Use these links to rapidly review the document <u>TABLE OF CONTENTS</u>

Table of Contents

As filed with the Securities and Exchange Commission on June 12, 2019

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

JAGUAR HEALTH, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 46-2956775 (I.R.S. Employer Identification No.)

201 Mission Street, Suite 2375 San Francisco, California 94105 (415) 371-8300

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Lisa A. Conte Chief Executive Officer and President Jaguar Health, Inc. 201 Mission Street, Suite 2375 San Francisco, California 94105 (415) 371-8300

(415) 371-8300 (Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

> Copies of all correspondence to: Donald C. Reinke, Esq. Reed Smith LLP 1510 Page Mill Road, Suite 110 Palo Alto, California 94304 (650) 352-0500

Approximate date of commencement of proposed sale of the securities to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: o

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

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

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

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

Large accelerated filer o

Accelerated filer o

Non-accelerated filer o

Smaller reporting company \boxtimes Emerging growth company \boxtimes

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee		
Common Stock, par value \$0.0001 per share, issuable upon the						
conversion of Series A Convertible Participating Preferred Stock	13,782	\$7.74	\$106,672.68	\$12.93		

(1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover additional securities that may be offered or issued to prevent dilution resulting from splits, dividends or similar transactions.

(2) Estimated solely for purposes of calculation of the registration fee in accordance with Rule 457(c) of the Securities Act, as amended, based on the average of the high and low prices reported for the shares of common stock as reported on the NASDAQ Capital Market on June 10, 2019.

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

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

PRELIMINARY PROSPECTUS, SUBJECT TO COMPLETION, DATED JUNE 12, 2019



JAGUAR HEALTH, INC.

Up to 13,782 Shares of Common Stock

Pursuant to this prospectus, the selling stockholders identified herein (each, a "Selling Stockholder" and collectively, the "Selling Stockholders") are offering on a resale basis from time to time an aggregate of up to 13,782 shares of voting common stock, par value \$0.0001 per share (the "Common Stock), of Jaguar Health, Inc. ("Jaguar," "we," "our" or the "Company"), a Delaware corporation. Of these shares, (i) 1,071 shares are outstanding shares of Common Stock and (ii) 12,711 shares are shares of Common Stock issuable upon exercise of warrants. We are not selling any shares of Common Stock under this prospectus and will not receive any of the proceeds from the sale by the Selling Stockholders of the Common Stock. We will, however, receive the net proceeds of any warrants exercised for cash.

The Selling Stockholders or their pledgees, assignees or successors in interest may sell or otherwise dispose of the Common Stock covered by this prospectus in a number of different ways and at varying prices. We provide more information about how the Selling Stockholders may sell or otherwise dispose of the Common Stock covered by this prospectus in the section entitled "Plan of Distribution" on page 13. Discounts, concessions, commissions and similar selling expenses attributable to the sale of Common Stock covered by this prospectus will be borne by the Selling Stockholders. We will pay all expenses (other than discounts, concessions, commissions and similar selling expenses) relating to the registration of the Common Stock with the Securities and Exchange Commission.

Our common stock is listed on the NASDAQ Capital Market, under the symbol "JAGX." On June 7, 2019, the last reported sale price of our Common Stock on the NASDAQ Capital Market was \$9.10 per share.

Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks that we have described on page 6 of this prospectus under the caption "Risk Factors" and in the documents incorporated by reference into this prospectus.

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

The date of this prospectus is June , 2019.

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	<u>1</u>
PROSPECTUS SUMMARY	<u>2</u>
<u>RISK FACTORS</u>	<u>6</u>
SELECTED FINANCIAL DATA	<u>7</u>
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	<u>8</u>
<u>USE OF PROCEEDS</u>	<u>9</u>
SECURITY OWNERSHIP OF BENEFICIAL OWNERS AND MANAGEMENT	<u>10</u>
SELLING STOCKHOLDERS	<u>12</u>
PLAN OF DISTRIBUTION	<u>13</u>
DIVIDEND POLICY	<u>15</u>
LEGAL MATTERS	<u>16</u>
EXPERTS	<u>16</u>
WHERE YOU CAN FIND MORE INFORMATION	<u>16</u>
INCORPORATION OF INFORMATION BY REFERENCE	<u>16</u>

We have not, and the Selling Stockholders have not, authorized anyone to provide you with information other than that contained or incorporated by reference in this prospectus and any applicable prospectus supplement or amendment. We have not, and the Selling Stockholders have not, authorized any person to provide you with different information. This prospectus is not an offer to sell, nor is it an offer to buy, these securities in any jurisdiction where the offer is not permitted. The information contained or incorporated by reference in this prospectus and any applicable prospectus supplement or amendment is accurate only as of its date. Our business, financial condition, results of operations, and prospects may have changed since that date.

i

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission (the "SEC") pursuant to which the Selling Stockholders named herein may, from time to time, offer and sell or otherwise dispose of the securities covered by this prospectus. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or securities are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the Information Incorporated by Reference herein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you under the captions "Where You Can Find More Information" and "Incorporation of Information by Reference" in this prospectus.

Neither we nor the Selling Stockholders have authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any of our securities other than the securities covered hereby, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about, and to observe, any restrictions as to the offering and the distribution of this prospectus applicable to those jurisdictions.

We further note that the representations, warranties and covenants made in any agreement that is filed as an exhibit to any document that is incorporated by reference in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context otherwise requires, references in this prospectus to "Jaguar," the "Company," "we," "us," and "our" refer to Jaguar Health, Inc.

PROSPECTUS SUMMARY

The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed financial statements, notes to the financial statements and other information incorporated by reference from our other filings with the SEC. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.

Overview

We are a commercial stage pharmaceutical 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 a first-in-class anti-secretory agent, 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.

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, until May 13, 2015, Jaguar was a majority-owned subsidiary of Napo. 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. Most of the activities of the Company are now focused on the commercialization of Mytesi and development of follow-on indications for crofelemer and a second-generation anti-secretory product, lechlemer. In the field of animal health, we have limited activities which are focused on developing and commercializing first-in-class gastrointestinal products for dogs, dairy calves, foals, and high value horses.

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 of crofelemer, and a second-generation anti-secretory agent—upon which to build global partnerships. As previously announced, Jaguar, through Napo, now holds extensive global rights for Mytesi, and crofelemer manufacturing is being conducted at two FDA-inspected and approved locations, including a recently developed, multimillion-dollar commercial manufacturing facility. 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 gastrointestinal disorders. Mytesi is in development for multiple possible follow-on indications, including cancer therapy-related diarrhea (CTD); orphan-drug indications for infants and children with congenital diarrheal disorders (CDDs) and short bowel syndrome (SBS); supportive care for inflammatory bowel disease (IBD); irritable bowel syndrome (IBS); and for idiopathic/functional diarrhea. In addition, a second-generation proprietary anti-secretory agent, lechlemer, is in development for cholera. Mytesi has received orphan-drug designation for SBS.

Description of the Issuance of Shares and Warrants to Purchase Common Stock

Private Placement of Warrants in Connection with Standby Letter of Credit

On August 28, 2018, the Company entered into an office lease extension agreement (the "Lease") CA-Mission Street Limited Partnership ("Landlord") 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 of the Company, Pacific Capital Management LLC (the "LOC Facilitator"), caused its financial institution to provide a standby letter of credit ("Letter of Credit") in the amount of \$475,000 to the Landlord 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 9,579 shares of Common Stock (the "LOC Warrant") pursuant to the terms of the Landlord Letter of Credit & Warrant Issuance Agreement, dated August 28, 2018, by and between the Company and the LC Facilitator (the "LOC Agreement"). The LOC Warrant is exercisable on or after March 28, 2019 at an exercise price of \$49.00 per share. Under the LOC Agreement, we agreed to register on one or more registration statements the resale of the shares issuable upon conversion of the LOC Warrant.

