PROSPECTUS



JAGUAR HEALTH, INC.

35,699,675 Shares of Common Stock

This prospectus relates to the proposed resale or other disposition from time to time of up to 35,699,675 shares of Jaguar Health, Inc. voting common stock, \$0.0001 par value per share, by the selling shareholders identified in this prospectus. Of these shares, (i) 500,000 shares are outstanding shares of voting common stock, (ii) 4,167,172 shares are shares of voting common stock issuable upon conversion of shares of Jaguar Health, Inc. non-voting common stock, \$0.0001 par value per share, (iii) 1,224,875 shares are shares of voting common stock issuable upon exercise of warrants with an exercise price of \$0.08, (iv) 23,315,544 shares are shares of voting common stock issuable upon conversion of Convertible Promissory Notes due December 30, 2019 (plus accrued interest), (v) 2,492,084 shares are shares of voting common stock issuable upon conversion of Exchangeable Promissory Notes due December 1, 2017, and (vi) 4,000,000 shares are shares of voting common stock issuable upon conversion of Secured Convertible Promissory Notes due August 2, 2018. We are not selling any shares of common stock under this prospectus and will not receive any of the proceeds from the sale or other disposition of common stock by the selling shareholders. We will, however, receive the net proceeds of any warrants exercised for cash.

The selling shareholders or their pledgees, assignees or successors-in-interest may offer and sell or otherwise dispose of the shares of common stock described in this prospectus from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. The selling shareholders will bear all commissions and discounts, if any, attributable to the sales of shares. We will bear all other costs, expenses and fees in connection with the registration of the shares. See "Plan of Distribution" beginning on page 14 for more information about how the selling shareholders may sell or dispose of their shares of common stock.

Our common stock is listed on the NASDAQ Capital Market, under the symbol "JAGX." On November 6, 2017, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.17 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 7 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 November 6, 2017.

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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 shareholders 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 shareholders 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.

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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 natural-products pharmaceuticals company focused on the development and commercialization of novel, sustainably derived gastrointestinal products for both human prescription use and animals on a global basis. Our wholly-owned subsidiary, Napo Pharmaceuticals, Inc. ("Napo"), focuses on the development and commercialization of proprietary human gastrointestinal pharmaceuticals for the global marketplace from plants used traditionally in rainforest areas. Our Mytesi (crofelemer) product is approved by the U.S. FDA for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy. In the animal health space, we focus on developing and commercializing first-in-class gastrointestinal products for companion and production animals, foals, and high value horses.

We are pursuing a follow-on indication for Mytesi in chemotherapy-induced diarrhea, an important supportive care indication for patients undergoing primary or adjuvant chemotherapy for cancer treatment. Mytesi is in development for orphan-drug indications for infants and children with congenital diarrheal disorders and short bowel syndrome; as a second-generation anti-secretory agent for use in cholera patients; and for supportive care for irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). Mytesi® has demonstrated benefit to D-IBS patients in published Phase 2 studies.

Canalevia is our lead veterinary prescription drug product candidate, intended for treatment of various forms of diarrhea in dogs. We achieved statistically significant results in a multicenter canine proof-of-concept study completed in February 2015, supporting the conclusion that Canalevia treatment is superior to placebo. As we announced in December 2015, the pivotal clinical field study to evaluate the safety and effectiveness of Canalevia for acute diarrhea in dogs is underway. Two-hundred dogs were enrolled in the Canalevia pivotal study, which completed enrollment in January 2017. We have received Minor Use in a Minor Species (MUMS) designation for Canalevia for Chemotherapy-Induced Diarrhea (CID) in dogs, and we are pursuing MUMS designation for Canalevia for the indication of exercise-induced diarrhea (EID) in dogs. If Canalevia is approved for CID in dogs, we expect to conduct the commercial launch of Canalevia for this indication in 2018.

