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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2018

OR

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

For the transition period from to

Commission file number 001-36714

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

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

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 ☒ No ☐

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

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

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

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

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

As of November 14, 2018, there were 24,603,104 shares of voting common stock, par value $0.0001 per share, outstanding, 40,301,237 shares of non-voting common stock, par value $0.0001 per share, outstanding, and 5,524,926 shares of convertible preferred stock outstanding, par value $0.0001 per share.

	Page No.
PART I. — FINANCIAL INFORMATION (Unaudited)	1
Item 1. Unaudited Condensed Consolidated Financial Statements	1
Condensed Consolidated Balance Sheets as of September 30, 2018 and December 31, 2017	1
Condensed Consolidated Statements of Operations for the Three and Nine Month Periods Ended September 30, 2018 and 2017	2
Condensed Consolidated Statement of Changes in Convertible Preferred Stock and Stockholders' Equity for the period from December 31, 2017 through September 30, 2018	3
Condensed Consolidated Statements of Cash Flows for the Nine Months Ended September 30, 2018 and 2017	4
Notes to the Condensed Consolidated Financial Statements	6
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	31
Item 3. Quantitative and Qualitative Disclosures About Market Risk	48
Item 4. Controls and Procedures	48
PART II. — OTHER INFORMATION	50
Item 1. Legal Proceedings	50
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds	50
Item 6. Exhibits	51
SIGNATURE	52

PART I. — FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements

JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	September 30, 2018 (Unaudited)	December 31, 2017
Assets		
Current assets:		
Cash	$ 726,129	$ 520,698
Restricted cash	—	239,169
Accounts receivable	1,028,670	467,658
Other receivable	176,391	1,380
Inventory	2,550,034	2,072,817
Deferred offering costs	1,255,554	—
Prepaid expenses and other current assets	1,765,234	497,373
Total current assets	7,502,012	3,799,095
Land, property and equipment, net	775,975	1,222,068
Goodwill	5,210,821	5,210,821
Intangible assets, net	32,132,222	33,397,222
Other assets	501,120	—
Total assets	$ 46,122,150	$ 43,629,206
Liabilities, Convertible Preferred Stock and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 6,450,354	$ 7,354,932
Deferred collaboration revenue	—	177,389
Accrued expenses	4,050,006	2,204,133
Warrant liability	48,240	103,860
Derivative liability	—	11,000
Conversion option liability	—	111,841
Convertible notes payable, net of discount	1,055,992	2,672,215
Notes payable, net of discount	4,531,952	1,141,153
Current portion of long-term debt	—	1,609,244
Total current liabilities	16,136,544	15,385,767
Convertible long-term debt, net of discount	10,661,026	10,982,437
Total liabilities	$ 26,797,570	$ 26,368,204
Commitments and contingencies (See Note 6)		
Series A convertible preferred stock: $0.0001 par value, 10,000,000 shares authorized at September 30, 2018 and December 31, 2017; 5,524,926 and 0 shares issued and outstanding at September 30, 2018 and December 31, 2017; (liquidation preference of $9,199,002 at September 30, 2018)	9,000,002	—
Stockholders' Equity:		
Common stock: $0.0001 par value, 150,000,000 shares and 250,000,000 authorized at September 30, 2018 and December 31, 2017, respectively; 9,603,103 and 4,180,484 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively.	960	418
Common stock - non-voting: $0.0001 par value, 50,000,000 shares authorized at September 30, 2018 and December 31, 2017; 40,301,237 and 42,617,893 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively.	4,030	4,262
Additional paid-in capital	92,216,482	79,661,044
Accumulated deficit	(81,896,894)	(62,404,722)
Total stockholders' equity	10,324,578	17,261,002
Total liabilities, convertible preferred stock and stockholders' equity	$ 46,122,150	$ 43,629,206

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

JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Product revenue	$ 1,132,067	$ 445,665	$ 2,642,880	$ 581,654
Collaboration revenue	—	654,549	177,389	2,237,491
Total revenue	1,132,067	1,100,214	2,820,269	2,819,145
Operating expenses				
Cost of product revenue	736,733	206,228	1,808,918	247,135
Research and development	1,481,166	851,608	3,843,918	3,033,851
Sales and marketing	2,716,752	663,765	7,119,204	943,908
General and administrative	2,703,628	3,070,702	8,761,776	8,512,195
Impairment of goodwill	—	3,648,000	—	3,648,000
Total operating expenses	7,638,279	8,440,303	21,533,816	16,385,089
Loss from operations	(6,506,212)	(7,340,089)	(18,713,547)	(13,565,944)
Interest expense	(872,044)	(464,684)	(2,185,868)	(800,885)
Other income (expense), net	9,540	(14,876)	322,244	(13,428)
Change in fair value of warrants and conversion option liability	26,231	388,800	(119,134)	636,121
Gain on Valeant settlement	1,204,133	—	1,204,133	—
Loss on extinguishment of debt	—	—	—	(207,713)
Net loss before income tax	(6,138,352)	(7,430,849)	(19,492,172)	(13,951,849)
Income tax benefit	—	12,190,693	—	12,190,693
Net income (loss)	(6,138,352)	4,759,844	(19,492,172)	(1,761,156)
Deemed dividend attributable to preferred stock	—	—	(995,000)	—
Net income (loss) attributable to common shareholders	$ (6,138,352)	$ 4,759,844	$ (20,487,172)	$ (1,761,156)
Net income (loss) per share, basic	$ (0.51)	$ 1.29	$ (1.91)	$ (0.94)
Net income (loss) per share, diluted	$ (0.51)	$ 1.11	$ (1.91)	$ (0.94)
Weighted-average common shares outstanding:				
Basic:	12,061,672	3,695,660	10,701,977	1,883,115
Diluted:	12,061,672	4,480,235	10,701,977	1,883,115

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

JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED STATEMENT OF CHANGES

IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY

(Unaudited)

	Series A 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 public entities March 2018	5,524,926	9,000,002	1,960,794	196	—	—	4,999,804	—	5,000,000
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	—	—
Issuance of common stock in lieu of interest (Kingdon)	—	—	320,743	32	—	—	479,776	—	479,808
Issuance of common stock July 2018	—	—	470,781	47	—	—	624,850	—	624,897
Issuance of common stock in debt financing September 2018	—	—	75,000	7	—	—	47,993	—	48,000
Issuance of warrants in debt financing September 2018	—	—	—		—	—	118,149		118,149
Issuance of warrants in support of Sep. 2018 office lease	—	—	—		—	—	493,688	—	493,688
Fractional common stock shares repurchased	—	—	—	—	—	—	(30)	—	(30)
Stock-based compensation	—	—	—	—	—	—	1,416,791	—	1,416,791
Net loss	—	—	—	—	—	—	—	(19,492,172)	(19,492,172)
Balances - September 30, 2018	5,524,926	$9,000,002	9,603,103	$ 960	40,301,237	$ 4,030	$ 92,216,482	$ (81,896,894)	$ 10,324,578

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

JAGUAR HEALTH, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(Unaudited)