Private Placement of Shares and Warrants in Connection with 2018 Bridge Financing

September 2018 L2 Promissory Note and Warrants

On September 11, 2018 the Company entered into a note purchase agreement (the "Oasis NPA") with Oasis Capital, LLC (f/k/a L2 Capital, LLC) ("Oasis Capital") pursuant to which the Company issued to Oasis Capital a contingently convertible promissory note in the aggregate principal amount of \$455,000 ("Oasis Note"). Net cash proceeds were \$400,000, or \$455,000 of principal net a discount of \$55,000. The Oasis Note bears interest at the rate of 8% per annum and was scheduled to mature on March 11, 2019. On October 10, 2018, the Company paid off the entire Oasis Note, including the guaranteed interest and an early-redemption premium.

As an inducement to enter into the Oasis NPA, the Company issued 1,071 shares of Common Stock (the "Oasis Inducement Shares") and a 5-year warrant (the "Oasis Warrant") to purchase 2,648 shares of Common Stock (the "Oasis Warrant Shares") to Oasis Capital, at an exercise price of \$63.00 per share.

September 2018 Bridge Investor Promissory Note and Warrants

On September 11, 2018 the Company entered into a note purchase agreement (the "Bridge Investor NPA") with an accredited investor ("Bridge Investor") pursuant to which the Company issued to the accredited investor a convertible promissory note in the aggregate principal amount of \$111,250 ("Bridge Investor Note"). Net cash proceeds received were \$100,000, or \$111,250 of principal less a discount of \$11,250. The Bridge Investor Note bears interest at the rate of 8% per annum and was scheduled to mature on March 11, 2019. On October 10, 2018, the Company paid off the entire Bridge Investor Note, including the guaranteed interest and an early-redemption premium.

As an inducement to enter into the Bridge Investor NPA, the Company issued to the accredited investor a five-year warrant (the "Bridge Investor Warrant", and together with the LOC Warrant and the Oasis Warrant, the "Warrants") to purchase 484 shares of Common Stock ("Bridge Investor Warrant Shares") at an exercise price of \$86.10 per share.

In connection with the transactions described above, the Company also entered into registration rights agreements with Oasis Capital and the Investor, pursuant to which the Company agreed to register the resale of the Oasis Inducement Shares, the Oasis Warrant Shares and the Bridge Investor Warrant Shares, respectively.

Recent Developments

Reverse Stock Split and Decrease in Authorized Shares

On June 3, 2019, we filed an amendment to our Third Amended and Restated Certificate of Incorporation to effect on June 7, 2019, a 1-for-70 reverse split of our voting common stock. Accordingly, all of the stock figures and related market, conversion and exercise prices in this prospectus have been adjusted to reflect the reverse split.

Corporate Information

We were incorporated in the State of Delaware on June 6, 2013. Our principal executive offices are located at 201 Mission Street, Suite 2375, San Francisco, CA 94015 and our telephone number is (415) 371-8300. Our website address is https://jaguar.health. The information contained on, or that can be accessed through, our website is not part of this prospectus. Our common stock is listed on the NASDAQ Capital Market and trades under the symbol "JAGX."

Jaguar Health, our logo, Canalevia, Neonorm and Mytesi are our trademarks that are used in this prospectus. This prospectus also includes trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, trademarks and tradenames referred to in this prospectus appear without the ©, ® or TM symbols, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trademarks and tradenames.

THE OFFERING The Selling Stockholders identified in this prospectus are offering on a resale basis a total of 13,782 shares of Common Stock issuable upon exercise of the Warrants. Common stock to be offered by Up to 13,782 shares the Selling Stockholder Shares of Common Stock outstanding before this offering 1,066,757 shares, as of June 7, 2019 Shares of Common Stock outstanding after this offering 1,079,468 shares Use of Proceeds We will not receive any proceeds from the sale of Common Stock by the Selling Stockholder. See "Use of Proceeds" in this prospectus. This investment involves a high degree of risk. See "Risk Factors" for a discussion of **Risk Factors** factors you should consider carefully before making an investment decision. Nasdaq Capital Market symbol "JAGX".

RISK FACTORS

Please carefully consider the risk factors described in our periodic reports filed with the SEC, which are incorporated by reference in this prospectus. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus. Additional risks and uncertainties not presently known to us or that we deem currently immaterial may also impair our business operations or adversely affect our results of operations or financial condition.

SELECTED FINANCIAL DATA

The following net loss per share, basic and diluted, has been derived from the audited financial statements of the Company contained in our <u>Annual Report</u> on Form 10-K for the fiscal year ended December 31, 2018, and our <u>Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2019</u>, which are incorporated by reference in this prospectus, except that the net loss per share, basic and diluted, for the three months ended March 31, 2019 and 2018 and the year ended December 31, 2018 and 2017 have been revised to reflect the 1-for-70 reverse stock split of our issued and outstanding shares of Common Stock effective on June 7, 2019, as shown below.

The historical financial information set forth below may not be indicative of our future performance and should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and notes to those statements included in our <u>Annual Report on Form 10-K for the fiscal year ended December 31, 2018</u>, our <u>Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2019</u>, and any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of the initial registration statement of which this prospectus forms a part and that also are incorporated herein by reference.

		Year Ended December 31,		Year Ended December 31,		Three Months Ended March 31,			
			2018		2017		2019	2	2018
Net loss per share, basic and diluted		\$	(153.27)	\$	(531.06)	\$	(16.85)	\$	(54.27)
	7								

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into it contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act). We have made these statements in reliance on the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts contained in or incorporated by reference into this prospectus, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing of receipt of clinical trial, field study and other study data, and likelihood of success, commercialization plans and timing, other plans and objectives of management for future operations, and future results of current and anticipated products are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "aim," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions including those listed in the "Risk Factors" incorporated by reference into this prospectus from our Annual Report on Form 10-K, as updated by subsequent reports. Forward-looking statements are subject to inherent risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in a dynamic industry and economy. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties that we may face. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of our Common Stock in this offering. The Selling Stockholders will receive all of the proceeds from this offering.

The Selling Stockholders will pay any underwriting discounts and commissions and expenses incurred by the Selling Stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Stockholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, fees and expenses of our counsel, certain expenses of counsel to the Selling Stockholders and our independent registered public accountants.

SECURITY OWNERSHIP OF BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of June 7, 2019 by:

- each person, or group of affiliated persons, who is known by us to be the beneficial owner of more than 5% of our outstanding common stock;
- each of our directors;
- each of our executive officers; and
- all of our executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options, warrants or RSUs that are currently exercisable or vested, or exercisable or subject to vesting within 60 days of the date of this prospectus are considered outstanding and beneficially owned by the person holding the options, warrants, or RSUs for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. The information is not necessarily indicative of beneficial ownership for any other purpose, including for purposes of Section 13(d) and Section 13(g) of the Securities Act.

Applicable percentage ownership is based on 1,066,757 shares of common stock outstanding as of June 7, 2019. The total shares of common stock outstanding may be adjusted for the purpose of calculating the percentage ownership of a person that has options, warrants or RSUs that are currently exercisable or vested, or exercisable or subject to vesting within 60 days of the date of this prospectus but not for the purpose of recalculating the percentage ownership of any other person.

Except as otherwise set forth below, the address of each beneficial owner listed in the table below is c/o Jaguar Health, Inc., 201 Mission Street, Suite 2375, San Francisco, California 94105.

Name and Address of Beneficial Owner	Beneficially Owned	
5% Stockholders		
Sagard Capital Partners, L.P.(1)	473,565	32.55%
Executive Officers and Directors		
Lisa A. Conte(2)	13,923	1.30%
Steven R. King, Ph.D.(3)	1,995	*
Karen S. Wright(4)	1,294	*
James J. Bochnowski(5)	51,331	4.60%
Jeffery C. Johnson(6)	631	*
John Micek III(7)	1,277	*
Jiahao Qiu(8)	121	*
Jonathan B. Siegel(9)	8,757	*
Greg Divis(10)	506	*
Murray David MacNaughtan(11)	506	*
All executive officers and directors as a group (10 persons)(12)	72,786	6.82%

* Less than 1%.