Canalevia is a canine-specific formulation of crofelemer, an active pharmaceutical ingredient isolated and purified from the *Croton lechleri* tree, which is sustainably harvested. Members of our management team developed crofelemer while at Napo, which was our parent company until May 13, 2015. Canalevia utilizes the same mechanism of action as Mytesi, as do Neonorm Foal and Neonorm Calf—our lead non-prescription products. Each of these products normalizes ion and water flow into the intestinal lumen. Because this is a physiological pathway generally present in mammals, we have validated its low risk strategy of extending the clinical success in humans to preweaned dairy calves, foals, piglets, and dogs; and we believe these clinical benefits will continue to be confirmed in other mammalian species.

Neonorm is a standardized botanical extract derived from the *Croton lechleri* tree. The reception among users of Neonorm Calf and Neonorm Foal, an anti-diarrheal product we launched for newborn horses in early 2016—has been positive. We launched Neonorm Calf in the United States at the end of 2014 for preweaned dairy calves. In June 2017 we launched neonorm.com, a commercial website for both Neonorm products. As we announced on June 14, 2017, the Organic Materials Review Institute (OMRI) has reviewed Neonorm Calf and determined that it is allowed for use in compliance with the U.S. Department of Agriculture National Organic Program. OMRI is an international nonprofit organization that determines which input products are allowed for use in organic production and processing.

The clinically-proven performance of Neonorm Foal, in combination with our heightened understanding of market needs within the global equine space, is driving our increased focus on equine product development. Equilevia is our non-prescription product for total gut health in equine athletes. Gut

health is important in horses, as colic can cause an otherwise healthy horse to die in a matter of hours. Although we are still assessing the size of this opportunity, we expect to launch sales of Equilevia in the fall of 2017. Equilevia is a pharmaceutical formulation of a standardized botanical extract.

Canalevia, Equilevia and Neonorm are distinct products formulated to address specific species and market channels. We have filed nine investigational new animal drug applications, or INADs, with the FDA and intend to develop species-specific formulations of Neonorm in six additional target species, and Canalevia for both cats and dogs.

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We, through Napo, own the intellectual property rights and technology related to our products and product candidates, including rights to a library of over 2,300 medicinal plants, for all veterinary treatment uses and indications for all species of animals. This includes rights to Neonorm, Canalevia, and other distinct prescription drug product candidates in our pipeline along with the corresponding existing preclinical and clinical data packages. We also recently expanded this intellectual property portfolio to include combinations of our proprietary anti-secretory product lines, Canalevia and Neonorm, with the non-absorbed antibiotic, rifaximin, for gastrointestinal indications in all animals.

Our management team has significant experience in gastrointestinal and animal health product development. This experience includes the development of crofelemer for human use, from discovery and preclinical and clinical toxicity studies, including the existing animal studies to be used for Canalevia regulatory approvals, through human clinical development. Our team also includes individuals who have prior animal health experience at major pharmaceutical companies.

About Mytesi

Mytesi (crofelemer) is an antidiarrheal indicated for the symptomatic relief of noninfectious diarrhea in adult patients with HIV/AIDS on antiretroviral therapy (ART). Mytesi is not indicated for the treatment of infectious diarrhea. Rule out infectious etiologies of diarrhea before starting Mytesi. If infectious etiologies are not considered, there is a risk that patients with infectious etiologies will not receive the appropriate therapy and their disease may worsen. In clinical studies, the most common adverse reactions occurring at a rate greater than placebo were upper respiratory tract infection (5.7%), bronchitis (3.9%), cough (3.5%), flatulence (3.1%), and increased bilirubin (3.1%).

Crofelemer, the active ingredient in Mytesi, is a botanical (plant-based) drug extracted and purified from the red bark sap of the medicinal *Croton lechleri* tree in the Amazon rainforest. Napo has established a sustainable harvesting program for crofelemer to ensure a high degree of quality and ecological integrity.

Private Placement of Shares, Promissory Notes and Warrants

On July 31, 2017, we completed the acquisition of Napo Pharmaceuticals, Inc. ("Napo") pursuant to the Agreement and Plan of Merger, dated March 31, 2017 (the "Merger Agreement"), by and among the Company, Napo, Napo Acquisition Corporation ("Merger Sub"), and Napo's representative (the "Merger"). In accordance with the terms of the Merger Agreement, Merger Sub merged with and into Napo, with Napo surviving as our whollyowned subsidiary.