	Nine Months Ended	
	September 30, 2018	**September 30, 2017**
Cash Flows from Operating Activities		
Net loss	$ (19,492,172)	$ (1,761,156)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	989,116	326,204
Impairment of goodwill	—	3,648,000
Deferred income tax benefit	—	(12,190,693)
Interest paid on the conversion of debt to equity	21,275	—
Common stock issued in exchange for services rendered	6,425	—
Common stock issued in Napo merger for services	—	151,351
Loss on extinguishment of debt	—	207,713
Charge in relation to modification of warrants	—	23,000
Stock-based compensation	1,416,791	630,924
Amortization of debt issuance costs and debt discount	1,461,133	367,891
Change in fair value of warrants, conversion option and derivative liability	(178,461)	(637,121)
Changes in assets and liabilities		
Accounts receivable	(561,012)	(457,576)
Other receivable	(175,009)	(17,349)
Inventory	(477,217)	369,155
Prepaid expenses and other current assets	(635,622)	(256,057)
Deferred offering costs	(1,255,554)	(231,253)
Other non-current assets	(289,828)	122,163
Due from former parent	—	(164,647)
Deferred revenue	(177,389)	814,589
Deferred product revenue	—	(6)
Deferred rent	52,665	(1,028)
Accounts payable	(904,577)	4,691,363
Accrued expenses	2,370,682	(130,255)
Total cash used in operations	(17,828,754)	(4,494,788)
Cash Flows from Investing Activities		
Purchase of equipment	(6,527)	—
Cash paid in Napo merger, net of cash acquired	—	(1,557,340)
Change in restricted cash	—	11,293
Total cash used in investing activities	(6,527)	(1,546,047)
Cash Flows from Financing Activities		
Proceeds from issuance of long-term debt	2,310,000	—
Payments of long-term debt	(1,689,200)	(2,161,262)
Proceeds from issuance of convertible debt	500,000	1,700,000
Proceeds from issuance of common stock (net of $61,781 issuance costs), extension from 2016 financing	—	2,314,374
Proceeds from issuance of common stock, (net of issuance costs of $6,000) June 2017	—	94,000
Proceeds from issuance of common stock July 2017	—	3,000,000
Proceeds from the issuance of common stock through the exercise of common stock warrants	—	363,334
Proceeds from the issuance of common stock through a stock purchase agreement with a new private investor	1,305,774	—
Proceeds from the issuance of common stock	750,100	—
Proceeds from the issuance of common stock March 2018	5,000,000	—
Proceeds from the issuance of convertible preferred stock net of issuance costs	9,000,002	—
Proceeds from issuance of common stock July 2018	624,897	
Fractional common stock shares repurchased	(30)	—
Total Cash Provided by Financing Activities	17,801,543	5,310,446
Net decrease in cash and cash equivalents	(33,738)	(730,389)
Cash and restricted cash at beginning of period	759,867	950,979
Cash and restricted cash at end of period	$ 726,129	$ 220,590

Cash and Restricted Cash:

	Nine Months Ended	
	September 30, 2018	September 30, 2017
Supplemental Schedule of Non-Cash Financing and Investing Activities		
Interest paid on long-term debt	$ 19,344	$ 201,835
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	$ 1,638,546	$ —
Common stock issued with September 2018 Promissory Notes	$ 48,000	$ —
Warrants issued with the September 2018 Promissory Notes	$ 118,148	$ —
Deemed dividend attributable to preferred stock	$ 995,000	$ —
Fair value of common stock issued in a merger	$ —	$ 25,303,859
Fair value of replacement of common stock warrants issued in a merger	$ —	$ 630,859
Fair value of replacement restricted stock units issued in a merger	$ —	$ 3,300,555
Fair value of replacement stock options issued in a merger	$ —	$ 5,691

Cash and Restricted Cash:

	September 30, 2018	December 31, 2017
Cash	$ 726,129	$ 520,698
Restricted cash	—	239,169
Total cash and restricted cash	$ 726,129	$ 759,867

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

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 and Going Concern

The accompanying condensed 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 $81.9 million as of September 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.

October 2018 Equity Financing

In September 2018, the Company announced plans to complete a public offering of common shares and pre-funded warrants. This offering closed on October 4, 2018, pursuant to which the Company issued and sold an aggregate of 11,575,001 shares of its common stock and 3,425,000 pre-funded warrants to purchase shares of common stock. The common stock was sold at a purchase price of $0.60 per share for gross proceeds of $7.0 million, and the pre-funded warrants were sold at a purchase price of $0.59 per share for gross proceeds of $2.0 million. Actual cash received after deducting fees and expenses in connection with the offering was $8.3 million.

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”) for interim financial information and on a basis consistent with the annual consolidated financial statements, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair presentation of the periods presented. These interim financial results are not necessarily indicative of the results to be expected for the year ending December 31, 2018, or for any other future annual or interim period. 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.

There have been no material changes to the Company's significant accounting policies during the three and nine months ended September 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 the new revenue recognition standard pursuant to ASC 606 as of January 1, 2018 as described in more detail below.

Principles of Consolidation

The condensed consolidated condensed 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.

Deferred Offering Costs

Deferred offering costs are costs incurred in filings of registration statements with the Securities and Exchange Commission. These deferred offering costs are offset against proceeds received upon the closing of the offerings. Deferred costs as of September 30, 2018, represent $1.3 million in legal, accounting, printer and filing fees associated with the Company's October 2018 offering in which the Company issued common stock and pre-funded warrants as registered on Form S-1. The offering closed on October 4, 2018, at which time these deferred offering costs were charged to stockholders’ equity.

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 September 30, 2018 and December 31, 2017.

In the nine months ended September 30, 2018, substantially all of the Company's 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 whom amounted to a percentage of total net revenue of at least 10%. Revenue earned from each as a percentage of total net revenue follows:

Consolidated (percentage of total net sales)	**Three Months Ended September 30,**		**Nine Months Ended September 30,**	
	2018	**2017**	**2018**	**2017**
Customer 1	34 %	11 %	28 %	4 %
Customer 2	28 %	9 %	28 %	3 %
Customer 3	25 %	12 %	25 %	5 %
	88 %	32 %	81 %	13 %

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:

	As of September 30, 2018	**As of December 31, 2017**
Customer 1	35 %	30 %
Customer 2	29 %	31 %
Customer 3	26 %	35 %

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.

Prepaids and other current assets and other long-term assets

The $1,267,861 increase in prepaids and other current assets between December 31, 2017 and September 30, 2018 includes $777,380 of raw materials having a useful life greater than one year which will be used in future production and $225,147 of deferred rent for the Company's office lease. The $501,120 increase in other long-term assets between December 31, 2017 and September 30, 2018 includes $289,828 of these raw materials and $211,292 in deferred rent.

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 Company recorded an impairment of goodwill in the three months and nine months ended September 30, 2017. The decline in market capitalization during the three months ended September 30, 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 September 30, 2017. The Company's analysis did not result in an impairment of goodwill in the three months and nine months ended September 30, 2018. If the market capitalization decreases in the future, a reasonable possibility exists that goodwill could be 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 the Company 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 the Company's 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.

Practical Expedients, Elections, and Exemptions

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

The Company used a practical expedient available under ASC 606-10-65-1(f)4 that permits it 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 the US. 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 its 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. Napo retains control of Mytesi held at Mission.

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. This M&D Agreement with Mission was amended on August 15, 2018, with a termination date of January 31, 2019. Mission agreed to continue to serve as the exclusive distributor for Mytesi on a transition basis until this date. The Company is in negotiations with another agent to replace Mission as the sales agent.

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 Acquisition 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.

Allocate transaction price

For both Napo and Jaguar, the entire transaction price is allocated to the single performance obligation 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 $1,107,682 and $2,545,121 in the three and nine months ended September 2018, and $364,054 in the three and nine months ended September 30, 2017. The merger with Napo closed July 31, 2017. The Company did not recognize revenue for Mytesi sales prior to the merger with Napo.

Animal

The Company recognized Neonorm revenues of $24,386 and $33,611 for the three months ended September 30, 2018 and 2017, and $97,760 and $139,600 for the nine months ended September 30, 2018 and 2017, respectively. Botanical Extract revenues were nil and $48,000 in the three months ended September 30, 2018 and 2017, and nil and $78,000 in the nine months ended September 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 zero and $637,200 in the three months ended September 30, 2018 and 2017, respectively, and zero and $1,734,100 in the nine months ended September 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.

On September 24, 2018, the Company entered into a Distribution, License and Supply Agreement ("License Agreement") with Knight Therapeutics, Inc. ("Knight"). The License Agreement has a term of 15 years (with automatic renewals) and provides Knight with an exclusive right to commercialize current and future Jaguar human health products (including Crofelemer, Lechlemer, and any product containing a proanthocyanidin or with an anti-secretory mechanism) in Canada and Israel. In addition, Knight was granted a right of first negotiation for expansion to Latin America. Under the License Agreement, Knight is responsible for applying for and obtaining necessary regulatory approvals in the territory of Canada and Israel, as well as marketing, sales and distribution of the licensed products. Knight will pay a transfer price for all licensed products, and upon achievement of certain regulatory and sales milestones, Jaguar may receive payments from Knight in an aggregate amount of up to approximately $18 million payable throughout the initial 15-year term of the agreement.

