality of such expenses), and any remainder will be the property of Napo.

13.5 **Infringement of Third Party Rights**. In the event that either Party is sued by a Third Party alleging that the Promotion, manufacture, marketing, use or offer to sell of the Product in the Territory infringes upon any intellectual property rights of such Third Party, the Party being so sued shall immediately give the other Party notice of same and the Parties shall thereafter proceed as provided in Section 16.

14. **CONFIDENTIALITY**

14.1 **Disclosure and Use Restriction**. The Parties agree that, during the Term and thereafter, each Party will keep completely confidential and will not publish, submit for publication or otherwise disclose, and will not use for any purpose except for the purposes contemplated by this Agreement, any Confidential Information (as such term is defined below) received from the other Party.

14.2 **Confidential Information**. "**Confidential Information**" shall mean all information and know-how and any tangible embodiments thereof provided by or on behalf of one Party to another Party either in connection with the discussions and negotiations pertaining to this Agreement or in the course of performing this Agreement, which may include data; knowledge; practices; processes; ideas; research plans; engineering designs and drawings; research data; manufacturing processes and techniques; scientific, manufacturing, marketing, promotion, HCPs in the Specialty and business plans; and financial and

personnel matters relating to the disclosing Party or to its present or future products, sales, suppliers, customers, employees, investors or business. Notwithstanding the foregoing, information or know-how of a Party shall not be deemed Confidential Information of such Party for purposes of this Agreement if such information or know-how:

(i) was already known to the receiving Party, other than under an obligation of confidentiality or non-use, at the time of disclosure to such receiving Party;

(i) was generally available or known to parties reasonably skilled in the field to which such information or know-how pertains, or was otherwise part of the public domain, at the time of its disclosure to such receiving Party;

(ii) became generally available or known to parties reasonably skilled in the field to which such information or know-how pertains, or otherwise became part of the public domain, after its disclosure to such receiving Party through no breach of this Agreement by the receiving Party;

(iii) was disclosed to such receiving Party, other than under an obligation of confidentiality or non-use, by a Third Party who had no obligation not to disclose such information or know-how to others; or

(iv) was independently discovered or developed by such receiving Party, as evidenced by their written records, without the use of Confidential Information belonging to the disclosing Party and prior to any subsequent disclosure by the receiving Party.

14.3 **Authorized Disclosure**. Notwithstanding the provisions of Section 14.1 above, a Party shall be entitled to disclose the Confidential Information of another Party hereto to the extent that such disclosure is:

(i) made in response to a valid order of a court of competent jurisdiction; provided, however, that such Party will first (to the extent practicably possible and permitted by such order) have given notice to such other Party and given such other Party a reasonable opportunity to quash such order, at such Party's sole cost and expense, and to obtain a protective order, at such Party's sole cost and expense, requiring that the Confidential Information and documents that are the subject of such order be held in confidence by such court or agency or,

if disclosed, be used only for the purposes for which the order was issued; and provided further that if a disclosure order is not quashed or a protective order is not obtained, the Confidential Information disclosed in response to such court or governmental order will be limited to that information which is legally required to be disclosed in response to such court or governmental order;

(ii) otherwise required by Applicable Law or the rules of a stock exchange; provided, however, that the receiving Party will provide the disclosing Party with notice of such disclosure in advance thereof to the extent practicably possible, and to the extent permitted seeks confidential treatment of the information disclosed and reasonably cooperates with any efforts of disclosing Party to seek confidential treatment of the information disclosed and discloses only that portion of the Confidential Information required;

(iii) made by such Party to a Regulatory Authority as necessary for the development or Promotion of a medicinal product, including the Product, in a country, as required in connection with any filing, application or request for Regulatory Approval or as required by applicable securities laws and regulations, subject to the limitations in Section 14.3(ii);

(iv) made by such Party, in connection with the performance of this Agreement and on a need to know basis only in connection therewith, to Affiliates, directors, officers, employees, consultants, representatives or agents, each of whom prior to disclosure must be bound by obligations of confidentiality and non-use at least equivalent in scope to those set forth in this Agreement; or

(v) made by such Party in the course of submitting financial accounts to relevant authorities as per local statutory requirements or to existing or potential acquirers; existing or potential collaborators; investment bankers; existing or potential investors, merger candidates, venture capital or private equity firms or other financial institutions or investors for purposes of obtaining financing; or, bona fide strategic potential partners; each of whom prior to disclosure must be bound by obligations of confidentiality and non-use at least equivalent in scope to those set forth in this Agreement.