(1) As reported on Schedule 13D/A filed on June 3, 2019. The address for the reporting person is 280 Park Avenue, 3rd Floor West, New York, NY 10017.



- (2) Represents (i) 32 shares of Common Stock, (ii) 5,649 shares of Common Stock issuable to Ms. Conte under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019, and (iii) 8,242 shares of Common Stock issuable to Ms. Conte under warrants that are exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 5,649 stock options is \$477.28.
- (3) Represents (i) 6 shares of Common Stock and (ii) 1,988 shares of Common Stock issuable to Dr. King under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 1,988 stock options is \$470.33.
- (4) Represents 1,294 shares of Common Stock issuable to Ms. Wright under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 1,294 stock options is \$415.80.
- (5) Includes (i) 1,036 shares of Common Stock and (ii) 2,218 shares of Common Stock issuable to Mr. Bochnowski under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019, and (iii) 48,077 shares of Common Stock issuable to Mr. Bochnowski under warrants that are exercisable in the 60 days subsequent to June 7, 2019. All securities other than stock options are held by the Bochnowski Family Trust. Mr. Bochnowski is a co-trustee and beneficiary of such trust and shares voting and investment control over such shares with his spouse. The weighted average exercise price of the 2,218 stock options is \$345.73.
- (6) Represents 631 shares of Common Stock issuable to Mr. Johnson under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. Mr. Johnson is one of Sagard Capital Partners, L.P.'s ("Sagard") two director designees in accordance with the terms of the Certificate of Designation of the Preferred Stock and is part of the Sagard executive management team. The weighted average exercise price of the 631 stock options is \$166.94
- (7) Represents 1,277 shares of Common Stock issuable to Mr. Micek under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 1,277 stock options is \$303.69.
- (8) Represents 121 shares of Common Stock issuable to Mr. Qui under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 121 stock options is \$598.28.
- (9) Represents (i) 571 shares of Common Stock, (ii) 631 shares of Common Stock issuable to Mr. Siegel under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019, and (iii) 7,555 shares of Common Stock issuable to Mr. Siegel under warrants that are exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 631 stock options is \$166.94.
- (10) Represents 506 shares of Common Stock issuable to Mr. Divis under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. The weighted average exercise price of the 506 stock options is \$95.20.
- (11) Represents 506 shares of Common Stock issuable to Mr. MacNaughtan under stock options that are exercisable or will become exercisable in the 60 days subsequent to June 7, 2019. Mr. MacNaughtan is one of Sagard's two director designees in accordance with the terms of the Certificate of Designation of the Preferred Stock. The weighted average exercise price of the 506 stock options is \$95.20.
- (12) See notes (2) (11)

SELLING STOCKHOLDERS

The shares of Common Stock being offered by the Selling Stockholders are those shares previously issued to the Selling Stockholders and those shares issuable to the Selling Stockholders upon exercise of the Warrants currently held by the respective Selling Stockholders. For additional information regarding the issuance of those shares of Common Stock and Warrants and the relationship between the Selling Stockholders and us, see "Prospectus Summary—Description of the Issuance of Shares and Warrants to Purchase Common Stock" above. We are registering shares of Common Stock in order to permit the Selling Stockholders to offer the shares for resale from time to time.

The following table sets forth:

- the Selling Stockholders and other information regarding the beneficial ownership of the shares of Common Stock by the Selling Stockholders;
- the number of shares of Common Stock beneficially owned by the Selling Stockholders, based on their ownership of the shares of Common Stock, as of June 7, 2019 assuming the exercise of all Warrants held by the Selling Stockholders on that date, without regard to any limitations on exercises prior to the sale of the shares covered by this prospectus;
- the number of shares that may be offered by the Selling Stockholders pursuant to this prospectus;
- the number of shares to be beneficially owned by the Selling Stockholders and their affiliates following the sale of any shares covered by this prospectus; and
- the percentage of our issued and outstanding Common Stock to be beneficially owned by the Selling Stockholders and their affiliates following the sale of all shares covered by this prospectus, based on the Selling Stockholders' ownership of Common Stock as of June 7, 2019.

This prospectus generally covers the resale of all shares received by the Selling Stockholders in connection with the transactions contemplated by the LOC Agreement, Oasis NPA, and Bridge Investor NPA, including any shares of Common Stock issued or issuable upon exercise of all Warrants held by the Selling Stockholders.

The Selling Stockholders may sell all, some or none of its shares in this offering. See "Plan of Distribution."

	Number of shares of Common Stock Owned Prior to	Maximum Number of shares of Common Stock to be Sold Pursuant to this	Numb shar of Com Stock O After Off	res imon wned
Name of Selling Stockholder	Offering	Prospectus(1)	Number	Percent
Oasis Capital, LLC(1)	48,970	3,719	45,251	4.19%
Pacific Capital Management, LLC(1)	30,166	9,579	20,587	1.91%
Charles Conte(1)	484	484	0	

⁽¹⁾ Assumes the exercise of all Warrants for Common Stock by each Selling Stockholder.

(2) Assumes that each Selling Stockholder sells all shares of Common Stock registered under this prospectus held by such Selling Stockholder.



PLAN OF DISTRIBUTION

The Selling Stockholders of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the Nasdaq Stock Market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with such Selling Stockholder to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 under the Securities Act of 1933, as amended (the "Securities Act"), if available, or pursuant to other available exemptions rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have

any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to keep this prospectus effective until the earlier of (i) the date on which all registrable securities covered by this prospectus have been sold hereunder in accordance with the plan and method of distribution disclosed herein, or (ii) the date that is thirty days after the termination of the agreement pursuant to which the registrable securities are being registered. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

DIVIDEND POLICY

We have never paid any cash dividends on our common stock to date. We currently intend to retain all of our future earnings, if any, to fund the development and growth of our business and do not anticipate paying any cash dividends for at least the next five years, if ever. Additionally, for so long as Sagard Capital Partners, L.P. or its affiliates hold at least 35% of the shares of our Preferred Stock, we would be required to obtain the written consent or vote of holders of a majority of our outstanding shares of Preferred Stock prior to declaring or paying any dividends. Any future determination as to the payment of cash dividends on our common stock will be at our board of directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

LEGAL MATTERS

The validity of the shares of Common Stock offered by this prospectus will be passed upon for us by Reed Smith LLP, Palo Alto, California.

EXPERTS

The financial statements of the Company as of December 31, 2018 and 2017 and for each of the two years in the period ended December 31, 2018 incorporated by reference in this prospectus and the registration statement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference facilities at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference facilities. SEC filings are also available at the SEC's web site at http://www.sec.gov.

This prospectus is only part of a registration statement on Form S-1 that we have filed with the SEC under the Securities Act and therefore omits certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document. You may inspect a copy of the registration statement, including the exhibits and schedules, without charge, at the public reference room or obtain a copy from the SEC upon payment of the fees prescribed by the SEC.