Private Placement of Voting Shares

On June 28, 2017 and July 13, 2017, we issued in the aggregate 200,000 shares of our voting common stock to James Bochnowski and Gregory Stock for gross proceeds of \$100,000 in private placements pursuant to securities purchase agreements (the "Securities Purchase Agreements"). The securities purchase agreements require that we file one or more registration statements as permissible and necessary to register under the Securities Act of 1933, as amended (the "Securities Act") the resale of the shares of our voting common stock sold to the investors thereto.

On July 31, 2017, we issued 64,866 shares of our voting common stock to KCSA Strategic Communications ("KCSA") pursuant to the Merger Agreement and an agreement between Napo and KCSA as a complete settlement and satisfaction of Napo's outstanding obligations to KCSA. On October 31, 2017, we entered into a debt settlement agreement with KCSA, pursuant to which we issued 235,134 shares of our voting stock to KCSA as complete settlement and satisfaction of our outstanding obligations to KCSA for services rendered. Pursuant to the debt settlement agreement, we agreed to register the shares issued under the debt settlement agreement.

Private Placement of Non-Voting Shares and Warrants

In order to induce us to enter into the Merger Agreement, Napo entered into debt settlement agreements with Dorsar Investment Company, Alco Investment Company, Two Daughters LLC, Boies Schiller Flexner LLP and Dan Becka on or about March 31, 2017 (collectively, the "Debt Settlement Agreements"), pursuant to which Napo agreed to cause us to issue in the aggregate 4,167,172 shares of our non-voting common stock and warrants to purchase 1,224,875 shares of our voting common stock, with an exercise price of \$0.08 per share (the "Warrants"), to such creditors and their respective affiliates upon consummation of the Merger as a complete settlement and satisfaction of Napo's outstanding obligations to such creditors. We also agreed to register the resale of these shares on one or more registration statements. We issued the non-voting shares and warrants upon consummation of the Merger on July 31, 2017.

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Pursuant to the Debt Settlement Agreements, as amended by letter agreements dated on or about September 1, 2017, Napo agreed to cause us to register the shares of our voting common stock, the shares of our voting common stock issuable upon conversion of the shares of our non-voting common stock, and the shares of our voting common stock underlying the warrants, in each case as issued under the Debt Settlement Agreements.

Private Placement of Promissory Notes

MEF/Riverside Notes

On March 1, 2017, Napo entered into a Note Purchase Agreement with MEF I, LP and Riverside Merchant Partners (the "MEF/Riverside NPA"), pursuant to which Napo issued \$656,250 in aggregate principal amount of Original Issue Discount Exchangeable Promissory Notes (the "Initial MEF/Riverside Notes") to such purchasers at a purchase price of \$525,000. The Initial MEF/Riverside Notes accrue interest at a rate of 3% per annum and have a maturity date of December 1, 2017. Accrued and unpaid interest on the Initial MEF/Riverside Notes will be paid on the maturity date, at Napo's election subject to certain exceptions, in either cash or shares of our voting common stock. In the event that Napo elects to pay such interest in shares of our voting common stock, the number of shares issued will be determined by dividing the amount of interest then due on the Initial MEF/Riverside Notes by the volume weighted average of the closing price of a share of our common stock for the 30 consecutive trading days up to and including the trading day on the third trading day prior to the interest payment due date. The holders of the Initial MEF/Riverside Notes may exchange the principal amount of the Initial MEF/Riverside Notes for an aggregate of 1,171,875 shares of our voting common stock at any time prior to the maturity date.

Pursuant to the terms of the MEF/Riverside NPA, on April 27, 2017, Napo issued an additional \$656,250 in aggregate principal amount of Original Issue Discount Exchangeable Promissory Notes (the "Additional MEF/Riverside Notes" and, together with the Initial MEF/Riverside Notes, the "MEF/Riverside Notes") to such purchasers at a purchase price of \$525,000. The Additional MEF/Riverside Notes have a maturity date of January 27, 2018, but otherwise have terms identical to those of the Initial MEF/Riverside Notes. We agreed to file a registration statement to register the resale of shares of our voting common stock issuable upon exchange of the MEF/Riverside Notes by October 20, 2017.