15. PRESS RELEASES

Press releases or other similar public communication by any Party during the Term of this Agreement for any reason relating to the terms of this Agreement (but not, for the avoidance of doubt, unless reference is made to any of the other Parties or the terms of this Agreement, with respect to activities in exercise of its rights under this Agreement) will be shared in advance with the other Party, and subject to such other Party's approval which approval will not be unreasonably withheld, conditioned or delayed, except for those communications required by Applicable Law, regulation or securities exchange rules, disclosures of information for which consent has previously been obtained, and information of a similar nature to that which has been previously disclosed publicly with respect to this Agreement, each of which will not require advance approval but will be

provided to the other Party as soon as practicable after the release or communication thereof. For the avoidance of doubt, the Parties may issue press releases regarding the fact that this Agreement has been signed and the nature of the agreement so long as they do not describe the specific economic provisions hereof without approval from the other Party, unless required under Applicable Law, regulation or securities exchange rules, as aforesaid. The Parties shall mutually determine whether initial press releases will be joint press releases prior to launch date.

16. INDEMNIFICATION

16.1 **Indemnification by Napo**. Napo shall indemnify and hold RedHill and its Affiliates, and their respective officers, directors, agents, and employees ("**RedHill Indemnified Persons**") harmless from and defend against any and all third party liabilities, losses, proceedings, actions, damages, claims or

expenses of any kind, including costs and reasonable attorneys' fees which result from: (i) any negligent or willful acts or omissions by Napo, its agents, directors, officers or employees, (ii) any material breach of this Agreement by Napo, its agents, directors, officers, or employees, (iii) any breach of Applicable Law by Napo, its agents, directors, officers, or employees; or (iv) the Products, including but not limited to any product liability claims, whether arising out of warranty, negligence, strict liability (including manufacturing, design, warning or instruction claims) or any other product based statutory claim.

16.2 **Indemnification by RedHill**. RedHill shall indemnify and hold Napo, its officers, directors, agents and employees ("**Napo Indemnified Persons**", and, together with RedHill Indemnified Persons, "**Indemnified Persons**") harmless from and defend against any and all third party liabilities, losses, proceedings, investigations, actions, damages, settlements, claims or expenses of any kind, including costs and reasonable attorneys' fees which result from: (i) any negligent or willful acts or omissions by RedHill, its agents, directors, officers, or employees; (ii) any material breach of this Agreement by RedHill, its agents, directors, officers or employees; or (iii) or any violation of Applicable Law by RedHill, its agents, directors, officers or employees.

16.3 **Conditions to Indemnity**. Each Party's agreement to indemnify and hold the other harmless is conditioned upon the Indemnified Person: (i) providing written notice to the indemnifying Party of any claim, demand or action arising out of the indemnified activities within seven (7) days after the Indemnified Person has knowledge of such claim, demand or action; (ii) permitting the indemnifying Party to assume full responsibility to investigate, prepare for and defend against any such claim or demand; and (iii) assisting the indemnifying Party, at the indemnifying Party's reasonable expense, in the investigation of, preparation of and defense of any such claim or demand. The indemnifying Party shall not compromise or settle such claim or demand without the indemnified Party's prior written consent, unless such settlement includes as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified Party a complete release from all liability in respect of such claim or litigation. If the Party entitled to indemnification fails to notify the indemnifying Party without undue delay pursuant to the foregoing clause (i),

the indemnifying Party shall only be relieved of its indemnification obligation to the extent it is materially prejudiced by such failure and provided further that the indemnified Party is not obligated to notify the indemnifying Party of claims, demands and/or actions made directly against the indemnifying Party only. Notwithstanding the foregoing, if in the reasonable judgment of the indemnified Party, such suit or claim involves an issue or matter which could have a materially adverse effect on the business, operations or assets of the indemnified Party, the indemnified Party may waive its rights to indemnity under this Agreement and control the defense or settlement thereof, but in no event shall any such waiver be construed as a waiver of any indemnification rights such indemnified party may have at law or in equity.