We also maintain a website at *https://jaguar.health/*, through which you can access our SEC filings. The information set forth on, or accessible from, our website is not part of this prospectus.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. This prospectus omits certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement and any prospectus supplement filed hereafter, including the exhibits, for further information about us and the securities we may offer pursuant to this prospectus. Statements in this prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained upon payment of the prescribed rates at the offices of the SEC listed above in "Where You Can Find More Information." The documents we are incorporating by reference are:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed on April 10, 2019;

- <u>our definitive proxy statement and definitive additional materials, on Schedule 14A, relating to our Annual Meeting of Stockholders held on</u> <u>May 24, 2019, filed April 29, 2019;</u>
- our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2019 filed on May 21, 2019;
- Our Current Reports on Form 8-K filed on January 8, 2019, February 26, 2019, March 5, 2019, March 15, 2019, March 19, 2019, March 22, 2019, March 25, 2019 (as subsequently amended on Form 8-K/A on March 26, 2019), April 1, 2019, April 4, 2019, April 4, 2019, April 11, 2019, April 19, 2019, May 2, 2019, May 24, 2019, May 29, 2019, June 3, 2019 and June 6, 2019;
- <u>the description of our Common Stock contained in our registration statement on Form 8-A filed on October 30, 2014 (Registration No. 001-36714) with the SEC, including any amendment or report filed for the purpose of updating such description; and</u>
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

Unless otherwise noted, the SEC file number for each of the documents listed above is 001-36714.

In addition, we incorporate by reference in this prospectus any future filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (excluding any information furnished and not filed with the SEC) after the date on which the registration statement that includes this prospectus was initially filed with the SEC (including all such documents we may file with the SEC after the date of the initial registration statement and until all offerings under this prospectus are terminated.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting: Investor Relations, Jaguar Health, Inc., 201 Mission Street, Suite 2375, San Francisco, CA, 94105 or call (415) 371-8300.

You should rely only on information contained in, or incorporated by reference into, this prospectus and any prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference in this prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.



13,782 Shares of Common Stock

PROSPECTUS

June , 2019

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth an itemization of the various expenses, all of which we will pay, in connection with the issuance and distribution of the securities being registered. All of the amounts shown are estimated except the SEC Registration Fee.

SEC Registration Fee	\$ 12.93
Legal Fees and Expenses	\$ 25,000.00
Accounting Fees and Expenses	\$ 10,000.00
Miscellaneous	\$ 2,555.75
Total	\$ 38,000.00

Item 14. Indemnification of Directors and Officers

Section 102(b)(7) of the DGCL authorizes a corporation in its certificate of incorporation to eliminate or limit personal liability of directors of the corporation for violations of the directors' fiduciary duty of care. However, directors remain liable for breaches of duties of loyalty, failing to act in good faith, engaging in intentional misconduct, knowingly violating a law, paying a dividend or approving a stock repurchase which was illegal under DGCL Section 174 or obtaining an improper personal benefit. In addition, equitable remedies for breach of fiduciary duty of care, such as injunction or recession, are available.

Our current certificate of incorporation eliminates the personal liability of the members of our board of directors to the fullest extent permitted by the DGCL. Any repeal or modification of that provision by the stockholders of the corporation will not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our current bylaws provide for indemnification of its officers and directors to the fullest extent permitted by the DGCL.

We have entered into indemnification agreements with each of its directors and officers, pursuant to which we agreed, to the maximum extent permitted by applicable law and subject to the specified terms and conditions set forth in each agreement, to indemnify a director or officer who acts on our behalf and is made or threatened to be made a party to any action or proceeding against expenses, judgments, fines and amounts paid in settlement that are incurred by such officer or director in

Table of Contents

connection with the action or proceeding. The indemnification provisions apply whether the action was instituted by a third party or by us.

We have purchased and maintain insurance on behalf of our officers and directors that provides coverage for expenses and liabilities incurred by them in their capacities as officers and directors.

Item 15. Recent Sales of Unregistered Securities

In January through June 4, 2019, Jaguar entered into exchange agreements with Chicago Venture Partners L.P. pursuant to which the Company issued 442,812 shares of Common Stock in the aggregate to CVP in exchange for the extinguishment of approximately \$6.7 million in secured promissory notes. The shares of common stock that were exchanged for portions of the secured promissory notes were issued in reliance on the exemption from registration provided under Section 3(a)(9) of the Securities Act.

On March 18, 2019, Jaguar began entering into securities purchase agreements (each, a "Securities Purchase Agreement") with selected accredited investors (each, an "Investor"), pursuant to which the Company intends to issue up to \$5.5 million aggregate principal amount of promissory notes (collectively, the "Notes") to such Investors. As an inducement for entering into the Securities Purchase Agreement, each Investor also received warrants exercisable for shares of common stock (the "Investor Warrants"). As of May 31, 2019, approximately \$4.3 million aggregate principal amount of Notes were issued in offerings and the proceeds from such offerings were paid to the Company. The issuances of the Notes and the Investor Warrants were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited or sophisticated person and had adequate access, through employment, business or other relationships, to information about us.

Item 16. Exhibits and Financial Statement Schedules

The exhibits to this registration statement are listed in the Exhibit Index to this registration statement, which Exhibit Index is hereby incorporated by reference.

Item 17. Undertakings

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent posteffective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registratio

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities

Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(7) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

EXHIBIT INDEX

Exhibit No.	Description
2.1	Agreement and Plan of Merger, dated as of March 31, 2017, by and among Jaguar Health, Inc. (f/k/a Jaguar Animal Health, Inc.), Napo Acquisition Corporation, Napo Pharmaceuticals, Inc. and Gregory Stock (incorporated Animal Health), Inc. (f/k/a Jaguar Animal Health), Inc.), Napo Acquisition Corporation, Napo Pharmaceuticals, Inc. and Gregory Stock (incorporated Animal Health), Inc. (f/k/a Jaguar Ani
	by reference to Exhibit 2.1 to the Current Report on Form 8-K of Jaguar Health, Inc. filed March 31, 2017, File No. 001-36714).
3.1	Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (No. 001-36714) filed with the Securities and Exchange Commission on August 1, 2017).
3.2	Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to the Annual Report on Form 10-K filed with the Securities and Exchange Commission on April 9, 2018).
3.3	Certificate of Second Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 1, 2018).
3.4	Certificate of Third Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 1, 2018).
3.5	Certificate of Designation of Series A Convertible Participating Preferred Stock (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on March 27, 2018).
3.6	Certificate of Amendment to the Certificate of Designation of Series A Convertible Participating Preferred Stock (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on March 14, 2019).
3.7	Certificate of Fifth Amendment of the Third Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 6, 2019).
3.8	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K (No. 001-36714) filed with the Securities and Exchange Commission on May 18, 2015).
4.1	Specimen Common Stock Certificate of Jaguar Health, Inc. (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 6, 2019).
4.2	Secured Convertible Promissory Note, dated June 29, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on July 3, 2017).
4.3	Specimen Non-Voting Common Stock Certificate of Jaguar Health, Inc. (incorporated by reference to Exhibit 4.1 to the Form 8-K of Jaguar Health, Inc. filed August 1, 2017, File No. 001-36714).
4.4	Secured Promissory Note, dated December 8, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on December 14, 2017).