Comprehensive Income (Loss)

For all periods presented, the comprehensive income (loss) was equal to the net income (loss); therefore, a separate statement of comprehensive income (loss) is not included in the accompanying interim condensed consolidated financial statements.

Recent Accounting Pronouncements

In February 2016, the FASB issued Accounting Standards Update (“ASU”) 2016-02, *Leases*. Under this 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 new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the Consolidated Statement of Operations. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. Entities have the option to use certain practical expedients. Full retrospective application is prohibited. In July 2018, the FASB issued ASU 2018-10, "Codification Improvements to Topic 842, Leases." These amendments affect narrow aspects of the guidance issued in the amendments in ASU 2016-02 including those regarding residual value guarantees, rate implicit in the lease, lessee reassessment of lease classification, lessor reassessment of lease term and purchase option, variable lease payments that depend on an index or a rate, investment tax credits, lease term and purchase option, transition guidance for amounts previously recognized in business combinations, certain transition adjustments, transition guidance for leases previously classified as capital leases under Topic 840, transition guidance for modifications to leases previously classified as direct financing or sales-type leases under Topic 840, transition guidance for sale and leaseback transactions, impairment of net investment in the lease, unguaranteed residual asset, effect of initial direct costs on rate implicit in the lease, and failed sale and leaseback transactions. The Company plans to adopt Topic 842 on January 1, 2019. The Company is currently evaluating the impact that the adoption of ASU 2016-02 will have on its consolidated financial statements and accompanying footnotes. The Company anticipates that implementation of Topic 842 will result in an increase in assets and liabilities and additional disclosures. The effect of adoption will depend on our current lease portfolio at time of adoption; however, upon adoption, we anticipate that our reported assets and liabilities will increase in connection with the recognition of any right-of-use assets and lease liabilities, such as the operating lease on our corporate headquarters.

In July 2017, the FASB issued ASU 2017-11, *Accounting for Certain Financial Instruments with Down Round Features*. This new guidance addresses narrow issues identified as a result of the complexity associated with accounting for certain financial instruments with characteristics of liabilities and equity, including accounting for Down Round features. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact of this accounting standard on our financial position, results of operation and cash flows.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation – Stock* Compensation (Topic 718): *Improvements to Nonemployee Share-Based Payment Accounting*. The amendments in this ASU expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. This new guidance is effective for the Company in fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted. The Company is currently assessing the impact of this new guidance.

3. Business Combination

As discussed in Note 1, 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 payable	(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.

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 probability-adjusted, discounted 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.

In September 2018, the Company received a $1.2 million payment from Valeant, in a settlement agreement with Glenmark Pharmaceuticals, Valeant Pharmaceuticals Ireland, Limited, and Salix Pharmaceuticals, related to inventory that the Company was entitled to on July 31, 2017, the date of the merger with Napo.

Unaudited Proforma Information

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

	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2017
Net sales	$ 1,253,447	$ 3,894,222
Net income (loss)	$ 5,281,573	$ (2,905,689)
Net loss per share, basic and diluted	$ 0.10	$ (0.10)

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 nine months ended September 30, 2017 because such costs are nonrecurring and are directly related to the Napo Merger.

Unaudited pro forma amounts are not necessarily indicative 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 September 30, 2018 and December 31, 2017 and indicates the fair value hierarchy of the valuation:

	September 30, 2018			
	Level 1	Level 2	Level 3	Total
Warrant liability	$ —	$ —	$ 48,240	$48,240
Derivative liability	—	—	—	—
Conversion option liability	—	—	—	—
Total fair value	$ —	$ —	$ 48,240	$ 48,240

	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:

	For the Nine Months Ended September 30, 2018		
	Warrant Liability	Derivative Liability	Conversion Option Liability
Beginning value of liability	$ 103,860	$ 11,000	$ 111,841
Extinguishment	—	—	(286,595)
Change in fair value of liability	(55,620)	(11,000)	174,754
Ending fair value of level 3 liability	$ 48,240	$ —	$ —

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 $0.14, 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 $48,240 valuation at September 30, 2018 was computed using the Black-Scholes-Merton pricing model using a stock price of $0.86, the strike price was $11.25 per share, the expected life was 3.66 years, the volatility was 131.93% and the risk-free rate was 2.90%. The resulting $55,620 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 derivatives 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 September 30, 2018 using the same Model resulting in a combined minimal fair value. The resulting $11,000 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 September 30, 2018 and December 31, 2017 was as follows:

	September 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

Intangible assets

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

	September 30, 2018	December 31, 2017
Developed technology	$ 25,000,000	$ 25,000,000
Accumulated developed technology amortization	(1,944,445)	(694,445)
Developed technology, net	23,055,555	24,305,555
In process research and development	8,800,000	11,100,000
Impairment	—	(2,300,000)
In process research and development, net	8,800,000	8,800,000
Trademarks	300,000	300,000
Accumulated trademark amortization	(23,333)	(8,333)
Trademarks, net	276,667	291,667
Total intangible assets, net	$ 32,132,222	$ 33,397,222

Amortization expense was $421,667 and $1,265,000 in the three and nine months ended September 30, 2018, respectively and $281,111 in the three and nine months ended September 30, 2017. Amortization started with the merger with Napo, which was effective July 31, 2017.

6. Commitments and Contingencies

On August 28, 2018, the Company entered into an office lease extension agreement for approximately 6,311 square feet of office space in San Francisco, CA. The term of the Lease began on September 1, 2018 and will expire on September 30, 2020, unless earlier terminated in accordance therewith. The monthly base rent under the Lease is as follows: $38,392 for the first twelve months, $39,544 for the subsequent twelve months, and $40,730 for the final month. The Company will also pay an additional monthly amount for the Company's proportionate share of the building's operating charges. An existing shareholder provided a standby letter of credit in the amount of $475,000 to the Lessor as collateral for the full performance by the Company of all of its obligations under the Lease. In consideration of the Letter of Credit, the Company issued the existing shareholder a five-year warrant to purchase 670,586 shares of the Company's voting common stock (see Note 7). The Warrant is exercisable on or after March 28, 2019 at an exercise price of $0.70 per share. The fair value of the warrant was determined to be $493,689 using the Black-Scholes-Merton model with the following criteria: stock price of $0.84 per share, expected life of 5 years, volatility of 132%, risk-free rate of 2.77% and dividend rate of 0%. The $493,688 fair value of the Warrant was classified in the statement of stockholders equity with an offset to deferred rent. Each month, $19,748 of this deferred rent will be recognized as non-cash rent expense.

The Company recognizes rent expense on a straight-line basis over the non-cancelable lease period. Rent expense was $117,435 and $297,993 for the three and nine months ended September 30, 2018, respectively and $90,278 and $270,835 for the three and nine months ended September 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 $7.0 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 September 30, 2018, the Company had issued non-cancelable purchase orders to a vendor for $1.3 million, which will be filled in the period November 2018 through December 2018.

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 September 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 alleged 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 was granted. Plaintiff filed an amended complaint against the Company and the United States-based director Defendants on January 10, 2018. The Defendants filed a motion to dismiss on March 12, 2018, for which oral arguments were held on June 14, 2018. The court dismissed the complaint on September 20, 2018. Plaintiff was entitled to amend the complaint within 20 days from the date of dismissal. On October 10, 2018, Plaintiff amended the complaint to focus on the Company's commercial strategy in support of Equilevia and the related disclosure statements in the Form S-4 described above. On November 6, 2018, the Defendants moved to dismiss the second amended complaint. The Defendants argue in their motion that the complaint fails to state a claim upon which relief can be granted because the omissions and misrepresentations alleged in the complaint are immaterial as a matter of law. Plaintiff's memorandum of law in opposition to the Defendants' motion to dismiss is due on December 21, 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. 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 September 30, 2018 and December 31, 2017 consist of the following:

	September 30, 2018	December 31, 2017
February 2015 convertible notes payable	—	150,000
June 2017 convertible note payable	703,585	1,613,089
September 2018 L2 convertible note payable	455,000	—
September 2018 Conte convertible note payable	111,250	—
Napo convertible notes	10,661,026	12,153,389
	$ 11,930,861	$ 13,916,478
Less: unamortized debt discount and debt issuance costs	(213,843)	(261,826)
Net convertible notes payable obligation	$ 11,717,018	$ 13,654,652
Convertible notes payable - non-current	10,661,026	10,982,437
Convertible notes payable - current	$ 1,055,992	$ 2,672,215

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
February 2015 convertible note nominal interest	$ —	$ 4,537	$ 1,479	$ 13,463
June 2017 convertible note nominal interest	14,063	43,900	47,391	44,372
June 2017 convertible note accretion of debt discount	49,564	123,362	281,825	124,708
August 2018 L2 convertible note nominal interest	17,839	—	17,839	—
August 2018 Conte convertible note nominal interest	3,074	—	3,074	—
Napo convertibles note nominal interest	148,077	175,798	399,270	175,798
Total interest expense on convertible debt	$ 232,617	$ 347,597	$ 750,878	$ 358,341

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

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 promissory 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.