16.4 **Participation in Defense**. If the indemnifying Party defends the suit or claim, the indemnified Party may participate in (but not control) the defense thereof at its sole cost and expense; provided, however, that the indemnifying Party shall pay the reasonable and documented fees and costs of any separate counsel to the extent such separate representation is due to a conflict of interest between the Parties.

16.5 **Settlement**. No Party shall, without the consent of the other Party, which shall not be unreasonably withheld, conditioned or delayed, enter into any settlement or compromise or consent to any judgment in respect of any claim related to the rights and liabilities under this Agreement, unless such settlement, compromise or consent includes an unconditional release of the other Party from all liability arising out of the claim and does not otherwise limit or impair the other Party's rights.

17. INSURANCE

17.1 Each Party hereto shall maintain, for the Term and thereafter, insurance sufficient to cover its obligations under this Agreement and under law as it customarily maintains for similar activities in the regular course of its business.

17.2 Without derogating from the generality of the aforesaid, Napo shall effect and maintain for the duration of this Agreement and thereafter for [***] products liability insurance policies with a limit of liability of no less than U.S. $[***] per claim and in the aggregate and an IP infringement policy with a limit of liability of USD $[***] per claim and in the aggregate. The policies shall apply retroactively at least as of the Effective Date and will contain a 12-months extended reporting period, cross-suits coverage and a Product recall extension. The products liability policy shall be primary and non-contributory to any insurance effected by RedHill. Napo will provide RedHill with a certificate of insurance on the Effective Date and every 12 months thereafter.

17.3 Without derogating from the generality of the aforesaid, RedHill shall effect and maintain for the duration of this Agreement and, to the extent a policy is on a "claims made" basis", thereafter for [***] years, a general liability insurance policy with a limit of liability of no less than U.S. $[***] per claim and in the aggregate and including a cross-liability endorsement. To the extent a policy is on a "claims made" basis, it shall apply retroactively at least as of the Effective Date and will contain a 12-months extended reporting period, and cross-suits coverage. Redhill will provide Napo with a certificate of insurance on the Effective Date and every 12 months thereafter.

***** CONFIDENTIAL TREATMENT REQUESTED**

17.4 Each party waives its rights against the other for all claims to the extent covered by the insurance of each party and each party shall require their insurers to waive subrogation consistent with the above with regard to general third party products and automobile liability insurance policies**.**

18. TERM AND TERMINATION

18.1 **Term**. Unless earlier terminated in accordance with the provisions of this Article 18, the term of this Agreement shall be for the period of six (6) months commencing upon the Effective Date (the "**Pilot Term**"). At least thirty (30) days prior to the end of the Pilot Term, both Parties agree to enter into good faith negotiations of a new Agreement with a new Term.

18.2 **Termination for Cause**.

Without derogating from any other remedies that either Party may have under the terms of this Agreement or at law, each Party hereto shall have the right to terminate this Agreement forthwith upon the occurrence of any of the following:

18.2.1 with 30 days prior written notice upon the commission of a material breach by any other Party hereto of its obligations hereunder, and such other Party's failure to remedy such breach to the reasonable satisfaction of the other Party within thirty (30) days after being requested in writing to do so;

18.2.3 with 30 days prior written notice upon the occurrence of a Bankruptcy Event in respect of another Party;

18.2.2 with 30 days prior written notice upon the commission by the other Party of a violation of Applicable Law in connection with such Party's actions in connection with this Agreement, and such other Party's failure to remedy such breach to the reasonable satisfaction of the other Party within such 30 day period; or

18.2.4 immediately with written notice upon the occurrence of a state or federal agency or administrative action due to any act or omission of either party, including but not limited to actions from the FDA, OIG, Federal Trade Commission (FTC), Centers for Medicare and Medicaid Services (CMS), and Office of Civil Rights (OCR).

18.3 **Termination for Convenience**.

18.3.1 Without derogating from the foregoing, RedHill shall be entitled to terminate this Agreement in its entirety or with respect to any one or more of the territories or physician call plans forming the Territory at any time by providing thirty (30) days prior written notice to Napo.

***** CONFIDENTIAL TREATMENT REQUESTED**

18.4 **Consequences of Termination**

18.4.1 **Rights**. Upon termination of this Agreement, all rights granted to RedHill under Section 2 will automatically terminate and all such rights shall automatically revert to Napo.