Exhibit No.	Description
4.5	Secured Promissory Note, dated February 26, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on March 2, 2018).
4.6	Secured Promissory Note, dated March 21, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on March 27, 2018).
4.7	<u>Common Stock Warrant, dated August 28, 2018, by and between Jaguar Health, Inc. and the holder named therein</u> (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on September 4, 2018).
4.8	Convertible Promissory Note, dated September 11, 2018, by and between Jaguar Health, Inc. and L2 Capital, LLC (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on September 12, 2018).
4.9	Convertible Promissory Note, dated September 11, 2018, by and between Jaguar Health, Inc. and Charles Conte (incorporated by reference to Ex. 4.2 to the Current Report on Form 8-K filed on September 12, 2018).
4.10	<u>Common Stock Warrant, dated September 11, 2018, by and between Jaguar Health, Inc. and L2 Capital, LLC</u> (incorporated by reference to Ex. 4.3 to the Current Report on Form 8-K filed on September 12, 2018).
4.11	<u>Common Stock Warrant, dated September 11, 2018, by and between Jaguar Health, Inc. and Charles Conte</u> (incorporated by reference to Ex. 4.4 to the Current Report on Form 8-K filed on September 12, 2018).
4.12	Form of Pre-Funded Warrant (incorporated by reference to Exhibit 4.6 to the Registration Statement on Form S-1 (No. 333-227292) filed with the Securities and Exchange Commission on October 1, 2018).
4.13	Form of 75% Coverage Promissory Note (incorporated by reference to Exhibit 4.1 to the Form 8-K of Jaguar Health, Inc. filed March 22, 2019).
4.14	Form of 125% Coverage Promissory Note (incorporated by reference to Exhibit 4.2 to the Form 8-K of Jaguar Health, Inc. filed March 22, 2019).
4.15	Form of Common Stock Warrant (incorporated by reference to Exhibit 4.3 to the Form 8-K of Jaguar Health, Inc. filed March 22, 2019).
4.16	Form of Placement Agent Warrant (incorporated by reference to Exhibit 4.1 to the Form 8-K/A of Jaguar Health, Inc. filed March 26, 2019).
4.17	Form of LOC Common Stock Warrant (incorporated by reference to Exhibit 4.1 to the Form 8-K of Jaguar Health, Inc. filed April 4, 2019, File No. 001-36714).
5.1*	Opinion of Reed Smith LLP.
10.1‡	Form of Indemnification Agreement by and between Jaguar Health, Inc. and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
10.2‡	Jaguar Health, Inc. 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 20, 2016).

Exhibit No

Description

- 10.3‡ Form of Notice of Grant of Stock Option and Stock Option Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.4‡ Form of Notice of Grant of Restricted Stock and Restricted Stock Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.7 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.5‡ Form of Notice of Grant of Restricted Stock Units and Restricted Stock Unit Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.8 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.6‡ Offer Letter by and between Jaguar Health, Inc. and Lisa A. Conte, dated March 1, 2014 (incorporated by reference to Exhibit 10.9 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.7‡ Offer Letter by and between Jaguar Health, Inc. and Steven R. King, Ph.D., dated February 28, 2014 (incorporated by reference to Exhibit 10.11 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.8 Form of Common Stock Warrant that expires February 5, 2019 (incorporated by reference to Exhibit 10.16 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- **10.9** Form of Common Stock Warrant issued to Indena S.p.A. that expires June 26, 2019 (incorporated by reference to Exhibit 10.17 to the Registration Statement on Form S-1 (No. 333-198383) filed with the Securities and Exchange Commission on August 27, 2014).
- 10.10 Non-Disturbance Letter Agreement by and between Napo Pharmaceuticals, Inc. and Nantucket Investments Limited, as Administrative Agent and Collateral Agent, dated October 10, 2014 (incorporated by reference to Exhibit 10.23 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on October 10, 2014).
- 10.11 Form of Warrant to Purchase Common Stock issued to GPB Life Science Holdings LLC and 31 Group, LLC, which expires October 30, 2019 (incorporated by reference to Exhibit 10.25 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on October 31, 2014).
- 10.12 Form of Exchange Warrant to Purchase Common Stock, issued to GPB Life Science Holdings LLC and 31 Group, LLC, which expires June 3, 2020, as amended (incorporated by reference to Exhibit 10.27 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
- 10.13 Amendment No. 1 to Amended and Restated License Agreement between Jaguar Health, Inc. and Napo Pharmaceuticals, Inc., dated as of January 27, 2015 (incorporated by reference to Exhibit 10.28 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on March 20, 2015).

<u>ts</u>	
Exhibit No.	Description
10.14	Form of Representative's Warrant (incorporated by reference to Exhibit 10.33 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.15	Form of Warrant and Note Exercise Amendment pursuant to Convertible Note and Warrant Purchase Agreement dated December 23, 2014 (incorporated by reference to Exhibit 10.35 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.16	Convertible Note and Warrant Purchase Agreement dated March 20, 2015 by and between Jaguar Health, Inc., and Dechra Pharmaceuticals PLC (incorporated by reference to Exhibit 10.37 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.17	Common Stock Warrant issued pursuant to the Convertible Note and Warrant Purchase Agreement dated March 20, 2015, which expires December 31, 2017 (incorporated by reference to Exhibit 10.39 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.18	Form of Warrant Exercise Amendment pursuant to Exchange Warrant to Purchase Common Stock dated December 3, 2014 (incorporated by reference to Exhibit 10.40 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.19	Form of Amended and Restated Exchange Warrant to Purchase Common Stock (incorporated by reference to Exhibit 10.41 to the Registration Statement on Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on April 17, 2015).
10.20	Sublease Agreement by and between SeeChange Health Management LLC and Jaguar Health, Inc., dated June 19, 2015 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36714) filed with the Securities and Exchange Commission on June 23, 2015).
10.21	Consent to Sublease by and among CA-Mission Street Limited Partnership, SeeChange Health Management LLC and Jaguar Health, Inc., dated June 19, 2015 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (No. 001-36714) filed with the Securities and Exchange Commission on June 23, 2015).
10.22†	<u>Manufacture and Supply Agreement between Jaguar Health, Inc. and Glenmark Pharmaceuticals Ltd., dated</u> <u>September 22, 2015 (incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q</u> <u>(No. 001-36714) filed with the Securities and Exchange Commission on November 13, 2015).</u>
10.23	Formulation Development and Manufacturing Agreement between Jaguar Health, Inc. and Patheon Pharmaceuticals Inc., dated October 8, 2015 (incorporated by reference to Exhibit 10.30 to the Registration Statement on Form S-1 (No. 333-208905) filed with the Securities and Exchange Commission on January 7, 2016).
10.24‡	Offer Letter by and between Jaguar Health, Inc., and Karen Wright, dated as of October 11, 2015 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).

<u>ts</u>	
Exhibit No.	Description
10.25	Form of Convertible Promissory Note issued pursuant to the Convertible Note and Warrant Purchase Agreement
	dated as of December 23, 2014 (incorporated by reference to Exhibit 10.30 to the Registration Statement on
	Form S-1/A (No. 333-198383) filed with the Securities and Exchange Commission on March 20, 2015).
10.26	Common Stock Purchase Agreement, dated June 8, 2016, by and between Jaguar Health, Inc. and Aspire Capital
	Fund, LLC (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on June 9, 2016).
10.27	Letter of Intent, between Jaguar Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated by reference to
	Exhibit 10.1 to the Current Report on Form 8-K filed on October 6, 2016).
10.28	Common Stock Warrant issued pursuant to the Letter Agreement, dated November 8, 2016, between Jaguar
10.20	Health, Inc. and Serious Change II LP, which expires July 28, 2022 (incorporated herein by reference to
	Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on November 14, 2016).
10.00	
10.29	Form of Securities Purchase Agreement, by and among Jaguar Health, Inc. and the investors in the 2016 Private Placement (incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on
	November 29, 2016).
	<u>10000000125,2010).</u>
10.30	Form of Registration Rights Agreement, by and among Jaguar Health, Inc. and the investors in the 2016 Private
	Placement (incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on
	<u>November 29, 2016).</u>
10.31	Supply and Distribution Agreement, dated as of September 6, 2016, by and between Jaguar Health, Inc. and
	Integrated Animal Nutrition and Health Inc. (incorporated by reference to Exhibit 10.1 to the Quarterly Report on
	Form 10-Q/A (No. 001-36714) filed on December 5, 2016).
10.22+	Distribution Agreement dated December 0, 2016, by and between Leguer Health Inc. and Henry Schein. Inc.
10.32†	Distribution Agreement, dated December 9, 2016, by and between Jaguar Health, Inc. and Henry Schein, Inc (incorporated herein by reference to Exhibit 10.41 to the Annual Report on Form 10-K filed on February 15,
	<u>2017).</u>
10.33†	License, Development, Co-Promotion and Commercialization Agreement, dated January 27, 2017, by and
	between Jaguar Health, Inc. and Elanco US, Inc (incorporated herein by reference to Exhibit 10.42 to the Annual
	Report on Form 10-K filed on February 15, 2017).
10.34	Common Stock Warrant issued pursuant to the Letter Agreement, dated January 30, 2017, between Jaguar
	Health, Inc. and Serious Change II LP, which expires January 31, 2019 (incorporated herein by reference to
	Exhibit 10.43 to the Annual Report on Form 10-K filed on February 15, 2017).
10.35	Binding Agreement of Terms for Jaguar Health, Inc. Acquisition of Napo Pharmaceuticals, dated February 8,
10.55	2017, between Jaguar Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated herein by reference to
	Exhibit 10.1 to the Current Report on Form 8-K filed on February 9, 2017).
10.36	Employee Leasing and Overhead Allocation Agreement, dated July 1, 2016, by and between Napo
	Pharmaceuticals, Inc. and Jaguar Health, Inc. (incorporated herein by reference to Exhibit 10.1 to the Quarterly
	<u>Report on Form 10-Q (No. 001-36714) filed on May 15, 2017).</u>