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 derivatives 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 September 30, 2018 using the same Model resulting in a de minimus fair value. The resulting $11,000 gain is included in other income and expense in the Company's statements of operations.

On August 2, 2018, the Company and CVP agreed to an amendment extending the maturity date to August 26, 2019, and limiting the aggregate amount that CVP is permitted to redeem on a monthly basis to $500,000, which is the maximum aggregate redemption amount for all notes outstanding with CVP. This amendment resulted in the Company accounting for the transaction as a troubled debt restructuring, under which the carrying amount of the note payable remained unchanged but interest expense is computed using a new effective rate that equates the present value of the future cash payments specified by the new terms with the carrying amount of the note.

September 2018 L2 Promissory Note and Warrants

On September 11, 2018 the Company entered into a Note Purchase Agreement with L2 Capital, pursuant to which the Company issued to L2 Capital a contingently convertible promissory note in the aggregate principal amount of $455,000. Net cash proceeds were $400,000, or $455,000 of principal net a discount of $55,000. The Notes bear interest at the rate of 8% per annum and mature on March 11, 2019. On October 10, 2018, the Company paid off the entire Note, including the guaranteed interest and an early-redemption premium.

Concurrent to entering into the Note Purchase Agreement, the Company issued 75,000 shares of common stock and a 5-year warrant to purchase 185,417 shares of common stock, for a fair value of $100,330, to L2 Capital, at an exercise price of $0.90 per share. The warrants were recorded in additional paid-in-capital and treated as a discount to the note balance.

September 2018 Conte Promissory Note and Warrants

On September 11, 2018 the Company entered into a Note Purchase Agreement with an accredited investor pursuant to which the Company issued to the accredited investor a convertible promissory note in the aggregate principal amount of $111,250. Net cash proceeds received were $100,000, or $111,250 of principal less a discount of $11,250. The Notes bear interest at the rate of 8% per annum and matures on March 11, 2019. On October 10, 2018, the Company paid off the entire Note, including the guaranteed interest and an early-redemption premium.

Concurrent to entering into the Note Purchase Agreement, the Company provided to the accredited investor a five-year warrant to purchase 33,918 shares of common stock, for a fair value of $17,818, at an exercise price of $1.23 per share. The warrants were recorded in additional paid-in-capital and treated as a discount to the note balance.

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 for 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 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 nine 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 September 30, 2018 and December 31, 2017, the unamortized balance of the convertible note payable is $10,661,026 and $10,982,438 which are included in Convertible Long-term Debt on the balance sheet.

Long-term Debt

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

	September 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 nine months ended September 30, 2018 and 2017 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Nominal interest	$ —	$ 36,906	$ 19,344	$ 183,040
Accretion of debt discount	—	7,712	20,779	29,351
Accretion of end-of-term payment	—	32,109	52,561	122,269
Accretion of debt issuance costs	—	24,038	6,616	91,562
	$ —	$ 100,765	$ 99,300	$ 426,222

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.

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

	September 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	(386,798)	(446,347)
Net convertible notes payable obligation	$ 4,531,952	$ 1,141,153

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Nominal interest	$ 103,581	$ —	$ 254,890	$ —
Accretion of debt discount	541,847	—	1,080,799	—
Total interest expense on convertible debt	$ 645,428	$ —	$ 1,335,689	$ —

December 2017 Note

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.

On August 2, 2018, the Company and CVP amended the December 2017 Note agreement, extending the maturity date from September 8, 2018 to August 26, 2019, and limiting the aggregate amount that CVP is permitted to redeem on a monthly basis to $500,000, which amount is the maximum aggregate amount for the Notes collectively. This amendment resulted in the Company accounting for the transaction as a troubled debt restructuring, under which the carrying amount of the note payable remained unchanged but interest expense is computed using a new effective rate that equates the present value of the future cash payments specified by the new terms with the carrying amount of the note. The principal balance of the note is included in notes payable in the current liabilities section of the balance sheet.

February 2018 Note

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 August 26, 2019. The balance of the note payable as of September 30, 2018 of $2,073,679 consisting of the $2,240,909 face value of the note less note discounts of $167,230, is included in notes payable in the current liabilities section of the balance sheet.

March 2018 Note

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 September 30, 2018 of $870,773 consisting of the $1,090,341 face value of the note less note discounts and debt issuance costs of $219,568, is included in notes payable in the current liabilities section of the balance sheet.

During the three months ended September 30, 2018, it was discovered that an error was made in the accounting for the restructuring of notes payable with CVP that dated back to the three months ended March 31, 2018. The Company improperly did not account for the transaction as a debt extinguishment. This error led to the understatement of other expense by approximately $798,000 for the three months ended March 31, 2018 and the understatement of short-term notes payable by $798,000 as of March 31, 2018. This error also led to the overstatement of other expense by approximately $322,000 for the three months ended June 30, 2018 and the understatement of short term notes payable by approximately $476,000 as of June 30, 2018. The Company did not deem this error to be material to its consolidated financial statements for the first and second quarter of 2018 and corrected the error via an out of period adjustment recorded to other expense and short term notes payable in the three months ended September 30, 2018.

Warrants

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

	Nine Months Ended September 30, 2018	Year Ended December 31, 2017
Beginning balance	321,314	397,904
Warrants granted	889,921	106,376
Warrants exercised	—	(60,553)
Warrants cancelled	(50,553)	(122,413)
Ending balance	1,160,682	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 September 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.

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. 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 nine months ended September 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 exchange for $5.0 million in cash.

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.

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

	September 30, 2018	September 30, 2017
Options issued and outstanding	2,868,868	2,984,304
Inducement options issued and outstanding	209,531	—
Options available for grant	238,172	513,385
RSUs issued and outstanding	392,904	392,923
Warrants issued and outstanding	1,160,682	443,756
Convertible notes	1,642,852	1,036,717
Total	6,513,009	5,371,085

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 September 30, 2018.

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 2,835,099 option shares outstanding and 238,172 option shares available for grant at September 30, 2018.

Stock Options and Restricted Stock Units ("RSUs")

The following table summarizes incentive plan activity for the years ended September 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	(2,767,673)	2,767,673		—		
Options cancelled	124,460	(128,380)		—		
Combined Incentive Plan Balance—September 30, 2018	238,172	2,868,868	392,904	$ 5.96	9.27	$ —
Options vested and exercisable—September 30, 2018		709,721		$ 12.14	3.98	$ —
Options vested and expected to vest—September 30, 2018		2,644,568		$ 6.03	9.26	$ —

* Fair market value of JAGX stock on September 28, 2018 was $0.87 per share.

The weighted average grant date fair value of stock options granted was $1.84 and $0.44 per share during the nine months ended September 30, 2018 and 2017.

The number of option shares that vested in the nine months ended September 30, 2018 and 2017 was 423,719 shares and 533,348 shares, respectively. The grant date weighted average fair value of option shares that vested in the nine months ended September 30, 2018 and 2017 was $475,123 and $549,453, respectively.

No options were exercised in the nine months ended September 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 $0.87 on September 30, 2018 and the grant date stock option exercise price.

The Company also granted 209,531 of inducement options in the nine months ended September 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 $1.34 per share. No option shares vested in the nine months ended September 30, 2018.