18.4.2 **Return of Information and Materials**. Upon termination of this Agreement, each Party will return to the other all Confidential Information of the other Party (except one copy of which may be retained for archival and compliance purposes), provided that any such retained copy shall continue to be subject to the confidentiality provisions of this Agreement. All materials in connection with the Product, whether used for promotion or for scientific exchange, created by RedHill, or jointly created with RedHill, shall remain and be treated as Napo's Confidential Information.

18.4.3 **Accrued Rights**. Termination or expiration of this Agreement for any reason will be without prejudice to any rights or financial compensation that will have accrued to the benefit of a Party prior to such termination or expiration. Such termination or expiration will not relieve a Party from obligations that are expressly indicated to survive the termination or expiration of this Agreement, whereas "accrued" shall mean the creation and/or maturity of a claim.

18.4.4 **Post-Termination Communications.** Following a termination under this section, each Party shall exert commercially reasonable efforts to ensure that no representative, employee, director, officer, or agent of such Party disseminates any oral or written communication that disparages the other Party hereto or any of its products, or that negatively affects such other Party's relationships with HCPs.

18.4.5 **Survival**. Sections 1, 8.3, 10, 12, 13.5, 14, 15, 16, 17, 18 and 19 of this Agreement will survive expiration or termination of this Agreement for any reason.

19. MISCELLANEOUS

19.1 **Assignment**. Without the prior written consent of the other Party, neither Party shall sell, transfer, assign, delegate, pledge or otherwise dispose of, whether voluntarily, involuntarily, by operation of law or otherwise, this Agreement or any of its rights or duties hereunder; provided, however, that a Party may assign or transfer this Agreement and its rights or obligations hereunder without the consent of the other Party to any Affiliate and to any Third Party successor in interest with which it has merged or consolidated, or to which it has transferred all or a substantial part of its assets or stock to which this Agreement relates; provided such Third Party assumes and agrees, in advance, to assume the obligations of the transferring party under this Agreement.

19.2 **Severability.** Should any term or provision of this Agreement be or become invalid or unenforceable or should this Agreement contain an omission, the validity or enforceability of the remaining terms or provisions shall not be affected. In such case, subject to the next following sentence, the Parties shall immediately commence to negotiate in good faith in order to replace the invalid or unenforceable term or provision by such other valid or enforceable term or provision which comes as close as possible to the original intent and effect of the invalid or unenforceable term or provision, or respectively,

to fill the omission by inserting such term or provision which the Parties would have reasonably agreed to, if they had considered the omission at the date hereof. In the event that any term or provision as aforesaid is invalid, void or unenforceable by reason of its scope, duration or area of applicability or some similar limitation as aforesaid, then the court making such determination shall have the power to reduce the scope, duration, area or applicability of the term or provision so that they shall be enforceable to the maximum scope, duration, area or applicability permitted by Applicable Law which shall not exceed those specified in this Agreement or to replace such term or provision with a term or provision that comes closest to expressing the intention of the invalid or unenforceable term or provision.

19.3 **Governing Law.** This Agreement and all matters arising out of or relating to this Agreement, are governed by, and construed in accordance with the substantive laws of the State of New York (without regard to conflict of laws rules).

19.4 **Dispute Resolution**. All disputes regarding this Agreement shall be referred to the JPC. Should there be any disputes that cannot be resolved by the JPC outside the responsibility of the JPC, they will be referred to the CEOs of the respective Parties who will resolve the dispute.

19.5 **Notices**. All notices or other communications that are required or permitted hereunder will be in writing and delivered personally with acknowledgement of receipt, sent by electronic mail (provided receipt is acknowledged), facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight/express courier as provided herein), sent by nationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

If to Napo, to:

Attn: Karen Wright, CFO
201 Mission St, Suite 2375
San Francisco, CA 94105
Email: kwright@jaguar.health

With a copy to:

Erik Hennings, Chief Compliance Officer
201 Mission St, Suite 2375
San Francisco, CA 94105
Email: ehennings@h3compliancesolutions.com

AND

Lisa A. Conte, CEO
201 Mission Street, Suite 2375
San Francisco, CA 94105
Email: Lconte@jaguar.health

If to RedHill, to:

RedHill Biopharma, Inc.,
c/o RedHill Biopharma Ltd.
21 Ha'arba'a Street
Tel-Aviv 64739
Israel
Attention: Adi Frish
Fax: +972 (3) 541 3144
Email:adi@redhillbio.com