t <u>s</u>	
Exhibit No.	Description
10.37	Amendment No. 1 to Employee Leasing and Overhead Allocation Agreement, dated March 2, 2017, by and between Jaguar Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on May 15, 2017).
10.38	<u>Commitment Letter, dated February 21, 2017, signed by Invesco Asset Management Limited (incorporated herein</u> by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on May 15, 2017).
10.39	Note Purchase Agreement, dated March 1, 2017, by and among Napo Pharmaceuticals, Inc. and the purchasers named therein (incorporated herein by reference to Exhibit 10.45 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
10.40	Investor Rights Agreement, dated March 31, 2017, by and between Jaguar Health, Inc. and Nantucket Investments Limited (incorporated by reference herein to Exhibit 10.1 to the Current Report on Form 8-K filed on March 31, 2017).
10.41	Form of Original Issue Discount Exchange Promissory Note issued pursuant to the Note Purchase Agreement dated as of March 1, 2017, by and among Napo Pharmaceuticals, Inc. and the Purchasers as defined therein (incorporated herein by reference to Exhibit 10.46 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
10.42	Amended and Restated Note Purchase Agreement, dated March 31, 2017, by and among Napo Pharmaceuticals, Inc., Kingdon Associates, M. Kingdon Offshore Master Fund L.P., and Kingdon Family Partnership, L.P. (incorporated herein by reference to Exhibit 10.47 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
10.43	Form of Kingdon Convertible Promissory Note issued pursuant to the Amended and Restated Note Purchase Agreement, dated March 31, 2017, by and among Napo Pharmaceuticals, Inc., Kingdon Associates, M. Kingdon Offshore Master Fund L.P., and Kingdon Family Partnership, L.P. (incorporated herein by reference to Exhibit 10.48 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
10.44	Limited Subordination Agreement, dated December 30, 2016, by and among Napo Pharmaceuticals, Inc., Kingdon Capital Management, L.L.C., Nantucket Investments Limited, the lenders under the Nantucket Financing

- 10.44 Emitted Subordination Agreement, dated December 30, 2016, by and among Napo Pharmaceuticals, Inc., Kingdon Capital Management, L.L.C., Nantucket Investments Limited, the lenders under the Nantucket Financing Agreement party thereto, Dorsar Investment Company, Alco Investment Company and Two Daughters LLC (incorporated herein by reference to Exhibit 10.49 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.45
 Security Agreement, dated December 30, 2016, by and among Napo Pharmaceuticals, Inc., Kingdon Capital

 Management, L.L.C., and the purchasers named therein (incorporated herein by reference to Exhibit 10.50 to the

 Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.46
 Settlement and Discounted Payoff Agreement, dated March 31, 2017, by and among the lenders named therein, Nantucket Investments Limited, and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.52 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.47Debt and Warrant Settlement Agreement, dated March 31, 2017, by and among Dorsar Investment Company, Alco
Investment Company, Two Daughters LLC, and Napo Pharmaceuticals, Inc. (incorporated herein by reference to
Exhibit 10.53 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).

Exhibit No

Description

- 10.48
 Debt Settlement Agreement, dated March 31, 2017, by and between Boies Schiller Flexner LLP and Napo

 Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.54 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.49 Debt Settlement Agreement, dated March 31, 2017, by and between Dan Becka and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.55 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.50‡ Form of Escrow Agreement, by and among Jaguar Animal Health, Inc., Nantucket Investments Limited and Citibank, National Association (incorporated herein by reference to Exhibit 10.57 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.51‡
 Form of Restricted Stock Unit Indemnification and Forfeiture Agreement, by and among Jaguar Animal Health, Inc., Napo Pharmaceuticals, Inc. and the holders of Napo RSUs (incorporated herein by reference to Exhibit 10.58 to the Registration Statement on Form S-4 filed April 18, 2017 (No. 333-217364)).
- 10.52⁺ Collaboration Agreement, dated July 2, 2005, by and between Glenmark Pharmaceuticals Ltd. and Napo Pharmaceuticals, Inc., as amended (incorporated herein by reference to Exhibit 10.59 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
- 10.53
 Settlement Agreement, dated December 29, 2013, by and between Glenmark Pharmaceuticals Ltd. and Napo

 Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.60 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
- 10.54[†] Alliance Agreement, dated May 23, 2005, by and among AsiaPharm Investment Limited and its Affiliates, including Shandong Luye Pharmaceuticals Co. Ltd., and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.61 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
- 10.55⁺ Finder's Agreement, dated April 9, 2010, by and among Luye Pharma Group Limited and its Affiliates, including Shandong Luye Pharmaceuticals Co. Ltd., and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.62 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
- 10.56† Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.63 to the Registration Statement on Form S-4/A filed June 28, 2017 (No. 333-217364)).
- 10.57 <u>First Amendment to Settlement, Termination, Asset Transfer and Transition Agreement, dated as of May 10, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.64 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).</u>

<u>s</u>	
Exhibit No.	Description
10.58	Investment Rights Agreement, dated April 20, 2006, as amended January 25, 2011, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Napo Pharmaceuticals, Inc., and Napo India Private Limited and the Management Team, as defined therein (incorporated herein by reference to Exhibit 10.69 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
10.59	Investment Rights Agreement, dated October 1, 2007, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Sindu Private Limited, and Napo Pharmaceuticals, Inc., and Indus Pharmaceuticals Inc. (incorporated herein by reference to Exhibit 10.70 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
10.60	Investment Rights Agreement, dated December 21, 2009, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Napo Pharmaceuticals, Inc., and Napo Pharmaceuticals India Private Limited (incorporated herein by reference to Exhibit 10.71 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
10.61†	Marketing and Distribution Agreement, dated as of April 14, 2016, by and among Napo Pharmaceuticals, Inc. and BexR Logistics, LLC, as amended (incorporated herein by reference to Exhibit 10.72 to the Registration Statement on Form S-4/A filed June 28, 2017 (No. 333-217364)).
10.62†	Strategic Marketing Alliance Agreement, dated as of April 14, 2016, by and between Napo Pharmaceuticals, Inc. and SmartPharma, LLC (incorporated herein by reference to Exhibit 10.73 to the Registration Statement on Form S-4/A filed June 28, 2017 (No. 333-217364)).
10.63	Quality Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo Pharmaceuticals, Inc. pursuant to the Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.74 to the Registration Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).
10.64†	Master Manufacturing Services Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo Pharmaceuticals, Inc. pursuant to the Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.75 to the Registration Statement on Form S-4/A filed June 28, 2017 (No. 333-217364)).