Kingdon Notes

On March 31, 2017, Napo entered into an Amended and Restated Note Purchase Agreement (the "Kingdon NPA") with Kingdon Associates, M. Kingdon Offshore Master Fund L.P., Kingdon Family Partnership, L.P., and Kingdon Credit Master Fund L.P. (and, together with any other party purchasing Kingdon Notes (as defined below) pursuant to the Kingdon NPA, the "Kingdon Purchasers"), under which remains outstanding \$2,500,000 in aggregate principal amount of convertible promissory notes (the "Initial Kingdon Notes" and, together with the Additional Kingdon Notes (as defined herein), the "Kingdon Notes") issued by Napo on December 30, 2016 to such purchasers at a purchase price of \$2,000,000. Holders of the Kingdon Notes may convert the Kingdon Notes into shares of our voting common stock at a conversion price of \$0.925 (i) from the date of the Kingdon Note until the day immediately preceding the one-year anniversary of the Kingdon Note, all, but not less than all, of one-third of the outstanding principal and interest of the Kingdon Note, and (iii) from the two-year anniversary of the Kingdon Note and thereafter, all, but not less than all, of the outstanding principal and interest of the Kingdon Note. Pursuant to the terms of the Kingdon NPA, upon consummation of the Merger, each purchaser purchased its pro rata portion of additional Kingdon Notes (the "Additional Kingdon Notes") with an aggregate original principal amount of \$7,500,000 for an aggregate purchase price of \$6,000,000. The Kingdon Notes accrue interest at a rate of 10% per annum and mature on the first date after December 30, 2019 on which a majority of the Kingdon Purchasers has provided written notice to Napo requesting payment in full of the outstanding principal and interest of the Kingdon Notes.

Pursuant to the Kingdon NPA, we are required to register the shares of our voting common stock issuable upon conversion of the Conversion Stock (as defined therein), together with any shares of our voting common stock issuable in connection with interest payments under the Kingdon Notes issued thereunder.

CVP Notes

On June 29, 2017, we entered into a securities purchase agreement (the "CVP SPA") with Chicago Venture Partners, L.P. ("CVP"), pursuant to which we issued to CVP a convertible promissory note (the "CVP Note") in the aggregate principal amount of \$2,155,000 for an aggregate purchase price of \$1,700,000. The CVP Note bears interest at the rate of 8% per annum and matures on August 2, 2018. The CVP Note is convertible at the option of the holder into shares of our voting common stock (the "CVP Conversion Shares") at a conversion price of \$1.00 per share, subject to adjustments as provided in the CVP Note, any time after the earlier of (i) the date that is six months after the date that CVP delivers the purchase price of the CVP Note to us (the "CVP Note Purchase Price Date") and (ii) the effective date of the resale registration statement that the Company is required to file to register the resale of the CVP Conversion Shares (the "Resale S-3 Effective Date").

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In addition, beginning on the earlier of (i) the Resale S-3 Effective Date and (ii) the CVP Note Purchase Price Date, CVP will have the right to redeem a portion of the outstanding balance of the CVP Note in any amount up to \$350,000 per month. The redemption(s) may be satisfied in cash or stock (so long as the various conditions to paying stock set forth in the CVP Note are satisfied), at our election; provided, however, that if our common stock is trading below \$1.15 per share, the redemption(s) must be in cash.

Security Agreements

In connection with the sale of the Kingdon Notes, Napo entered into a security agreement, dated December 30, 2016, by and among Napo, Kingdon Capital Management L.L.C. and the purchasers named therein (the "Napo Security Agreement"). Pursuant to the Napo Security Agreement, Napo granted the Kingdon Purchasers a security interest in substantially all of Napo's assets, including Napo's intellectual property, to secure the payment and performance of all of Napo's obligations under the Kingdon Notes.