With a copy to:

RedHill Biopharma, Inc.
8045 Arco Corporation Drive
Suite 120
Raleigh North Carolina 27617
USA

AND

Adv. Gershon Shalom-Winter
Tulchinsky Stern Marciano Cohen Levitski & Co.
Museum Tower, 4 Berkowitz St., Tel Aviv, Israel 6423806
Fax: +972-3-607-5050
E-mail: gershons@tslaw.co.il

or to such other address as the Party to who notice is to be given may have furnished to the other Party in writing in accordance herewith. Any such communication will be deemed to have been given: (i) when delivered, if personally delivered; (ii) on the Business Day (on the receiving end) after dispatch, if sent by nationally-recognized overnight/express courier (third Business Day if sent internationally); (iii) on the third Business Day following the date of mailing, if sent by mail (fifth Business Day if sent internationally); and (iv) on the first Business Day (on the receiving end) after being sent by facsimile or electronic mail. It is understood and agreed that this Section 19.5 is not intended to govern the day-to-day business communications necessary between the Parties in performing their duties, in due course, under the terms of this Agreement.

19.6 **Entire Agreement; Modifications.** This Agreement sets forth and constitutes the entire agreement and understanding between the Parties with respect to the subject matter hereof and all prior agreements, understanding, promises and representations, whether written or oral, with respect thereto are superseded hereby. Each Party confirms that it is not relying on any representations or warranties of the other Party except as specifically set forth herein. No amendment, modification, release or discharge will be binding upon the Parties unless in writing and duly executed by authorized representatives of both Parties; this shall also apply to any change of this clause.

19.7 **Relationship of the Parties**. It is expressly agreed that the Parties will be independent contractors of one another and that the relationship between the Parties will not constitute a partnership, joint venture or agency.

19.8 **Waiver.** Any term or condition of this Agreement may be waived at any time by the Party that is entitled to the benefit thereof, but no such waiver will be effective unless set forth in a written instrument duly executed by or on behalf of the Party waiving such term or condition. Any such waiver will not be deemed a waiver of any other right or breach hereunder.

19.9 **Counterparts.** This Agreement may be executed in two (2) or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument, and shall become effective when counterparts have been signed by each of the Parties and delivered to the other Parties; it being understood that all Parties need not sign the same counterparts. The exchange of copies of this Agreement and of signature pages by facsimile transmission, by electronic mail in "portable document format" (".pdf") form, or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document, or by combination of such means, shall constitute effective execution and delivery of this Agreement as to the Parties and may be used in lieu of the original Agreement for all purposes. Signatures of the Parties transmitted by facsimile shall be deemed to be their original signatures for all purposes.

19.10 **No Third Party Beneficiaries.** The representations, warranties, covenants and agreements set forth in this Agreement are for the sole benefit of the Parties hereto and their successors and permitted assigns, and they will not be construed as conferring any rights on any other parties.

19.11 **Expenses**. Except as expressly provided herein, each party shall each bear its own legal, accounting, brokerage and other costs and expenses in connection with this Agreement and the transactions contemplated hereby.

19.12 **Further Assurances.** Each Party will duly execute and deliver, or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including the filing of such assignments, agreements, documents and instruments, as may be necessary to carry out the provisions and purposes of this Agreement.

19.13 **Force Majeure**. No party shall be responsible to the other for failure or delay in performing any of its obligations under this Agreement or for other non-performance hereof but only to the extent that such delay or non-performance is occasioned by a cause beyond the reasonable control and without fault or negligence of such party, including earthquake, fire, flood, explosion, discontinuity in the supply of power, court order, or governmental interference, act of God, general strike or other general labor trouble, act of war or terrorism and provided that such party will inform the other party as soon as is reasonably practicable and that it will entirely perform its obligations immediately after the

relevant cause has ceased its effect. If any such force majeure event continues for a continuous period of three (3) months, a Party whose performance is not prevented by such event may terminate this Agreement thereafter so long as the force majeure event continues, with immediate effect by providing the other Parties with written notice.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

RedHill Biopharma, Inc.

By: /s/ Dror Ben-Asher
Name: Dror Ben-Asher
Title: CEO

By: /s/ Micha Ben Chorin
Name: Micha Ben Chorin
Title: CFO

Napo Pharmaceuticals, Inc.