Stock-Based Compensation

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Research and development expense	$ 175,772	$ 45,009	$ 400,521	$ 168,981
Sales and marketing expense	39,210	7,938	59,762	23,307
General and administrative expense	465,112	133,807	956,508	438,636
Total	$ 680,094	$ 186,754	$ 1,416,791	$ 630,924

As of September 30, 2018, the Company had $3,277,868 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 2.2 years.

11. Net Income (Loss) Per Share of Common Stock

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net income (loss) attributable to common stockholders (basic)	$ (6,138,352)	$ 4,759,844	$ (20,487,172)	$ (1,761,156)
Interest on convertible debt, net of tax	—	209,149	—	—
Net income (loss) attributable to common stockholders - diluted	$ (6,138,352)	$ 4,968,993	$ (20,487,172)	$ (1,761,156)
Shares used to compute net income (loss) per common share - basic	12,061,672	3,695,660	10,701,977	1,883,115
Dilutive effect of warrants	—	45,026	—	—
Dilutive effect of convertible debt	—	739,550	—	—
Shares used to compute net income (loss) per common share - diluted	12,061,672	4,480,235	10,701,977	1,883,115
Net loss per share attributable to common stockholders - basic	$ (0.51)	$ 1.29	$ (1.91)	$ (0.94)
Net loss per share attributable to common stockholders - diluted	$ (0.51)	$ 1.11	$ (1.91)	$ (0.94)

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. In the three months ended September 30, 2017, the convertible debt and certain warrant shares were dilutive. The rights of the holders of voting common stock and non-voting common stock are identical, except with respect to voting and conversion. Shares of Jaguar non-voting common stock have the same rights to dividend and other distributions as voting common stock. For the three months ended September 30, 2018 and the nine months ended September 30, 2018 and 2017, 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.

12. Segment Information

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 its segments to reflect the change in the organizational structure resulting from the merger with Napo. Post-merger, the Company manages its operations through two reportable segments—human health and animal health. The human health segment is focused on developing and commercializing 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. The animal health segment is focused on developing and commercializing prescription and non-prescription products for companion and production animals.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Revenue from external customers				
Human Health	$ 1,107,682	$ 364,054	$ 2,545,121	$ 364,054
Animal Health	24,385	736,160	275,148	2,455,091
Consolidated Totals	$ 1,132,067	$ 1,100,214	$ 2,820,269	$ 2,819,145
Segment profit (loss)				
Human Health	$ (3,145,782)	$ 996,493	$ (10,519,413)	$ 996,493
Animal Health	(2,992,570)	3,763,351	(8,972,759)	(2,757,649)
Consolidated Totals	$ (6,138,352)	$ 4,759,844	$ (19,492,172)	$ (1,761,156)

13. Subsequent Events

October 2018 Equity Financing

In September 2018, the Company announced plans to complete a public offering of common shares and pre-funded warrants. This offering closed on October 4, 2018, pursuant to which the Company issued and sold an aggregate of 11,575,001 shares of its common stock and 3,425,000 pre-funded warrants to purchase shares of common stock. The common stock was sold at a purchase price of $0.60 per share for gross proceeds of $7.0 million, and the pre-funded warrants were sold at a purchase price of $0.59 per share for gross proceeds of $2.0 million. Actual cash received after deducting estimated fees and expenses in connection with the offering was $8.3 million.

Standstill Agreement

On October 1, 2018, and as amended October 31, 2018, the Company entered into a standstill agreement with Chicago Venture Partners, L.P. (“CVP”) with respect to the June 29, 2017, December 8, 2017, February 26, 2018 and March 21, 2018 outstanding secured promissory notes issued by the Company to CVP (collectively, the “CVP Notes”).

The standstill agreement provides that (i) CVP will not make any redemptions for the amounts of September 2018 and October 2018 and will not make any redemptions prior to November 21, 2018; and that (ii) if the Company makes a $1,500,000 debt payment to CVP by November 20, 2018, then CVP will also refrain from making any redemptions in the months of November 2018, December 2018, January 2019, and February 2019. However, if the Company fails to make the $1,500,000 payment by November 20, 2018, then CVP will have the right to make up to $1,000,000 in redemptions at any time thereafter in addition to the standard $500,000 per month in redemptions beginning again on November 21, 2018.

NASDAQ Notice of Delisting

On November 9, 2018, the Company received a letter from the Listing Qualifications Department of The NASDAQ Stock Market LLC (“NASDAQ”) notifying the Company that its common stock did not maintain a minimum closing bid price of $1.00 per share for the preceding 30 consecutive business days as required by NASDAQ Listing Rule 5550(a)(2) (the “Minimum Bid Price Requirement”). The notice has no immediate effect on the listing or trading of the Company’s common stock and the common stock will continue to trade on The NASDAQ Capital Market under the symbol “JAGX” at this time.

In accordance with NASDAQ Listing Rule 5810(c)(3)(A), the Company has a grace period of 180 calendar days, or until May 8, 2019, to regain compliance with NASDAQ Listing Rule 5550(a)(2). Compliance can be achieved automatically and without further action if the closing bid price of the Company’s stock is at or above $1.00 for a

minimum of 10 consecutive business days at any time during the 180-day compliance period, in which case NASDAQ will notify the Company of its compliance and the matter will be closed.

The Company may be eligible for additional time to comply if it does not achieve compliance with the Minimum Bid Price Requirement by May 8, 2019. In order to be eligible for such additional time, the Company will be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for The NASDAQ Capital Market, with the exception of the Minimum Bid Price Requirement, and must notify NASDAQ in writing of its intention to cure the deficiency during the second compliance period.

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 $19.5 million and $1.8 million for the nine months ended September 30, 2018 and 2017, respectively. As of September 30, 2018, we had a total stockholders' equity of $10.3 million, an accumulated deficit of $81.9 million, and cash and cash equivalents of $726,129. 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.

In September 2018, we announced plans to complete a public offering of common shares and pre-funded warrants. This offering closed on October 4, 2018, with gross proceeds of $8,246,641, comprising $6,390,301 in sales of common stock and $1,856,350 in pre-funded warrants.

Revenues

Our product and collaboration revenue consists of the following:

- Revenues from the sale of our human drug Mytesi, which is sold through distributors and wholesalers.
- Revenues from the sale of our animal products branded as Neonorm Calf and Neonorm Foal. Our Neonorm and Botanical extract products are primarily sold to distributors, who then sell the products to the end customers.
- Revenues from our collaborative agreement with Elanco to license, develop and commercialize Canalevia. This agreement was terminated in January 2018.

See “Results of Operations” below for more detailed discussion on revenues

Cost of Revenue

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

Research and Development Expense

Research and development expenses consist primarily of clinical and contract manufacturing expense, personnel and related 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.

Interest Expense

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

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of 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.

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

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 the US. 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. Napo retains control of Mytesi held at Mission.

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. This M&D Agreement with Mission was amended on August 15, 2018, with a termination date of January 31, 2019. Mission agreed to continue to serve as the exclusive distributor for Mytesi on a transition basis until this date. The Company is in negotiations with another agent to replace Mission as the sales agent.

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 Acquisition 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 obligation 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.

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 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 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 indicated 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 indicated 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 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.