In connection with the sale of the CVP Notes, we entered into a security agreement, dated June 29, 2017, between us and CVP (the "Jaguar Security Agreement") and a subordination agreement and right to purchase debt, dated June 29, 2017 (the "Subordination Agreement"), by and among us, CVP and Hercules Capital, Inc. (f/k/a Hercules Technology Growth Capital, Inc.) ("Hercules"). Pursuant to the Jaguar Security Agreement and the Subordination Agreement, CVP may acquire a security interest in substantially all of our veterinary related assets, including intellectual property, to secure the payment and performance of all of our obligations under the CVP Notes upon the earlier of (i) CVP purchasing our obligations to Hercules under the

loan and security agreement, dated August 18, 2015, between us and Hercules, as amended (the "Hercules Debt"), or (ii) the repayment in full of the Hercules Debt.

The description of the Merger Agreement, Debt Settlement Agreements, the MEF/Riverside NPA, the Kingdon NPA, the CVP SPA, the Napo Security Agreement, the Jaguar Security Agreement and the Subordination Agreement are not complete and are qualified in their entirety by reference to the respective agreements, each of which has been filed as an exhibit to the registration statement of which this prospectus is a part. See "Where You Can Find More Information" and "Incorporation of Information by Reference." The representations, warranties and covenants made in such agreements were made solely for the benefit of the parties to such agreements, including, in some cases, for the purpose of allocating risk among the parties thereto, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were made as of an earlier date. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

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 www.jaguaranimalhealth.com. 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.

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The Offering

This prospectus relates to the resale of 35,699,675 shares of our voting common stock, of which (i) 500,000 shares are outstanding shares of voting common stock, (ii) 4,167,172 shares are shares of voting common stock issuable upon conversion of shares of non-voting common stock, (iii) 1,224,875 shares are shares of voting common stock issuable upon exercise of the Warrants, (iv) 23,315,544 shares are shares of voting common stock issuable upon conversion of the Kingdon Notes (plus accrued interest), (v) 2,492,084 shares are shares of voting common stock issuable upon conversion of the MEF/Riverside Notes (plus accrued interest), and (vi) 4,000,000 shares are shares of voting common stock issuable upon conversion of the CVP Notes (plus accrued interest), in each case held by the selling shareholders identified in this prospectus, including its transferees, pledgees, donees or successors. See "Selling Shareholders."

The selling shareholders may offer to sell the shares being offered in this prospectus at fixed prices, at prevailing market prices at the time of sale, at varying prices or at negotiated prices. Our common stock is listed on the NASDAQ Capital Market under the symbol "JAGX."

We have agreed to register the offer and sale of the common stock to satisfy registration rights we have granted to the selling shareholders. We will not receive any proceeds from the sale of the securities by the selling shareholders. We will, however, receive the net proceeds of any warrants exercised for cash.

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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.

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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 (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.

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UNAUDITED PRO FORMA CONSOLIDATED FINANCIAL INFORMATION

Incorporated by reference herein is the unaudited pro forma consolidated financial information reflecting the consummation of the Merger and related transactions. This financial information is included in Exhibit 99.2 to our Current Report on Form 8-K, filed with the SEC on August 29, 2017 and consists of (i) the unaudited pro forma combined condensed statement of operations for the six months ended June 30, 2017, (ii) the unaudited pro forma consolidated balance sheet, as of June 30, 2017 and (iii) the unaudited pro forma combined condensed statement of operations, for the year ended December 31, 2016. The unaudited pro forma consolidated financial information should be read in conjunction with the historical consolidated financial statements and the related notes of the Company, included in the Company's periodic reports filed with the SEC, and of Napo, included in Exhibit 99.2 to our Current Report on Form 8-K/A, filed with the SEC on August 4, 2017, and Exhibit 99.1 to our Current Report on Form 8-K, filed with the SEC on August 29, 2017, each of which are incorporated by reference herein. See "Incorporation of Information by Reference."

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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 shareholders will receive all of the proceeds from this offering.