By: /s/ Lisa Conte
Name: Lisa Conte
Title: CEO

ANNEX A

PROMOTION PLAN

Targeting of Appropriate HCPs based on US FDA approved Product Labeling:

Both parties agree any targeted HCP will be consistent with the US FDA Product Labeling as described in Section 1.13, "Field of Use" for purposes of this Agreement. Both parties further agree to work jointly on finalizing targets to be identified in ANNEX C. The following rules will apply:

Overlapping Territories (e.g., Napo and RedHill representative share zip codes):

Napo representatives will retain sole responsibility and prescription credit for all [***] except for GI physicians (e.g., Infectious Disease, GP, FP, Internists, Nurse Practitioner's and/or Physician Assistance), and for those GI's and other physician specialists specifically listed in Annex C. RedHill will have sole

promotion responsibility and receive prescription credit towards the fee paid in ANNEX B, also referred to as outlier targeted physicians for all GI's unless specifically identified in Annex C. Further, Napo agrees RedHill will be responsible for all [***] regardless of specialty if they so choose.

Non-overlapping Territories and White Space:

Unless identified by Napo in advance and found in ANNEX C, regardless of Decile and Physician Specialty (e.g., HIV-S as defined above and/or GI's), RedHill will assume responsibility and receive prescription credit for all targeted physician specialties consistent with the "Field of Use."

The following are key terms of the plan under which RedHill provides Promotion Support in the Specialty in the Territory for the Field of Use. The Promotion Plan shall be inclusive of activities found in Section 3. The JPC will routinely review execution against the plan and make adjustments pursuant to Section 5.

During the Pilot Term, the Parties may amend the Promotion Plan, incorporating feedback from the JPC.

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In the event of a Napo territory vacancy, whether due to resignation, leave of absence, etc., any changes to the Parties' respective Promotion targets will be discussed at JPC and mutually agreed upon if RedHill has given capacity.

Sampling

- Napo will provide RedHill field-based representatives an initial allotment of one case of samples for Mytesi. Each case contains 48 boxes of 4 bottles each.
- Samples of Mytesi should only be distributed to HCPs designated as appropriate targets for Mytesi based on the US FDA approved Product Label.
- Samples should be distributed consistent with FDA guidelines to initiate patient trial. Napo agrees to review sample distribution best practices during the product Training referenced in this ANNEX A.

Training

- As described in Section 3.6, Napo will provide all training materials to support an effective and successful launch.
- Napo will take the lead on developing the training content; however, both parties will jointly develop the agenda for seamless integration.
- Both Parties have agreed to identify training dates and location within 10 business days of execution of this Agreement.

Promotion Materials

- Napo will provide RedHill representatives sufficient quantities of all promotional resources upon launch and through pilot as necessary. Specific process will be reviewed during training.

Promotional In-services

- RedHill agrees that its field-based representatives will conduct in-services during the pilot period. RedHill will develop a business plan for in-services to be shared with Napo .

Promotional Speaker Programs

- RedHill sales representatives will be permitted to assist with Napo Speaker Programs at Napo's expense. They may also conduct Promotional Speaker Programs if Napo determines they have a legitimate business need, grants permission to do so, and Napo Policy is followed. Furthermore, if requested, Napo will be permitted to assist RedHill with its program activity at RedHill's expense. RedHill sales representatives will use Napo's speaker agreement that reflects FMV for the speaker payment, as well as the Napo approved speaker list and will not be permitted to add or delete speakers with Napo's prior approval.

Specialty Pharmacy

- RedHill agrees to inform the targeted HCP's detailed in Annex C that the Product is available at [***] and other pharmacies such as retail as well

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as other Specialty Pharmacies. RedHill agrees to notify the targeted HCP's of the services [***] provides to support the Product and its patients:

- Napo recognizes GI practices may have well-established specialty pharmacy relationships that may preclude them from utilizing the services of [***]. HCP's are able to utilize all and any pharmacy where the product is available
- Napo will make reasonable efforts to establish a direct contract with at least one (1) of RedHill's 5-8 identified specialty pharmacies during the Pilot period of this Agreement.
- [***] shall agree to triage all prescriptions for Mytesi and hand-off/transfer all prescriptions based on either patient or HCP request to their pharmacy of choice (e.g., existing specialty pharmacy relationship or local retail pharmacy).
- With all reasonable effort, RedHill will ensure existing specialty pharmacies Napo enters into a direct contract with will report all prescriptions for Mytesi weekly to [***].