Results of Operations

Comparison of the Nine Months ended September 30, 2018 and 2017

	Nine Months Ended September 30,			
	2018	2017	Variance	Variance %
Product revenue	$ 2,642,880	$ 581,654	$ 2,061,226	354.4 %
Collaboration revenue	177,389	2,237,491	(2,060,102)	(92.1)
Total revenue	2,820,269	2,819,145	1,124	0.0 %
Operating Expenses				
Cost of revenue	1,808,918	247,135	1,561,783	632.0 %
Research and development expense	3,843,918	3,033,851	810,067	26.7 %
Sales and marketing expense	7,119,204	943,908	6,175,296	654.2 %
General and administrative expense	8,761,776	8,512,195	249,581	2.9 %
Impairment of goodwill	—	3,648,000	(3,648,000)	N/A %
Total operating expenses	21,533,816	16,385,089	5,148,727	31.4 %
Loss from operations	(18,713,547)	(13,565,944)	(5,147,603)	37.9 %
Interest expense, net	(2,185,868)	(800,885)	(1,384,983)	172.9 %
Other income (expense), net	322,244	(13,428)	335,672	(2,499.8)%
Change in fair value of warrants and conversion option liability	(119,134)	636,121	(755,255)	N/A
Gain on Valeant settlement	1,204,133	—	1,204,133	N/A
Loss on extinguishment of debt	—	(207,713)	207,713	N/A
Net loss before tax	(19,492,172)	(13,951,849)	(5,540,323)	39.7 %
Income tax benefit	—	12,190,693	(12,190,693)	N/A
Net loss	$(19,492,172)	$ (1,761,156)	$(17,731,016)	1,006.8 %
Deemed dividend attributable to preferred stock	(995,000)	—	(995,000)	N/A
Net income (loss) attributable to common shareholders	$(20,487,172)	$ (1,761,156)	$(18,726,016)	1,063 %

Revenue

Gross sales and allowances

Due to the Company's arrangements, including elements of variable consideration, gross product sales are reduced in order to reflect the expected consideration to arrive at net product sales. Deductions to reduce gross product sales to net product sales in the nine months ended September 30, 2018 and 2017:

	Nine Months Ended September 30,	
	2018	**2017**
Gross product sales		
Mytesi	$ 3,550,994	$ 391,234
Neonorm	98,738	139,813
Botanical Extract	—	78,000
Total gross product sales	3,649,732	609,047
Revenue deductions:		
Medicare rebates	(80,192)	(25,365)
Sales discounts - Mytesi	(582,017)	(2,028)
Sales returns - Mytesi	(88,052)	—
Wholesaler fee - Mytesi	(256,591)	—
Net product sales	$ 2,642,880	$ 581,654

Product revenue

Our product revenue of $2,642,880 for the nine months ended September 30, 2018 reflects revenue from the sale of our human drug Mytesi and our animal products branded as Neonorm Calf and Neonorm Foal. 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 $2,545,121 and $364,054 in the nine months ended September 30, 2018 and 2017.

Animal

We recognized Neonorm revenues of $97,759 and $139,600 for the nine months ended September 30, 2018 and 2017, respectively. Botanical Extract revenues were nil and $78,000 in the nine months ended September 30, 2018 and 2017. The decrease was due to the absence of Botanical Extract sales in 2018.

Collaboration Revenue

Collaboration revenue derived from our January 2017 licensing, development, co-promotion and commercialization agreement with Elanco US Inc. to license, develop and commercialize Canalevia represents 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 $2,237,491 in collaboration revenue in the nine months ended September 30, 2018 and 2017, respectively. Elanco terminated the arrangement in January 2018 and all remaining deferred revenue was recognized at that time.

Cost of Product Revenue

	Nine Months Ended September 30,			
	2018	2017	Variance	Variance %
Cost of Product Revenue				
Material cost	$ 847,264	$109,695	$ 737,569	672 %
Direct labor	407,525	85,579	321,946	376 %
Distribution fees	291,300	—	291,300	NA
Royalties	81,342	4,939	76,403	1,547 %
Other	181,487	46,922	134,565	287 %
Total	$1,808,918	$247,135	$1,561,783	632 %

Cost of product revenue increased $1,561,783 from $247,135 in the nine months ended September 30, 2017 to $1,808,918 for the same period in 2018. Napo related cost of product revenue for Mytesi was $1,774,033 and $190,768 in the nine months ended September 30, 2018 and 2017 as the merger was effective July 31, 2017.

Research and Development Expense

	Nine Months Ended September 30,			
	2018	2017	Variance	Variance %
R&D:				
Personnel and related benefits	$ 1,708,116	$ 1,490,293	$ 217,823	14.6 %
Materials expense and tree planting	153,595	99,409	54,186	54.5 %
Travel, other expenses	108,078	168,441	(60,363)	(35.8)%
Clinical and contract manufacturing	829,312	422,449	406,863	96.3 %
Stock-based compensation	400,521	168,981	231,540	137.0 %
Other	644,297	684,278	(39,981)	(5.8)%
Total	$ 3,843,918	$ 3,033,851	$ 810,067	26.7 %

Research and development expense increased $810,067 from $3,033,851 from the nine months ended September 30, 2017 to $3,843,918 for the same period in 2018 due primarily to:

- Personnel and related benefits increased $217,823 from $1,490,293 in the nine months ended September 30, 2017 to $1,708,116 in the same period in 2018 due to changes in headcount and related salaries.

- Clinical and contract manufacturing expense increased $406,863 from $422,449 in the nine months ended September 30, 2017 to $829,312 in the same period in 2017 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 $231,540 from $168,981 in the nine months ended September 30, 2017 to $400,521 in the same period in 2018 primarily due to an increase in the number of option grants and outstanding options.

- Other expenses, consisting primarily of consulting, formulation and regulatory fees, decreased $39,981 from $684,278 in the nine months ended September 30, 2017 to $644,297 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 $2,045,938 of Napo research and development expenses for the nine-month period ended September 30, 2018 compared to $204,017 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 $54,186 from $99,409 in the nine months ended September 30, 2017 to $153,595 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

Sales and Marketing Expense

	Nine Months Ended September 30,			
	2018	2017	Variance	Variance %
S&M:				
Personnel and related benefits	$ 2,996,262	$ 191,238	$ 2,805,024	1,466.8 %
Stock-based compensation	59,761	23,307	36,454	156.4 %
Direct marketing fees	3,088,532	76,648	3,011,884	3,929.5 %
Other	974,649	652,715	321,934	49.3 %
Total	$ 7,119,204	$ 943,908	$ 6,175,296	654.2 %

Sales and marketing expense increased $6,175,296 from $943,908 in the nine months ended September 30, 2017 to $7,119,204 in the same period in 2018 due primarily to:

- Personnel and related benefits increased $2,805,024 from $191,238 in the nine months ended September 30, 2017 to $2,996,632 in the same period in 2018 due to the expansion of our sales and marketing headcount from zero to 19, in support of Mytesi.

- Direct marketing and sales expense increased $3,011,884 from $76,648 in the nine months ended September 30, 2017 to $3,088,532 for the same period in 2018 due to the increase in marketing programs to promote the Napo Mytesi product.

- Stock based compensation expense increased $36,454 from $23,307 in the nine months ended September 30, 2017 to $59,761 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 $6,931,881 in Napo sales and marketing expenses for the nine months ended September 30, 2018 compared to $513,102 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

General and Administrative Expense

	Nine Months Ended September 30,			
	2018	2017	Variance	Variance %
G&A:				
Personnel and related benefits	$1,321,627	$1,331,077	$ (9,450)	(0.7)%
Accounting fees	423,468	547,977	(124,509)	(22.7)%
Third-party consulting fees and Napo service fees	1,246,792	1,111,473	135,319	12.2 %
Legal fees	1,692,451	2,922,763	(1,230,312)	(42.1)%
Travel	212,707	230,736	(18,029)	(7.8)%
Stock-based compensation	956,509	438,636	517,873	118.1 %
Rent and lease expense	324,693	226,306	98,387	43.5 %
Public company expenses	508,934	611,746	(102,812)	(16.8)%
Other	2,074,595	1,091,481	983,114	90.1 %
Total	$8,761,776	$8,512,195	$ 249,581	2.9 %

General and administrative expenses increased $249,580 from $8,512,196 in the nine months ended September 30, 2017 to $8,761,776 for the same period in 2018 primarily due to an increases in intangible asset amortization, consulting expense and stock-based compensation expense:

- Other general and administrative expenses increased $983,113 from $1,091,482 in the nine months ended September 30, 2017 to $2,074,595 in the same period in 2018. The increase was primarily driven by an increase in intangible asset amortization of $939,000 from $326,000 in the nine months ended September 30, 2017 to $1,265,000 in the same period in 2018. These intangible assets were acquired as part of the July 2017 merger with Napo.

- Consulting fees increased $135,319 from $1,111,473 in the nine months ended September 30, 2017 to $1,246,792 in the same period in 2018.

- Stock-based compensation expense increased $517,873 from $438,636 in the nine months ended September 30, 2017 to $956,509 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 $1,230,312 from $2,922,763 in the nine months ended September 30, 2017 to $1,692,451 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:

- Accounting fees decreased $124,509 from $547,977 in the nine months ended September 30, 2017 to $423,648 in the same period in 2018, due to the resolution of accounting challenges in the earlier period.