A portion of the shares covered by this prospectus are issuable upon the exercise of warrants to purchase shares of our common stock. Pursuant to conditions set forth in the warrants, the warrants are exercisable under certain circumstances on a cashless basis, and should a selling shareholder elect to exercise on a cashless basis we will not receive any proceeds from the sale of common stock issued upon the cashless exercise of the warrant. Upon any exercise for cash of the warrants, the selling shareholders will pay us the exercise price of the warrants of \$0.08 per share. If the selling shareholders exercise, on a cash basis, all of the warrants underlying the shares being registered, we would receive gross proceeds of approximately \$98,000. We intend to use such proceeds, if any, for general corporate purposes, including working capital. The exercise price and number of shares of common stock issuable upon exercise of the warrants may be adjusted in certain circumstances, including subdivisions and stock splits, stock dividends, combinations, reorganizations, reclassifications, consolidations, mergers or sales of properties and assets and upon the issuance of certain assets or securities to holders of our common stock, as applicable.

The selling shareholders will pay any underwriting discounts and commissions and expenses incurred by the selling shareholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling shareholder 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 shareholders and our independent registered public accountants.

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SELLING SHAREHOLDERS

The shares of voting common stock being offered by the selling shareholders are those previously issued to the selling shareholders, and those issuable to the selling shareholders, upon conversion of the non-voting common stock or convertible notes or exercise of warrants. For additional information regarding the issuances of those shares of voting common stock, non-voting common stock, convertible notes and warrants and the relationship between the selling shareholders and us, see "Prospectus Summary—Description of the Private Placement and Transfer of Shares in Connection with the Merger" above. We are registering the shares of voting common stock in order to permit the selling shareholders to offer the shares for resale from time to time.

The following table sets forth:

- the selling shareholders and other information regarding the beneficial ownership of the shares of common stock by the selling shareholders;
- the number of shares of common stock beneficially owned by the selling shareholders, based on their respective ownership of the shares of common stock and non-voting common stock and warrants, as of October 15, 2017, assuming the conversion of the non-voting common stock,

the conversion of the convertible notes, and the exercise of the warrants held by the selling shareholders on that date, without regard to any limitations on conversions or exercises prior to the sale of the shares covered by this prospectus;

- the number of shares that may be offered by the selling shareholders pursuant to this prospectus;
- the number of shares to be beneficially owned by the selling shareholders and their respective affiliates following the sale of any shares covered by this prospectus; and
- the percentage of our issued and outstanding voting common stock to be beneficially owned by the selling shareholders and their respective affiliates following the sale of all shares covered by this prospectus.

This prospectus generally covers the resale of all shares received by the selling shareholders in connection with the transactions contemplated by the Securities Purchase Agreements, the Debt Settlement Agreements, MEF/Riverside NPA, Kingdon NPA, CVP SPA, including any shares of voting common stock issued or issuable upon the conversion of shares of non-voting common stock and promissory notes received by the selling shareholders.

The selling shareholders may sell all, some or none of their shares in this offering. See "Plan of Distribution."

Name of Selling	Number of shares of Common Stock Owned Prior to	Maximum Number of shares of Common Stock to be Sold Pursuant to this	Number of shares of Common Stock Owned After Offering ⁽³⁾⁽⁴⁾	
Shareholders	Offering ⁽¹⁾	Prospectus ⁽²⁾	Number	Percent
Entities affiliated with Kingdon Capital Management L.L.C (5)	25,457,532	23,315,544	2,141,988	2.29%
Chicago Venture Partners (6)	4,000,000	4,000,000	0	
Riverside Merchant Partners LLC (7)	1,246,042	1,246,042	0	_
MEF I, LP (8)	1,246,042	1,246,042	0	_
Dorsar Investment Company (9)	975,686	975,686	0	_
Continental Properties (10)	333,289	333,289	0	_
Dorsar Partners, LP (11)	337,170	337,170	0	_
Stephen L. Feinberg (12)	18,207	18,207	0	_
Alco Investment Company (13)	1,589,410	1,589,410	0	_
Two Daughters LLC (14)	124,154	124,154	0	_
Boies, Schiller & Flexner LLP (15)	2,014,131	2,014,131	0	_
James J. Bochnowski (16)	1,015,942	100,000	915,942	*
Gregory Stock (17)	100,000	100,000	0	_
KCSA Strategic Communications (18)	300,000	300,000	0	_

^{*} Represents less than 1% of the issued and outstanding shares of common stock as of October 15, 2017.

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- (1) Excludes contingent rights to receive an indeterminate number of shares of voting common stock held by certain selling shareholders pursuant to the terms of the Merger Agreement.
- (2) Assumes the conversion of all shares of non-voting common stock, the conversion of all convertible notes, the exchange of all exchangeable notes, and the exercise for cash of all warrants held by the selling shareholders into shares of voting common stock.
- (3) Assumes that the selling shareholders sell all shares of voting common stock registered under this prospectus held by such selling shareholders.
- Based upon 89,050,655 shares of common stock outstanding as of October 15, 2017. For purposes of computing the percentage of outstanding shares of the common stock held by the selling shareholders named above, any shares which any selling shareholder has the right to acquire within 60 days of October 15, 2017 are deemed to be outstanding.
- (5) Represents (i) 1,291,986 shares of voting common stock, (ii) 850,002 shares of voting common stock issuable upon exercise of warrants, and (iii) 10,946,312 shares of voting common stock issuable upon conversion of the Kingdon Notes owned by Kingdon Capital Management, L.L.C. and 12,369,232 shares of voting common stock issuable upon payment of interest on the Kingdon Notes in lieu of cash convertible at \$0.20 per share.
- (6) Represents the minimum number of shares of voting common stock that we are contractually obligated to register for the benefit of CVP pursuant to the CVP SPA, which shares would be issuable upon conversion of the CVP Note (including shares of voting common stock issuable upon payment of interest on the CVP Note in lieu of cash convertible at \$1.00 per share).
- (7) Represents 1,171,876 shares of voting common stock issuable upon conversion of the MEF/Riverside Notes owned by Riverside Merchant Partners LLC and 74,166 issuable upon payment of interest on the MEF/Riverside Notes in lieu of cash convertible at \$0.20 per share.
- (8) Represents 1,171,876 shares of voting common stock issuable upon conversion of the MEF/Riverside Notes owned by MEF I, LP and 74,166 issuable upon payment of interest on the MEF/Riverside Notes in lieu of cash convertible at \$0.20 per share.
- (9) Represents (i) 678,483 shares of voting common stock issuable upon conversion of non-voting common stock and (ii) 297,203 shares of voting common stock issuable upon exercise of warrants owned by Dorsar Investment Company. Prior to the Merger, Dorsar Investment Company held 56,128 shares of common stock of Napo. Pursuant to the terms of the Merger Agreement, upon consummation of the Merger, such shares of Napo common stock were exchanged for contingent rights to receive an indeterminate number of shares of our voting common stock, which contingent rights are excluded from the shares listed in the table above.

- (10) Represents 333,289 shares of voting common stock issuable upon exercise of warrants owned by Continental Properties.
- (11) Represents 337,170 shares of voting common stock issuable upon exercise of warrants owned by Dorsar Partners, L.P.
- (12) Represents (i) 4,370 shares of voting common stock issuable upon exercise of warrants held by the Andrew Feinberg Lifetime Trust, (ii) 2,731 shares of voting common stock issuable upon exercise of warrants held by the Deborah Feinberg Rosen Lifetime Trust, and (iii) 11,106 shares of voting common stock issuable upon exercise of warrants held by the Stephen L. Feinberg Lifetime Trust. Stephen L. Feinberg is the trustee of the Andrew Feinberg Lifetime Trust, Deborah Feinberg Rosen Lifetime Trust and Stephen L. Feinberg Lifetime Trust and has voting and investment control over such shares.
- (13) Represents (i) 1,367,903 shares of voting common stock issuable upon conversion of non-voting common stock and (ii) 221,507 shares of voting common stock issuable upon exercise of warrants owned by Alco Investment Company.

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- (14) Represents (i) 106,655 shares of voting common stock issuable upon conversion of non-voting common stock and (ii) 17,499 shares of voting common stock issuable upon exercise of warrants owned by Two Daughters LLC. Prior to the Merger, Two Daughters LLC held 37,703 shares of common stock of Napo. Pursuant to the terms of the Merger Agreement, upon consummation of the Merger, such shares of Napo common stock were exchanged for contingent rights to receive an indeterminate number of shares of our voting common stock, which contingent rights are excluded from the shares listed in the table above.
- (15) Represents 2,014,131 shares of voting common stock issuable upon conversion of non-voting common stock owned by Boies, Schiller & Flexner LLP.
- Represents (i) 801,028 shares of voting common stock, (ii) 92,243 shares of voting common stock issuable upon exercise of stock options, and (iii) 122,671 shares of voting common stock issuable upon exercise of warrants. All securities other than stock options are held by the Bochnowski Family Trust. Mr. Bochnowski, the chairman of our board of directors, is a co-trustee and beneficiary of such trust and shares voting and investment control over such shares with his spouse.
- (17) Represents 100,000 shares of voting common stock held by Mr. Stock. Prior to the Merger, Mr. Stock was a member of Napo's board of directors.
- (18) Represents 300,000 shares of voting common stock issuable upon conversion of non-voting common stock owned by KCSA Strategic Communications.

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PLAN OF DISTRIBUTION

The selling shareholders 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 shareholder 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 the selling shareholders 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 shareholders 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 shareholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling shareholders (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 shareholders 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 shareholders 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 shareholders 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 shareholders 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 shareholder 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 shareholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

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We agreed to keep this prospectus effective until the earliest to occur of (i) the time at which all of the securities covered by the registration statement of which this prospectus forms a part have been sold (either pursuant to the registration statement or otherwise), (ii) the time at which all of the securities covered by the registration statement of which this prospectus forms a part are eligible to be sold by holders without compliance with the volume limitations or public information requirements of Rule 144, (iii) twelve months following the last date on which shares of our common stock are issuable under the Kingdon Notes, MEF/Riverside Notes and CVP Notes, and (iv) the consummation of a merger, consolidation or other business combination of the Company with any entity in which the stockholders of the Company immediately prior to such transaction in the aggregate cease to own at least 50% of the voting power of the voting securities of the entity surviving or resulting from such transaction (or the ultimate parent thereof) or a sale of all or substantially all of the Company's assets. 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 shareholders 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 shareholders or any other person. We will make copies of this prospectus available to the selling shareholders 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).

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LEGAL MATTERS

The validity of the common stock offered by this prospectus will be based upon by Reed Smith LLP, Palo Alto, California.

EXPERTS

The financial statements of the Company as of December 31, 2016 and 2015 and for each of the two years in the period ended December 31, 2016 incorporated by reference in this prospectus and the registration statement have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm (the reports 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.

The consolidated financial statements of Napo as of December 31, 2016 and 2015 and for each of the two years in the period ended December 31, 2016 incorporated by reference in this prospectus and the registration statement have been audited by Macias Gini & O'Connell LLP, as stated in their report incorporated by reference in this registration statement (which report contains an explanatory paragraph regarding Napo's ability to continue as a going concern), and are incorporated by reference in reliance upon such report and upon the authority of such 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-3 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 www.jaguaranimalhealth.com, 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/A for the fiscal year ended December 31, 2016 filed on May 26, 2017;
- our definitive proxy statement and definitive additional materials, on Schedule 14A, relating to our Annual Meeting of Stockholders held on May 8, 2017, filed on April 17, 2017;

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- our Quarterly Report on Form 10-Q/A for the fiscal quarter ended March 31, 2017 filed on June 23, 2017 and our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2017 filed on August 9, 2017;
- our Current Reports on Form 8-K filed on January 31, 2017, February 9, 2017, February 24, 2017, March 31, 2017, April 6, 2017, May 2, 2017, May 8, 2017, May 19, 2017, July 3, 2017, July 7, 2017, July 28, 2017, July 31, 2017, August 1, 2017, August 4, 2017, August 16, 2017, August 29, 2017, September 14, 2017, September 15, 2017, September 25, 2017, October 3, 2017 and October 26, 2017;
- 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
- 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, all reports and other documents filed by us pursuant to the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement shall be deemed to be incorporated by reference into this prospectus.

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.

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PROSPECTUS
November 6, 2017