Conventions/Trade Shows/Medical Conferences

- Both Parties agree to co-develop a list of key conventions, trade shows, medical conferences to attend jointly or separately based on existing relationships or existing commitments.
- If both parties presently plan to attend and/or exhibit at the same conference, materials shall be consistent, and the Napo sales leader/Medical Affairs shall take the lead role.
- RedHill sales representative's role, activities, and materials used at medical conferences and/or conventions must clearly be defined prior to attendance and approved by the JPC. RedHill and Napo sales representatives will receive booth/exhibit training consistent with both parties compliance SOPs (e.g., training may be conducted jointly if applicable).

Interactions With Patients

- Promotional contact with patients or patient support groups constitute direct-to-consumer promotion. Napo must specifically provide its approval for RedHill to have direct contact with patients or patient support groups.

Consulting and Service Arrangements

- Unless agreed upon in advance and clear direction provided by Napo**,** RedHill employee sales representatives shall not independently retain or use any health care professional or other individual in consulting or service arrangements.

Performance Dashboard

- RedHill and Napo agree to review sales growth on the weekly/biweekly update calls. A report of metrics solely for the purpose of assessing marketing efforts will be agreed upon by both parties.

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It is clarified that all costs and expenses relating to the following, shall be borne by Napo:

1. All marketing materials, including shipping, printing etc., as well as any costs that RedHill may incur to download Napo's marketing videos etc. Specific Marketing Material SOPs will be put in place prior to launch date.
2. All speaker programs organized by Napo, including honorarium, event costs, marketing costs. RedHill will be responsible for all costs and expenses, including honorarium, event costs and marketing costs relating to speaker programs organized by Redhill. An agreed speaker program SOP will be put into place prior to launch date.
3. Product samples, including shipping, and associated fees (including 3PL).
4. Coupons and coupon program.
5. Training materials, including shipping.
6. 3PL automation to be compatible with RedHill's CRM.

It is clarified that all costs and expenses relating to the following, shall be borne by RedHill:

1. Adding the Product to Veeva.
2. Launch activities including all hotel costs, flights and time out of field for RedHill attendees.
3. In-services (breakfasts and lunches).
4. Commissions, gas, car costs, sample storage unit costs, salaries, benefits etc., and all costs and expenses of MSL activity, including roundtables. Data Source (IQVIA) fee to add the Product to the IQ2020/IQVIA program. The Data collected by the Pharmacies (agreed upon in this Agreement) and IQVIA SOP will be organized and agreed upon by both companies prior to launch date.

Pharmacy management (manage the data from all pharmacies and the direct-buy contract set up) and data management: A Pharmacy SOP will be put into place and agreed to by both parties prior to launch date. This is for operational purposes. The Data Management portion is agreed to within this Agreement.

ANNEX B

UNIT FEE

	Rx	Fee/Rx	Gross Revenue	Benchmark Fee	Total Fee	Avg Fee/ RX
Tier 1	0-500	$ [***]	$ [***]	$ [***]	$ [***]	$ [***]
Tier 2	500-1,500	$ [***]	$ [***]	$ [***]	$ [***]	$ [***]
Tier 3	1,500-3,000	$ [***]	$ [***]	$ [***]	$ [***]	$ [***]
Tier 4	Over 3,000	$ [***]	$ [***]	$ [***]	$ [***]	$ [***]
	5,000		$ [***]	$ [***]	$ [***]	$ [***]

The Parties agree that in the event that the cost of goods of the Product changes significantly during the Term as compared with the cost of goods of the Product at the Effective Date, the Parties shall in good faith discuss a proportionate change in the Unit Fee.

***** CONFIDENTIAL TREATMENT REQUESTED**

ANNEX C

To be added as addendum prior to July 30, 2018.

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 June 30, 2018;

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: August 13, 2018

/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, Karen S. Wright, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Jaguar Health, Inc. for the quarter ended June 30, 2018;

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: August 13, 2018

/s/ Karen S. Wright

Karen S. Wright
Chief Financial Officer
(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 June 30, 2018, 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: August 13, 2018

/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 June 30, 2018, 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: August 13, 2018

/s/ Karen S. Wright
Karen S. Wright
Chief Financial Officer
(Principal Financial and Accounting Officer)