Exhibit No.	Description
10.65†	Crofelemer Product Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon
	Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo pursuant to the Settlement, Termination,
	Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and
	Salix Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.76 to the Registration Statement on
	Form S-4/A filed May 26, 2017 (No. 333-217364)).
10.66†	License Agreement, dated February 28, 2007, by and between Insmed Incorporated and Napo
	Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.77 to the Registration Statement on Form S-
	<u>4/A filed May 26, 2017 (No. 333-217364)).</u>
10.67	Master Service Agreement, dated February 13, 2017, by and between Alamo Pharma Services, Inc. and Napo
10.07	Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.80 to the Registration Statement on Form S-
	4/A filed May 26, 2017 (No. 333-217364)).
10.68†	Project Agreement, dated February 13, 2017, by and between Alamo Pharma Services, Inc., Mission Pharmacal
	Company, and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.81 to the Registration
	<u>Statement on Form S-4/A filed May 26, 2017 (No. 333-217364)).</u>
10.69†	Project Agreement, dated February 27, 2017, by and between Alamo Pharma Services, Inc. and Napo
	Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.82 to the Registration Statement on Form S-
	<u>4/A filed May 26, 2017 (No. 333-217364)).</u>
10.70	Amendment, Waiver & Consent, dated June 27, 2017, by and among Jaguar Health, Inc., Nantucket Investments
10.70	Limited, and Napo Pharmaceuticals, Inc. (incorporated by reference to Ex. 10.83 of the Company's Registration
	Statement on Form S-4 (Registration No. 333-217364) filed on July 5, 2017).
10.71	Securities Purchase Agreement, dated June 29, 2017, by and between Jaguar Health, Inc. and Chicago Venture
	Partners, L.P. (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on July 3, 2017).
10.72	Subordination Agreement and Right to Purchase Debt, dated June 29, 2017, by and between Chicago Venture
	Partners, L.P., Jaguar Health, Inc. and Hercules Capital, Inc. (incorporated by reference to Ex. 10.2 to the Current
	Report on Form 8-K filed on July 3, 2017).
10.73	Security Agreement, dated June 29, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P.
10.75	(incorporated by reference to Ex. 10.3 to the Current Report on Form 8-K filed on July 3, 2017).
	(<u>neorporated by reference to Ex. 10.5 to the Carrenc report on Form 6-R filed on July 5, 2017).</u>
10.74	Form of Warrant Exercise Agreement (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K
	<u>filed on July 31, 2017).</u>
10.75	Share Purchase Agreement, dated July 31, 2017, by and between Jaguar Health, Inc. and Invesco Asset
10.75	Management Limited (incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q
	(No. 001-36714) filed on November 20, 2017).
40 -0	
10.76	Letter Agreement, dated September 1, 2017, by and among Napo Pharmaceuticals, Inc., MEF I, L.P. and Riverside
	<u>Merchant Partners (incorporated by reference to Exhibit 10.33 to the Form 8-K/A of Jaguar Health, Inc. filed</u> <u>September 14, 2017, File No. 001-36714).</u>
	<u>September 14, 2017, File NO. 001-30/14).</u>

<u>its</u>		
Exhibit No.	Description	
10.77	Letter Agreement, dated August 31, 2017, by and among Napo Pharmaceuticals, Inc., M. Kingdon Offshore Master Fund L.P., Kingdon Family Partnership, L.P. and Kingdon Credit Master Fund L.P. (incorporated by reference to Exhibit 10.34 to the Form 8-K/A of Jaguar Health, Inc. filed September 14, 2017, File No. 001- 36714).	
10.78	Letter Agreement, dated August 28, 2017, by and among Napo Pharmaceuticals, Inc., Dorsar Investment Company, Alco Investment Company and Two Daughters LLC (incorporated by reference to Exhibit 10.35 to the Form 8-K/A of Jaguar Health, Inc. filed September 14, 2017, File No. 001-36714).	
10.79	Letter Agreement, dated September 1, 2017, by and between Napo Pharmaceuticals, Inc. and Boies Schiller Flexner LLP (incorporated by reference to Exhibit 10.36 to the Form 8-K/A of Jaguar Health, Inc. filed September 14, 2017, File No. 001-36714).	
10.80	Letter Agreement, dated August 30, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Exhibit 10.37 to the Form 8-K/A of Jaguar Health, Inc. filed September 14, 2017, File No. 001-36714).	
10.81	Termination, Asset Transfer and Transition Agreement, dated September 22, 2017, by and between Napo Pharmaceuticals, Inc. and Glenmark Pharmaceuticals, Ltd. (incorporated herein by reference to Exhibit 10.8 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on November 20, 2017).	
10.82	<u>Share Purchase Agreement, dated November 24, 2017, by and between Jaguar Health, Inc. and L2 Capital, LLC (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed November 24, 2017, File No. 001-36714).</u>	
10.83	Common Stock Purchase Agreement, dated November 24, 2017, by and between Jaguar Health, Inc. and L2 Capital, LLC (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed November 24, 2017, File No. 001-36714).	
10.84	Collaboration Agreement, dated December 13, 2017, by and between Jaguar Health, Inc. and Seed Mena Businessmen Services, LLC. (incorporated by reference to Ex. 10.89 to the Annual Report on Form 10-K filed on April 9, 2018)	
10.85	Securities Purchase Agreement, dated December 8, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on December 14, 2017).	
10.86	Security Agreement, dated December 8, 2017, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.2 to the Current Report on Form 8-K filed on December 14, 2017).	
10.87	Form of First Amended Original Issue Discount Exchangeable Promissory Note. (incorporated by reference to Ex. 4.1 to the Current Report on Form 8-K filed on January 2, 2018).	
10.88	First Amendment to the Note Purchase Agreement and Notes, dated December 29, 2017, by and among Jaguar Health, Inc. and the purchasers named therein (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on January 2, 2018).	
10.89	Second Amendment to the Note Purchase Agreement and Notes and Payoff Agreement, dated February 16, 2018, by and among Jaguar Health, Inc. and the purchasers named therein (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on February 16, 2018).	

Exhibit No.	Description			
10.90	Consent and Payoff Agreement, dated February 27, 2018, by and between Napo Pharmaceuticals, Inc. and the purchasers named therein (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed o February 28, 2018).			
10.91	Securities Purchase Agreement, dated February 26, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on March 2, 2018).			
10.92	Security Agreement, dated February 26, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.2 to the Current Report on Form 8-K filed on March 2, 2018).			
10.93	Series A Preferred Stock Purchase Agreement, dated March 23, 2018, by and between Jaguar Health, Inc. and Sagard Capital Partners, L.P. (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed of March 27, 2018).			
10.94	Registration Rights Agreement, dated March 23, 2018, by and between Jaguar Health, Inc. and Sagard Capital Partners, L.P. (incorporated by reference to Ex. 10.2 to the Current Report on Form 8-K filed on March 27, 2018).			
10.95	Form of Common Stock Purchase Agreement, dated March 23, 2018, by and between Jaguar Health, Inc. and the purchasers named therein (incorporated by reference to Ex. 10.3 to the Current Report on Form 8-K filed on March 27, 2018).			
10.96	Management Services Agreement, dated March 23, 2018, by and between Jaguar Health, Inc. and Sagard Capital Partners Management Corp. (incorporated by reference to Ex. 10.4 to the Current Report on Form 8-K filed on March 27, 2018).			
10.97	Securities Purchase Agreement, dated March 21, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.5 to the Current Report on Form 8-K filed on March 27, 2018).			
10.98	Security Agreement, dated March 21, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.6 to the Current Report on Form 8-K filed on March 27, 2018).			
10.99‡	Offer Letter by and between Jaguar Health, Inc. and Robert J. Griffing, dated May 25, 2018 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K/A filed on June 11, 2018).			
10.100	<u>Co-Promotion Agreement, dated June 28, 2018, by and between Napo Pharmaceuticals, Inc. and RedHill</u> <u>Biopharma, Inc. (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed on</u> <u>August 13, 2018).</u>			
10.101	Amended and Restated Security Agreement, dated July 31, 2017, by and among Napo Pharmaceuticals, Inc., Kingdon Capital Management, L.L.C., and the purchasers named therein (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K/A filed on August 29, 2018).			
10.102	Office Lease Agreement, dated August 30, 2018, between Jaguar Health, Inc. and CA-Mission Street Limited Partnership (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on September 4, 2018).			