- Rent and lease expense increased $98,387 from $226,306 in the nine months ended September 30, 2017 to $324,693 in the same period in 2018 due primarily to contractual increases in rent obligations.

- Public company expenses decreased $102,812 from $611,746 in the nine months ended September 30, 2017 to $508,934 in the same period in 2018 due primarily to savings in investor relations and printer fees.

We expect to incur additional general and administrative expense as a result of operating as a public company and as we grow our business, additional insurance expenses, investor relations activities and other administrative and professional services. General and administrative expenses include $3,244,289 in Napo general and administrative expenses for the nine month period ended September 30, 2018 compared to $4,510,251 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

In September 2018, the Company received a $1.2 million payment from Valeant, in a settlement agreement with Glenmark Pharmaceuticals, Valeant Pharmaceuticals Ireland, Limited, and Salix Pharmaceuticals, related to inventory that the Company was entitled to on July 31, 2017, the date of the merger with Napo.

Comparison of the Three Months ended September 30, 2018 and 2017

	Three Months Ended September 30,			
	2018	2017	Variance	Variance %
Product revenue	$ 1,132,067	$ 445,665	$ 686,402	154.0 %
Collaboration revenue	—	654,549	(654,549)	(100.0)%
Total revenue	1,132,067	1,100,214	31,853	2.9 %
Operating Expenses				
Cost of revenue	736,733	206,228	530,505	257.2 %
Research and development expense	1,481,166	851,608	629,558	73.9 %
Sales and marketing expense	2,716,752	663,765	2,052,987	309.3 %
General and administrative expense	2,703,628	3,070,702	(367,074)	(12.0)%
Impairment of goodwill	—	3,648,000	(3,648,000)	N/A
Total operating expenses	7,638,279	8,440,303	(802,024)	(9.5)%
Loss from operations	(6,506,212)	(7,340,089)	833,877	(11.4)%
Interest expense, net	(872,044)	(464,684)	(407,360)	87.7 %
Other income (expense), net	9,540	(14,876)	24,416	N/A
Change in fair value of warrants and conversion option liability	26,231	388,800	(362,569)	(93.3)%
Gain on Valeant settlement	1,204,133	—	1,204,133	N/A
Loss on extinguishment of debt	—	—	—	N/A
Net loss	(6,138,352)	(7,430,849)	1,292,497	(17.4)%
Income tax benefit	—	12,190,693	(12,190,693)	(100.0)%
Net income (loss)	(6,138,352)	4,759,844	(10,898,196)	(229)%
Deemed dividend attributable to preferred stock	—	—	—	— %
Net income (loss) attributable to common shareholders	$(6,138,352)	$ 4,759,844	$(10,898,196)	(229)%

Revenue

Gross sales and allowances

Provisions recorded to reduce gross product sales to net product sales in the three months ended September 30, 2018 and 2017, respectively, were as follows:

	Three Months Ended September 30,	
	2018	2017
Gross product sales		
Mytesi	$ 1,592,801	$ 391,234
Neonorm	24,630	33,797
Botanical Extract	—	48,000
Total gross product sales	1,617,431	473,031
Revenue deductions:		
Medicare rebates	(80,192)	(25,365)
Sales discounts - Mytesi	(262,927)	(2,001)
Sales returns - Mytesi	(42,403)	—
Wholesaler fee - Mytesi	(99,842)	—
Net product sales	$ 1,132,067	$ 445,665

Product revenue

Our product revenue of $1,132,067 for the three months ended September 30, 2018 reflects revenue from the sale of our human drug Mytesi and our animal products branded as Neonorm Calf and Neonorm Foal. 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 $1,107,682 and $364,054 in the three months ended September 30, 2018 and 2017,

Animal

We recognized Neonorm revenues of $24,386 and $33,611 for the three months ended September 30, 2018 and 2017, respectively. The decrease was due to the absence of Botanical Extract sales in 2018. Botanical extract sales in the three months ended September 30, 2017 were $48,000.

Collaboration Revenue

Collaboration revenue derived from our January 2017 licensing, development, co-promotion and commercialization agreement with Elanco US Inc. to license, develop and commercialize Canalevia represents 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 zero and $654,549 in collaboration revenue in the three months ended September 30, 2018 and 2017, respectively. Elanco terminated the arrangement in January 2018 and all remaining deferred revenue was recognized at that time.

	Three Months Ended September 30,			
	2018	2017	Variance	Variance %
Cost of Product Revenue				
Material cost	$371,108	$ 68,788	$302,320	439 %
Direct labor	141,822	85,579	56,243	66 %
Distribution fees	128,182	—	128,182	NA
Royalties	38,119	4,939	33,180	672 %
Other	57,502	46,922	10,580	23 %
Total	$736,733	$206,228	$530,505	257 %

Cost of revenue increased $530,505 from $206,228 in the three months ended September 30, 2017 to $736,733 for the same period in 2018. This increase in cost of revenue was mainly related to Napo-related cost of revenue related to Mytesi, which was $726,082 in the three months ended September 30, 2018 and $190,768 in the three months ended September 30, 2017. The merger of the Company with Napo was effective July 31, 2017.

Research and Development Expense

	Three Months Ended September 30,			
	2018	2017	Variance	Variance %
R&D:				
Personnel and related benefits	$ 562,643	$ 602,216	$ (39,573)	(6.6)%
Materials expense and tree planting	47,271	35,878	11,393	31.8 %
Travel, other expenses	60,982	45,431	15,551	34.2 %
Clinical and contract manufacturing	209,886	(13,761)	223,647	(1,625.2)%
Stock-based compensation	175,772	45,009	130,763	290.5 %
Other	424,613	136,835	287,778	210.3 %
Total	$ 1,481,166	$ 851,608	$ 629,558	73.9 %

Research and development expense increased $629,558 from $851,608 for the three months ended September 30, 2017 to $1,481,166 for the same period in 2018 due primarily to:

- Clinical and contract manufacturing expense increased $223,647 from a credit of $13,761 in the three months ended September 30, 2017 to $209,886 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.

- Other expenses, consisting primarily of consulting, formulation and regulatory fees, increased $287,778 from $136,835 in the three months ended September 30, 2017 to $424,613 in the same period in 2018.

- Stock-based compensation increased $130,763 from $45,009 in the three months ended September 30, 2017 to $175,772 in the same period in 2018 primarily due to an increase in the number of option grants and outstanding options quarter over quarter.

- Personnel and related benefits decreased from $602,216 in the three months ended September 30, 2017 to $562,643 in the same period in 2018 due to personnel transition.

We plan to increase our research and development expense as we continue developing our drug candidates. Our research and development expenses include $887,860 of Napo research and development expenses for the three month period ended September 30, 2018 compared to $204,017 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

Sales and Marketing Expense

	Three Months Ended September 30,			
	2018	2017	Variance	Variance %
S&M:				
Personnel and related benefits	$1,312,164	$ 60,802	$1,251,362	2,058.1 %
Stock-based compensation	39,209	7,938	31,271	393.9 %
Direct Marketing Fees	887,481	17,440	870,041	4,988.8 %
Other	477,898	577,585	(99,687)	(17.3)%
Total	$2,716,752	$663,765	$2,052,987	309.3 %

Sales and marketing expense increased $2,052,986 from $663,765 in the three months ended September 30, 2017 to $2,716,751 in the same period in 2018 primarily due to:

- Personnel and related benefits increased $1,251,362 from $60,802 in the three months ended September 30, 2017 to $1,312,164 in the same period in 2018 due to our expansion of our sales and marketing headcount in support of Mytesi.

- Direct marketing and sales expense increased $870,041 from $17,440 in the three months ended September 30, 2017 to $887,481 for the same period in 2018 due to an increase in marketing programs to promote the Mytesi product.

- Other expenses consisted primarily of travel expense, consulting expense and royalty expense, which collectively decreased $99,688 from $577,585 in the three months ended September 30, 2017 to $477,897 in the same period in 2018 due primarily to consulting services being transitioned to internal company personnel.

In addition to the significant changes noted above:

- Stock based compensation expense increased $31,271 from $7,938 in the three months ended September 30, 2017 to $39,209 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 $2,644,499 in Napo sales and marketing expenses for the three months ended September 30, 2018 compared to $513,102 in the same period in 2017 as, (i) the sales and marketing support for Mytesi increased substantially in 2018, and (ii) the merger with Napo occurred on July 31, 2017.

General and Administrative Expense

	Three Months Ended September 30,			
	2018	2017	Variance	Variance %
G&A:				
Personnel and related benefits	$ 442,870	$ 544,914	$(102,044)	(18.7)%
Accounting fees	68,082	211,326	(143,244)	(67.8)%
Third-party consulting fees and Napo service fees	409,678	103,694	305,984	295.1 %
Legal fees	306,259	918,271	(612,012)	(66.6)%
Travel	59,575	125,067	(65,492)	(52.4)%
Stock-based compensation	465,113	133,807	331,306	247.6 %
Rent and lease expense	125,936	69,307	56,629	81.7 %
Public company expenses	122,503	276,200	(153,697)	(55.6)%
Other	703,613	688,116	15,497	2.3 %
Total	$2,703,628	$3,070,702	$(367,074)	(12.0)%

General and administrative expenses decreased $367,074 from $3,070,702 in the three months ended September 30, 2017 to $2,703,628 for the same period in 2018 due primarily to a decrease in legal fees of $612,012, a decrease in public company expenses of $153,697, a decrease in accounting fees of $143,244 due to the 2017 merger expenses, partly offset by increases in stock-based compensation of $331,306 and third-party consulting fees and employee leasing chargebacks to Napo of $305,984.

We expect to incur additional general and administrative expense as a result of operating as a public company and as we grow our business, additional insurance expenses, investor relations activities and other administrative and professional services. Napo general and administrative expenses for the three-month period ended September 30, 2018

were $1,051,079 compared to $4,510,251 in the same period in 2017 as the merger with Napo occurred on July 31, 2017.

In September 2018, the Company received a $1.2 million payment from Valeant, in a settlement agreement with Glenmark Pharmaceuticals, Valeant Pharmaceuticals Ireland, Limited, and Salix Pharmaceuticals, related to inventory that the Company was entitled to on July 31, 2017, the date of the merger with Napo.

Liquidity and Capital Resources

Sources of Liquidity

We had an accumulated deficit of $81.9 million as a result of incurring losses since our inception primarily because we have not generated enough revenue to cover costs and expenses to date. Our net loss was $19.5 million for the nine months ended September 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 $726,129 as of September 30, 2018. We do not believe our existing cash 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 year ended December 31, 2017 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.

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 September 30, 2018 the Company sold 400,000 shares for gross cash proceeds of $5,063,785. The CSPA limited the number of shares that the Company can sell thereunder to 135,166 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 $19.80 per share (the closing price on the date the CSPA was signed), in either case in compliance with Nasdaq Listing Rule 5635(d).

We have funded our operations primarily through the issuance of equity and debt financing, in addition to sales of our commercial products. Our funding activities in the first nine months of 2018 follow:

- In January 2018, the Company issued 3,333 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 820,953 shares of its common stock in exchange for redemption of certain convertible debt.
- In February 2018, the Company issued a promissory note for cash proceeds of $1,560,000, representing a principal amount of $2,240,909 less a discount of $680,909.
- In March 2018, the Company issued a promissory note for cash proceeds of $750,000, representing a principal amount of $1,090,341 less a discount of $315,341.
- In March 2018, the Company issued 285,694 shares of its common stock in lieu of cash payment of interest expense on its long-term convertible debt.

- In March 2018, the Company issued 5,524,926 shares of its Series A convertible preferred stock for net cash proceeds of $9,199,001.

- In March 2018, concurrent with the March 2018 preferred stock financing, the Company issued 1,960,794 shares of its common stock to certain institutional investors in exchange for $5.0 million in cash.

- In September 2018, the Company issued a convertible promissory note for cash proceeds of $400,000, representing a principal amount of $455,000 less a discount of $55,0000. In October 2018, the Company paid off the entire Note.

- In September 2018, the Company issued a convertible promissory note for cash proceeds of $100,000, representing a principal amount of $111,250 less a discount of $11,250. In October 2018, the Company paid off the entire Note.

- In September 2018, we announced plans to complete a public offering of common shares and pre-funded warrants. This offering closed on October 4, 2018, with gross proceeds of $8,246,641, comprising $6,390,301 in sales of common stock and $1,856,350 in pre-funded warrants.

We expect our expenditures will continue to increase as we continue our efforts to develop our products and continue development of our pipeline in the near term. We do not believe our current capital is sufficient to fund our operating plan through April 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 Nine Months Ended September 30, 2018 Compared to the Nine Months Ended September 30, 2017

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

	Nine Months Ended	
	September 30, 2018	September 30, 2017
Total cash used in operations	$ (17,828,754)	$ (4,494,788)
Total cash used in provided by investing activities	(6,527)	(1,546,047)
Total cash provided by financing activities	17,801,543	5,310,446
	$ (33,738)	$ (730,389)

Cash Used in Operating Activities

During the nine months ended September 30, 2018, net cash used in operating activities of $17.8 million resulted from our net loss of $19.5 million, adjusted by non-cash accretion of end of term payment, debt discounts and debt issuance costs of $1.5 million, stock-based compensation of $1.4 million, the extinguishment of the conversion

option liability and the reduction in the fair value of warrant liability and the gain on revaluation of derivative liability of $178,461, common stock issued in exchange for services rendered of $6,425, depreciation and amortization expenses of $1.0 million, and, net of changes in operating assets and liabilities of $3.7 million.

During the nine months ended September 30, 2017, cash used in operating activities of $4.5 million resulted from our net loss of $1.8 million, offset by non-cash accretion of end of term payment, debt discounts and debt issuance costs of $368,000, stock-based compensation of $631,000, reduction in the fair value of warrants of $636,000, loss on extinguishment of debt of $208,000, depreciation expense of $326,000, net of changes in operating assets and liabilities of $4.8 million.

Cash Used In Investing Activities

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

During the nine months ended September 30, 2017, cash used in investing activities of $1.6 million consisted of cash used in acquisition, net of cash acquired of $1.6 million, offset by $11,000 of a release of restricted cash that resulted from principal payments of our long-term debt.

Cash Provided by Financing Activities

During the nine months ended September 30, 2018, net cash provided by financing activities of $17.8 million primarily consisted of $1.3 million and $750,000 received in separate PIPE financings, $14.6 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 $2.8 million received in the issuance of convertible and non-convertible debt, offset by $1.7 million in principal payments of our long-term and convertible debt.

During the nine months ended September 30, 2017, cash provided by financing activities of $5.3 million, primarily consisted of $2.3 million in net proceeds received in the CSPA, $94,000 in net proceeds received in a PIPE financing, $1.7 million received in the issuance of convertible debt, offset by $2.2 million in principal payments on our long-term debt.

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.

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.

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 September 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 alleged 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 was granted. Plaintiff filed an amended complaint against the Company and the United States-based director Defendants on January 10, 2018. The Defendants filed a motion to dismiss on March 12, 2018, for which oral arguments were held on June 14, 2018. The court dismissed the complaint on September 20, 2018. Plaintiff was entitled to amend the complaint within 20 days from the date of dismissal. On October 10, 2018, Plaintiff amended the complaint to focus on the Company's commercial strategy in support of Equilevia and the related disclosure statements in the Form S-4 described above. On November 6, 2018, the Defendants moved to dismiss the second amended complaint. The Defendants argue in their motion that the complaint fails to state a claim upon which relief can be granted because the omissions and misrepresentations alleged in the complaint are immaterial as a matter of law. Plaintiff's memorandum of law in opposition to the Defendants' motion to dismiss is due on December 21, 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. 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 Note Purchase Agreement with L2 Capital, LLC, as disclosed on our Form 8-K filed with the SEC on September 12, 2018, 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).
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.

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: November 19, 2018

JAGUAR HEALTH, INC.

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

Exhibit 31.1

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

I, Lisa A. Conte, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Jaguar Health, Inc. for the quarter ended September 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: November 19, 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 September 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: November 19, 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 September 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: November 19, 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 September 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: November 19, 2018

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