<u>ts</u>	
Exhibit No.	Description
10.103	Landlord Letter of Credit & Warrant Issuance Agreement, dated August 28, 2018, by and between Jaguar Health, Inc. and the letter of credit facilitator named therein (incorporated by reference to Ex. 10.2 to the Current Report on Form 8-K filed on September 4, 2018).
10.104	Note Purchase Agreement, dated September 11, 2018, by and between Jaguar Health, Inc. and L2 Capital, LLC (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on September 12, 2018).
10.105	Note Purchase Agreement, dated September 11, 2018, by and between Jaguar Health, Inc. and Charles Conte (incorporated by reference to Ex. 10.2 to the Current Report on Form 8-K filed on September 12, 2018).
10.106	Registration Rights Agreement, dated September 11, 2018, by and between Jaguar Health, Inc. and L2 Capital, LLC (incorporated by reference to Ex. 10.3 to the Current Report on Form 8-K filed on September 12, 2018).
10.107	Registration Rights Agreement, dated September 11, 2018, by and between Jaguar Health, Inc. and Charles Conte (incorporated by reference to Ex. 10.4 to the Current Report on Form 8-K filed on September 12, 2018).
10.108	Standstill Agreement, dated October 1, 2018, by and between Jaguar Health, Inc. and Chicago Venture Partners, L.P. (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on October 5, 2018).
10.109	Suspension, Settlement and Termination Agreement, dated December 4, 2018, by and among Napo Pharmaceuticals, Inc., Jaguar Health, Inc. and SmartPharma, LLC (incorporated by reference to Ex. 10.1 to the Current Report on Form 8-K filed on December 10, 2018).
10.110	Common Stock Purchase Agreement, dated January 7, 2019, by and between Jaguar Health, Inc. and Oasis Capital, LLC (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed January 7, 2019).
10.14	

- 10.111 Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed March 22, 2019).
- 10.112 Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the Form 8-K of Jaguar Health, Inc. filed March 22, 2019).
- 10.113Securities Purchase Agreement, dated March 24, 2019, by and between Jaguar Health, Inc. and the Investor
(incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed March 25, 2019).
- 10.114
 Common Stock Purchase Agreement, dated April 1, 2019, by and between Jaguar Health, Inc. and Oasis Capital, LLC (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed April 1, 2019).
- 10.115
 Letter of Credit Cancellation & Warrant Issuance Agreement, dated March 29, 2019, by and between Jaguar Health, Inc. and the letter of credit beneficiary named therein (incorporated by reference to Exhibit 10.1 to the Form 8-K of Jaguar Health, Inc. filed April 4, 2019).
 - 23.1* Consent of Independent Registered Public Accounting Firm.
 - 23.2* Consent of Reed Smith LLP (included in Exhibit 5.1).

with.
al treatment granted as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Commission.
ent contract or compensatory plan or arrangement.
II-17

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Francisco, State of California, on this 12th day of June, 2019.

By:

JAGUAR HEALTH, INC.,

/s/ LISA A. CONTE

Lisa A. Conte Chief Executive Officer and President

POWER OF ATTORNEY

We, the undersigned officers and directors of Jaguar Health, Inc., a Delaware corporation, hereby severally constitute and appoint Lisa A. Conte and/or Karen Wright, our true and lawful attorney-in-fact and agents, with full power of substitution and resubstitution for her or him and in her or his name, place and stead, and in any and all capacities, to sign for us and in our names in the capacities indicated below any and all amendments (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as full to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or her or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Table of Contents

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date			
/s/ LISA A. CONTE	Chief Executive Officer, President and Director (Principal Executive Officer)	June 12, 2019			
Lisa A. Conte		Julie 12, 2015			
/s/ KAREN WRIGHT	Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	L			
Karen Wright		June 12, 2019			
/s/ JAMES J. BOCHNOWSKI	- Chairman of the Board	June 12, 2019			
James J. Bochnowski					
	– Director	June , 2019			
Jiahao Qiu					
	— Director	June , 2019			
John Micek III					
/s/ JONATHAN B. SIEGEL	- Director	June 12, 2019			
Jonathan B. Siegel					
/s/ JEFFERY C. JOHNSON	— Director	June 12, 2019			
Jeffery C. Johnson	Director	June 12, 2015			
/s/ GREG J. DIVIS	— Director	June 12, 2019			
Greg J. Divis					
/s/ MURRAY DAVID MACNAUGHTAN		1 10 0010			
Murray David MacNaughtan	— Director	June 12, 2019			
II-19					

Exhibit 5.1

ReedSmith

Reed Smith LLP 101 Second Street Suite 1800 San Francisco, CA 94105-3659 Tel +1 415 543 8700 Fax +1 415 391 8269 reedsmith.com

June 12, 2019

Jaguar Health, Inc. 201 Mission Street, Suite 2375 San Francisco, California 94105

Ladies and Gentlemen:

This opinion is furnished to you in connection with the Registration Statement on Form S-1 (the "*Registration Statement*") filed by Jaguar Health, Inc., a Delaware corporation (the "*Company*"), with the Securities and Exchange Commission (the "*Commission*") on the date hereof in connection with the registration under the Securities Act of 1933, as amended (the "*Securities Act*"), for resale by the selling stockholders named in the Registration Statement (the "*Selling Stockholders*") of a total of 13,782 shares (the "*Shares*") of the Company's voting common stock, par value \$0.0001 per share (the "*Common Stock*"), consisting of (i) up to 1,071 shares of Common Stock (the "*Shares*") and (ii) 12,711 shares of Common Stock (the "*Warrant Shares*") that are issuable upon the exercise of warrants (the "*Warrants*") issued by the Company to certain Selling Stockholders. We are acting as counsel for the Company in connection with the registration of the Shares and the Warrant Shares by the Company.

In rendering the opinion set forth herein, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable.

In such examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all items submitted to us as originals, the conformity with originals of all items submitted to us as copies, and the authenticity of the originals of such copies. As to any facts material to the opinions expressed herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and public officials.

This opinion is based solely on the General Corporation Law of the State of Delaware (including all related provisions of the Delaware Constitution and all reported judicial decisions interpreting the General Corporation Law of the State of Delaware and the Delaware Constitution).

Based upon and subject to the foregoing, we are of the opinion that (i) the Shares have been validly issued, fully paid and nonassessable; and (ii) the Warrant Shares have been duly authorized for issuance and, when issued and delivered in accordance with the terms of the Warrants, the Warrant Shares will be validly issued, fully paid and nonassessable.

We consent to the inclusion of this opinion as an exhibit to the Registration Statement and further consent to all references to us under the caption "Legal Matters" in the Prospectus. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ REED SMITH LLP REED SMITH LLP

DCR/AI

IEW YORK + LONDON + HONG KONG + CHICAGO + WASHINGTON, D.C. + BEIJING + PARIS + LOS ANGELES + SAN FRANCISCO + PHILADELPHIA + SHANGHAI + PITTSBURGH + HOUSTON SINGAPORE + MUNICH + ABU DHABI + PRINCETON + NORTHERN VIRGINIA + WILMINGTON + SILICON VALLEY + DUBAI + CENTURY CITY + RICHMOND + GREECE + KAZAKHSTAN

QuickLinks

Exhibit 5.1

Consent of Independent Registered Public Accounting Firm

Jaguar Health, Inc.

San Francisco, California

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated April 10, 2019, relating to the consolidated financial statements of Jaguar Health, Inc., which is incorporated by reference in that Prospectus. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP San Jose, California

June 12, 2019

QuickLinks

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm