



201 Mission Street, Suite 2375, San Francisco, CA 94105
Tel: 415.371.8300 • Fax: 415.371.8311
<https://jaguar.health>

May 1, 2019

Dear Stockholder:

You are cordially invited to attend the 2019 Annual Meeting of Stockholders (the "Annual Meeting") of Jaguar Health, Inc. (the "Company") to be held at 201 Mission Street, Suite 2375, San Francisco, CA 94105, on Friday, May 24, 2019, at 8:30 a.m., local time.

At the Annual Meeting you will be asked to (i) elect three (3) Class I directors to our Board of Directors, (ii) approve the adoption of an amendment to the Company's Third Amended and Restated Certificate of Incorporation (the "COI") to effect a reverse stock split of the Company's issued and outstanding voting common stock, par value \$0.0001 per share (the "Common Stock") at a ratio not less than 1-for-30 and not greater than 1-for-70, with the exact ratio, if approved and effected at all, to be set within that range at the discretion of the Company's board of directors and publicly announced by the Company on or before November 3, 2019 without further approval or authorization of the Company's stockholders (the "Reverse Stock Split"), (iii) approve an amendment of the Company's 2014 Stock Incentive Plan (the "2014 Plan") to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan such that the aggregate authorized but unissued shares under the 2014 Plan shall equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis calculated as of the earlier of (A) the day immediately after the consummation of the Company's next underwritten public equity offering with gross proceeds of \$5 million or more or (B) July 31, 2019 (collectively, the "Calculation Date"), contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 3 on, or prior to, the Calculation Date, (iv) approve, for purposes of Nasdaq Rules 5635(c) and 5635(d), the issuance of shares of Common Stock upon the exchange of promissory notes and exercise of warrants in one or more private placement transactions, (v) approve, for purposes of Nasdaq Rule 5635(d), the issuance of shares of Common Stock upon the exercise of a warrant issued in connection with the cancellation of a letter of credit, and (vi) approve discretionary authority for the Company to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event that there are not sufficient votes at the time of the Annual Meeting to approve proposals (i)—(v).

It is important that your shares be represented and voted whether or not you plan to attend the Annual Meeting in person. You may vote on the Internet, by telephone or by completing and mailing a proxy card or voting instruction form. Voting over the Internet, by telephone or by mail will ensure your shares are represented at the annual meeting. If you do attend the Annual Meeting, you may, of course, withdraw your proxy should you wish to vote in person. Please read the enclosed information carefully before voting.

Sincerely,

Lisa A. Conte
Chief Executive Officer & President

JAGUAR HEALTH, INC.

201 Mission Street
Suite 2375
San Francisco, CA 94105
NOTICE OF 2019 ANNUAL MEETING OF STOCKHOLDERS
To Be Held May 24, 2019

NOTICE HEREBY IS GIVEN that the 2019 Annual Meeting of Stockholders (the "Annual Meeting") of Jaguar Health, Inc. (the "Company") will be held at 201 Mission Street, Suite 2375, San Francisco, CA 94105, on Friday, May 24, 2019, at 8:30 a.m., local time, for the following purposes:

1. Electing three (3) Class I directors (Proposal 1);
2. Approving the adoption of an amendment to the Company's Third Amended and Restated Certificate of Incorporation (the "COI") to effect a reverse stock split of the Company's issued and outstanding voting common stock, par value \$0.0001 per share (the "Common Stock") at a ratio not less than 1-for-30 and not greater than 1-for-70, with the exact ratio, if approved and effected at all, to be set within that range at the discretion of the Company's board of directors and publicly announced by the Company on or before November 3, 2019 without further approval or authorization of the Company's stockholders (the "Reverse Stock Split") (Proposal 2);
3. Approving an amendment to the Company's 2014 Stock Incentive Plan (the "2014 Plan") to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan such that the aggregate authorized but unissued shares under the 2014 Plan shall equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis calculated as of the earlier of (A) the day immediately after the consummation of the Company's next underwritten public equity offering with gross proceeds of \$5 million or more or (B) July 31, 2019 (collectively, the "Calculation Date"), contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2 on, or prior to, the Calculation Date (Proposal 3);
4. Approving, for purposes of Nasdaq Rules 5635(c) and 5635(d), the issuance of shares of Common Stock upon the exchange of promissory notes and exercise of warrants in one or more private placement transactions (Proposal 4);
5. Approving, for purposes of Nasdaq Rule 5635(d), the issuance of shares of Common Stock upon the exercise of a warrant issued in connection with the cancellation of a letter of credit (Proposal 5);
6. Approving a proposal to grant discretionary authority to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event that there are not sufficient votes at the time of the Annual Meeting to approve Proposals 1-5 (Proposal 6); and
7. Such other business as properly may come before the Annual Meeting or any adjournment or postponement thereof.

The board of directors is not aware of any other business to be presented to a vote of the stockholders at the Annual Meeting. Information relating to the above matters is set forth in the attached Proxy Statement. Stockholders of record at the close of business on March 27, 2019 are entitled to receive notice of and to vote at the Annual Meeting and any adjournment or postponement thereof.

By Order of the Board of Directors.



Lisa A. Conte
Chief Executive Officer & President

San Francisco, California
May 1, 2019

Information relating to the above matters is set forth in the attached Proxy Statement. Stockholders of record at the close of business on March 27, 2019 are entitled to receive notice of and to vote at the Annual Meeting and any adjournment or postponement thereof. If you have questions concerning the proposals in the Proxy Statement, would like additional copies of the Proxy Statement or need help in voting your shares of Common Stock, please contact our proxy solicitor Georgeson LLC at 866-821-0284.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to be Held on May 24, 2019. The proxy materials are available at
<https://jaguarhealth.gcs-web.com/financial-information/annual-reports>

PLEASE CAREFULLY READ THE PROXY STATEMENT. EVEN IF YOU EXPECT TO ATTEND THE ANNUAL MEETING, PLEASE PROMPTLY COMPLETE, EXECUTE, DATE AND RETURN THE ENCLOSED PROXY CARD OR VOTING INSTRUCTION FORM IN THE ACCOMPANYING POSTAGE-PAID ENVELOPE. NO POSTAGE IS NECESSARY IF MAILED IN THE UNITED STATES. YOU MAY ALSO VOTE ELECTRONICALLY VIA THE INTERNET OR BY TELEPHONE BY FOLLOWING THE INSTRUCTIONS ON THE ENCLOSED PROXY CARD OR VOTING INSTRUCTION FORM. IF YOU VOTE BY INTERNET OR TELEPHONE, THEN YOU NEED NOT RETURN A WRITTEN PROXY CARD OR VOTING INSTRUCTION FORM BY MAIL. STOCKHOLDERS WHO ATTEND THE ANNUAL MEETING MAY REVOKE THEIR PROXIES AND VOTE IN PERSON IF THEY SO DESIRE (AS DESCRIBED BELOW).

JAGUAR HEALTH, INC.

201 Mission Street
Suite 2375
San Francisco, CA 94105

PROXY STATEMENT

FOR THE 2019 ANNUAL MEETING OF STOCKHOLDERS To Be Held May 24, 2019 GENERAL INFORMATION ABOUT THE ANNUAL MEETING

We are furnishing this Proxy Statement to our stockholders in connection with the solicitation of proxies by our board of directors to be voted at the 2019 Annual Meeting of Stockholders (the "Annual Meeting") and at any adjournment or postponement thereof. The Annual Meeting will be held at 201 Mission Street, Suite 2375, San Francisco, CA 94105, on Friday, May 24, 2019, at 8:30 a.m., local time.

When used in this Proxy Statement, the terms the "Company," "we," "us," "our" and "Jaguar" refer to Jaguar Health, Inc.

The Securities and Exchange Commission ("SEC") rules require us to provide an annual report to stockholders who receive this Proxy Statement. Accordingly, we have enclosed our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (the "Annual Report"), which was filed on April 10, 2019, with this Proxy Statement, and we will also provide copies of such documents to brokers, dealers, banks, voting trustees and their nominees for the benefit of their beneficial owners of record. Pursuant to rules adopted by the SEC, the Company is also providing access to its proxy materials over the Internet. All stockholders will have the ability to access the proxy materials at <https://jaguarhealth.gcs-web.com/financial-information/annual-reports>.

The date on which the Notice of 2019 Annual Meeting of Stockholders, this Proxy Statement, the Annual Report and form of proxy card or voting instruction form are first being sent or given to stockholders is on or about May 1, 2019.

GENERAL INFORMATION ABOUT VOTING

Record Date

As of March 27, 2019, the record date for the Annual Meeting (the "Record Date"), 59,415,042 shares of our voting common stock, par value \$0.0001 per share (the "Common Stock"), and 5,524,926 shares of our Series A Convertible Participating Preferred Stock, par value \$0.0001 per share (the "Preferred Stock"), were issued and outstanding. Only holders of record of our Common Stock and our Preferred Stock as of the close of business on the record date are entitled to notice of, and to vote at, the Annual Meeting or at any adjournment or postponement thereof. A list of such holders will be open to the examination of any stockholder for any purpose germane to the meeting at Jaguar

Health, Inc., 201 Mission Street, Suite 2375, San Francisco, CA 94105 for a period of ten (10) days prior to the Annual Meeting. The list of stockholders will also be available for such examination at the Annual Meeting. In addition, as of March 27, 2019, 40,301,237 shares of our non-voting common stock were outstanding, but these shares will have no voting rights with respect to any of the proposals being considered at the Annual Meeting. Each share of non-voting common stock is convertible into one-fifteenth (1/15th) of a share of Common Stock at the election of the holder thereof or automatically upon transfer to anyone that is not Nantucket Investments Limited or an affiliated investment fund. The use of the capitalized term "Common Stock" in this Proxy Statement and related materials refers only to the Company's voting common stock and does not include the Company's convertible non-voting common stock.

Voting, Quorum and Revocability of Proxies

Each share of Common Stock entitles the holder of record thereof to one vote. Each share of Preferred Stock entitles the holder of record thereof to 0.574 votes (on an as converted to Common Stock basis, calculated assuming that the conversion price for the Preferred Stock for this purpose only is \$2.9025 (subject to appropriate adjustment in the event of any stock dividend, stock split, reverse stock split, combination or other similar recapitalization) as a result of limitations imposed by Nasdaq Listing Rule 5640 (the "Nasdaq Voting Limitations")) (as provided in the Certificate of Designation of the Series A Convertible Participating Preferred Stock (as amended, the "Certificate of Designation")). No other securities are entitled to be voted at the Annual Meeting. Each stockholder holding Common Stock or Preferred Stock may vote in person or by proxy on all matters that properly come before the Annual Meeting and any adjournment or postponement thereof (except as otherwise described below).

Stockholders have no right to cumulative voting as to any matter, including the election of directors.

The presence, in person or by proxy, of stockholders entitled to vote a majority of the shares of Common Stock and Preferred Stock (on an as converted to Common Stock basis subject to the Nasdaq Voting Limitations) outstanding on the Record Date will constitute a quorum for purposes of voting at the Annual Meeting. Properly executed proxies marked "ABSTAIN" or "WITHHOLD AUTHORITY," as well as broker non-votes, will be counted as "present" for purposes of determining the existence of a quorum. If a quorum should not be present, the Annual Meeting may be adjourned from time to time until a quorum is obtained.

Our board of directors is soliciting proxies for use in connection with the Annual Meeting and any postponement or adjournment thereof. If you vote your shares via the Internet or by telephone or execute and return the proxy card or voting instruction form accompanying this Proxy Statement, your shares will be voted as you direct on all matters properly coming before the Annual Meeting for a vote. For Proposals 1, 2, 3, 4, 5, and 6, you may vote "FOR," "AGAINST" or "ABSTAIN."

If your shares are registered directly in your name with our transfer agent, Computershare Trust Company, N.A. (the "Transfer Agent"), you are considered, with respect to those shares, the stockholder of record. As the stockholder of record, you have the right to grant your proxy directly to the Company or to vote your shares in person at the Annual Meeting. If you hold your shares in a stock brokerage account or through a bank or other financial intermediary, you are considered the beneficial owner of shares held in street name. Your bank, broker or other financial intermediary is considered, with respect to those shares, the stockholder of record. As the beneficial owner, you have the right to direct your bank, broker or other financial intermediary on how to vote your shares, but because you are not the stockholder of record, you may not vote these shares in person at the Annual Meeting unless you obtain a signed proxy from the record holder giving you the right to vote the shares. As a beneficial owner, you are, however, welcome to attend the Annual Meeting.

Even if you plan to attend the Annual Meeting, we recommend that you also submit your proxy as described in the proxy card or voting instruction form, so that your vote will be counted if you later decide not to attend the Annual Meeting. Submitting your proxy now will not prevent you from voting your shares in person by written ballot at the Annual Meeting if you desire to do so, as your proxy is revocable at your option.

You may revoke your proxy by (a) delivering to the Secretary of the Company at or before the Annual Meeting a written notice of revocation bearing a later date than the proxy, (b) duly executing a subsequent proxy and delivering it to the Secretary of the Company at or before the Annual Meeting or (c) attending the Annual Meeting and voting in person (although attendance at the Annual Meeting will not in and of itself constitute revocation of a proxy). Any written notice revoking a proxy should be delivered at or prior to the Annual Meeting to: Jaguar Health, Inc., 201 Mission Street, Suite 2375, San Francisco, CA 94105, Attention: Karen S. Wright. Beneficial owners of our Common Stock who are not holders of record and wish to revoke their proxy should contact their bank, brokerage firm or other custodian, nominee or fiduciary to inquire about how to revoke their proxy.

The shares represented by all valid proxies received will be voted in the manner specified. Where specific choices are not indicated on a validly executed and delivered proxy, the shares represented by such proxy will be voted: (i) "FOR" the nominees for director named in this Proxy Statement, (ii) "FOR" the approval of the amendment to the Company's Third Amended and Restated Certificate of Incorporation (the "COL") to effect a reverse stock split of the Company's issued and outstanding Common Stock at a ratio of not less than 1-for-30 and not greater than 1-for-70, with the exact ratio, if approved and effected at all, to be set within that range at the discretion of the Company's board of directors and publicly announced by the Company on or before November 3, 2019 without further approval or authorization of the Company's stockholders (the "Reverse Stock Split"), (iii) "FOR" the approval of an amendment to the Company's 2014 Stock Incentive Plan (the "2014 Plan") to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan such that the aggregate authorized but unissued shares under the 2014 Plan shall equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis calculated as of the earlier of (A) the day immediately after the consummation of the Company's next underwritten public equity offering with gross proceeds of \$5 million or more or (B) July 31, 2019 (collectively, the "Calculation Date"), contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2 on, or prior to, the Calculation Date, (iv) "FOR" the approval, for purposes of Nasdaq Rules 5635(c) and 5635(d), of the issuance of shares of Common Stock upon the exchange of promissory notes and exercise of warrants in one or more private placement transactions, (v) "FOR" the approval, for purposes of Nasdaq Rule 5635(d), the issuance of shares of Common Stock upon the exercise of a warrant issued in connection with the cancellation of a letter of credit, and (vi) "FOR" the approval of discretionary authority to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event that there are not sufficient votes at the time of the Annual Meeting to approve Proposals 1-5.

We will bear all expenses of this solicitation, including the cost of preparing and mailing this Proxy Statement. We have retained Georgeson LLC to solicit proxies for a base fee of \$7,500 plus reimbursement of reasonable out-of-pocket expenses. In addition to solicitation by use of the mail, proxies may be solicited by telephone, facsimile or personally by our directors, officers and employees, who will receive no extra compensation for their services. We will reimburse banks, brokerage firms and other custodians, nominees and fiduciaries for reasonable expenses incurred by them in sending proxy soliciting materials to beneficial owners of shares of Common Stock.

Broker Voting

Brokers holding shares of record in "street name" for a client have the discretionary authority to vote on some matters (routine matters) if they do not receive instructions from the client regarding how the client wants the shares voted at least 10 days before the date of the meeting; provided the

proxy materials are transmitted to the client at least 15 days before the meeting. There are also some matters with respect to which brokers do not have discretionary authority to vote (non-routine matters) if they do not receive timely instructions from the client. When a broker does not have discretion to vote on a particular matter and the client has not given timely instructions on how the broker should vote, a broker non-vote results. Any broker non-vote will be counted as present at the Annual Meeting for purposes of determining a quorum, but will be treated as not entitled to vote with respect to non-routine matters.

The proposal to approve the amendment to the COI to effect the Reverse Stock Split (Proposal 2), and the proposal to approve discretionary authority for the Company to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event there are not sufficient votes at the time of the Annual Meeting to approve Proposals 1 through 5 (Proposal 6) are considered routine matters and brokers will be permitted to vote in their discretion on these matters on behalf of clients who have not furnished voting instructions at least 10 days before the date of the Annual Meeting. In contrast, the proposal to elect directors (Proposal 1), the proposal to approve an increase in the number of shares of Common Stock authorized for issuance under the 2014 Plan, contingent upon the Reverse Stock Split being approved and effected (Proposal 3), the proposal to approve, for purposes of Nasdaq Rules 5635(c) and 5635(d), the issuance of shares of Common Stock upon the exchange of promissory notes and exercise of warrants issued in one or more private placement transactions (Proposal 4), and the proposal to approve, for purposes of Nasdaq Rule 5635(d), the issuance of shares of Common Stock upon the exercise of a warrant issued in connection with the cancellation of a letter of credit (Proposal 5) are not considered "routine" items and brokers do not have discretionary authority to vote on behalf of clients on such matters.

Required Vote

Proposal 1—Election of Class I Directors

With respect to the proposal to elect directors (Proposal 1), you may vote in favor of all nominees, withhold your vote as to all nominees or vote in favor of or withhold your vote as to specific nominees. The vote required to approve Proposal 1 is governed by Delaware law, our COI and our Bylaws and is a plurality of the votes cast by the holders of shares represented and entitled to vote at the Annual Meeting, provided a quorum is present. As a result, in accordance with Delaware law, votes that are withheld will be counted in determining whether a quorum is present but will have no other effect on the election of directors. Stockholders have no right to cumulative voting as to any matter, including the election of directors.

The Preferred Stock shall not be entitled to vote with respect to Proposal 1.

Proposal 2—Adoption of the Amendment to the COI to effect the Reverse Stock Split

With respect to the proposal to approve the Amendment to the COI to effect the Reverse Stock Split, you may vote in favor of the proposal, vote against the proposal or abstain from voting.

The vote required to approve Proposal 2 is governed by Delaware law, our COI and our Bylaws and is the affirmative vote of the holders of a majority of the outstanding shares of Common Stock and Preferred Stock (on an as converted to Common Stock basis subject to the Nasdaq Voting Limitations) as of the record date, present in person or represented by proxy at the Annual Meeting and entitled to vote, voting together as a single class. As a result, abstentions will have the same practical effect as a vote against Proposal 2.

Proposal 3—Increase the Number of Authorized Shares under the 2014 Plan

With respect to the proposal to approve an amendment to the 2014 Plan to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan such that the aggregate authorized but unissued shares under the 2014 Plan shall equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis calculated as of the earlier of (A) the day immediately after the consummation of the Company's next underwritten public equity offering with gross proceeds of \$5 million or more or (B) July 31, 2019, contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2 on, or prior to, the Calculation Date, you may vote in favor of the proposal, vote against the proposal or abstain from voting.

The vote required to approve Proposal 3 is governed by Delaware law, Nasdaq Listing Rules, our COI and our Bylaws and is the affirmative vote of the holders of a majority of votes cast affirmatively or negatively in person or by proxy at the Annual Meeting and entitled to vote. As a result, abstentions will be considered in determining whether a quorum is present but will have no effect on the vote for Proposal 3.

Proposal 4—Issuance of Shares of Common Stock Upon Exchange of Promissory Notes and Exercise of Warrants for Purposes of Nasdaq Listing Rules 5635(c) and 5635(d)

With respect to the proposal to approve, for purposes of Nasdaq Rules 5635(c) and 5635(d), the issuance of shares of Common Stock upon the exchange of promissory notes and exercise of warrants in one or more private placement transactions, you may vote in favor of the proposal, vote against the proposal or abstain from voting.

The vote required to approve Proposal 4 is governed by Delaware law, the Nasdaq Listing Rules, our COI and our Bylaws and is the affirmative vote of the holders of a majority of the votes cast affirmatively or negatively in person or by proxy at the Annual Meeting and entitled to vote, provided a quorum is present. As a result, abstentions will be considered in determining whether a quorum is present but will have no effect on the vote for Proposal 4.

Proposal 5—Issuance of Shares of Common Stock Upon Exercise of a Warrant for Purposes of Nasdaq Listing Rule 5635(d)

With respect to the proposal to approve, for purposes of Nasdaq Rule 5635(d), the issuance of shares of Common Stock upon the exercise of a warrant issued in connection with the cancellation of a letter of credit, you may vote in favor of the proposal, vote against the proposal or abstain from voting.

The vote required to approve Proposal 5 is governed by Delaware law, the Nasdaq Listing Rules, our COI and our Bylaws and is the affirmative vote of the holders of a majority of the votes cast affirmatively or negatively in person or by proxy at the Annual Meeting and entitled to vote, provided a quorum is present. As a result, abstentions will be considered in determining whether a quorum is present but will have no effect on the vote for Proposal 5.

Proposal 6—Adjournment

With respect to the proposal to grant discretionary authority to adjourn the Annual Meeting, if necessary, to solicit additional proxies in the event that there are not sufficient votes at the time of the Annual Meeting to approve Proposals 1 through 5, you may vote in favor of the proposal, vote against the proposal or abstain from voting. The vote required to approve Proposal 6 is governed by Delaware law, our COI and our Amended and Restated Bylaws and is the affirmative vote of the holders of a majority of votes cast affirmatively or negatively (excluding abstentions and broker non-votes), provided a quorum is present. As a result, abstentions will be considered in determining whether a quorum is present but will have no effect on the vote for Proposal 6.

NO DISSENTERS' RIGHTS

The corporate action described in this Proxy Statement will not afford to stockholders the opportunity to dissent from the actions described herein and receive an agreed or judicially appraised value for their shares of Common Stock.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The statements in this Proxy Statement that are not historical statements, including statements regarding future capital-raising activities and expected use of proceeds therefrom, our estimates regarding expenses, future revenues, capital requirements, needs for additional financing, our ability to obtain additional financing, our success with regard to any business development initiatives, our ability to recruit or retain key scientific or management personnel or to retain our executive officers, our stock price and ability to meet the continued listing requirements of The NASDAQ Capital Market, and any other statements regarding our future expectations, beliefs, plans, objectives, financial conditions, assumptions or future events or performance that are not historical facts, are forward-looking statements within the meaning of the federal securities laws. These statements are subject to numerous risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from the results expressed or implied by the statements. We describe risks and uncertainties that could cause actual results and events to differ materially in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of our annual report on Form 10-K for the year ended December 31, 2018 (the "Annual Report").

Any forward-looking statements should be considered in light of such important factors. We undertake no obligation to revise or update publicly any forward-looking statements for any reason. Readers are cautioned not to place undue reliance on any forward-looking statement, which speaks only as of the date on which such statement is made.

All subsequent written and oral forward-looking statements concerning the matters addressed in this Proxy Statement and attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this Proxy Statement.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding the beneficial ownership of shares of our Common Stock as of March 27, 2019 for:

- each person known to us to be the beneficial owner of more than 5% of our outstanding shares of Common Stock;
- each of our named executive officers;
- each of our directors; and
- all directors and named executive officers as a group.

Information with respect to beneficial ownership has been furnished by each director, executive officer or beneficial owner of more than 5% of our Common Stock. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting and investment power with respect to the securities. Except as otherwise provided by footnote, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of Common Stock shown as beneficially owned by them. The number of shares of Common Stock used to calculate the percentage ownership of each listed person includes the shares of Common Stock underlying options or warrants or convertible securities held by such persons that are currently exercisable or convertible or exercisable or convertible within 60 days of March 27, 2019, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

Percentage of beneficial ownership is based on 59,415,042 shares of Common Stock and 5,524,926 shares of Preferred Stock outstanding as of March 27, 2019. Each share of Preferred Stock is convertible into approximately six (6) shares of Common Stock.

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	Voting Common Stock		Series A Convertible Participating Preferred Stock	
	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
5% Stockholders:				
Sagard Capital Partners, L.P.(1)	33,149,556	26.37%	5,524,926	100%
Kingdon Capital Management, L.L.C.(2)	2,732,623	4.40%	—	—
Chicago Venture Partners L.P.(3)	2,606,934	4.20%	—	—
Oasis Capital, LLC(4)	2,356,199	5.52%	—	—
Named executive officers and directors:				
Lisa A. Conte(5)	371,846	*	—	—
Steven R. King, Ph.D(6)	130,561	*	—	—
Karen S. Wright(7)	84,603	*	—	—
James J. Bochnowski(8)	215,334	*	—	—
Jeffery C. Johnson(9)	40,196	*	—	—
John Micek III(10)	82,281	*	—	—
Jiahao Qui(11)	7,970	*	—	—
Jonathan B. Siegel(12)	80,196	*	—	—
Greg Divis(13)	31,458	*	—	—
Murray David MacNaughtan(14)	31,458	*	—	—
All current executive officers and directors as a group (10 persons) (15)	1,075,903	1.81%	—	—

* Less than 1%.

- (1) Represents 33,149,556 shares of Common Stock issuable upon conversion of shares of Preferred Stock that are convertible at any time, which shares would be entitled to 3,169,338 votes as further discussed elsewhere in this Proxy Statement. The address for Sagard Capital Partners, L.P. is 280 Park Avenue, 3rd Floor West, New York, NY 10017.
- (2) As reported on Form 13G/A filed on February 8, 2019. The address for the reporting person is 152 West 57th Street, 50th Floor, New York, NY 10019.
- (3) As reported on Form 13G/A filed on March 19, 2019. The address for the reporting person is 303 East Wacker Drive, Suite 1040, Chicago, IL 60601.
- (4) As reported on Form 13G filed on March 29, 2019. The address for the reporting person is 208 Ponce de Leon Ave., Ste. 1600, San Juan, Puerto Rico, 00918.
- (5) Represents (i) 2,253 shares of Common Stock and (ii) 369,593 shares of Common Stock issuable to Ms. Conte under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 369,593 stock options is \$6.82.
- (6) Represents (i) 442 shares of Common Stock and (ii) 130,119 shares of Common Stock issuable to Dr. King under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 130,119 stock options is \$6.72.

- (7) Represents 84,603 shares of Common Stock issuable to Ms. Wright under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 84,603 stock options is \$5.94.
- (8) Includes (i) 72,503 shares of Common Stock and (ii) 142,831 shares of Common Stock issuable to Mr. Bochnowski under stock options that are exercisable or will become exercisable within 60 days of March 27, 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 142,831 stock options is \$4.94.
- (9) Represents 40,196 shares of Common Stock issuable to Mr. Johnson under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. Mr. Johnson is one of Sagard's two director designees in accordance with the terms of the Company's Certificate of Designation of Series A Convertible Participating Preferred Stock and is part of the Sagard executive management team. The weighted average exercise price of the 40,196 stock options is \$2.38.
- (10) Represents 82,281 shares of Common Stock issuable to Mr. Micek under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 82,281 stock options is \$4.34.
- (11) Represents 7,970 shares of Common Stock issuable to Mr. Qui under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 7,970 stock options is \$8.55.
- (12) Represents (i) 40,000 shares of Common Stock and (ii) 40,196 shares of Common Stock issuable to Mr. Siegel under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 40,196 stock options is \$2.38.
- (13) Represents 31,458 shares of Common Stock issuable to Mr. Divis under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. The weighted average exercise price of the 31,458 stock options is \$1.36.
- (14) Represents 31,458 shares of Common Stock issuable to Mr. MacNaughtan under stock options that are exercisable or will become exercisable within 60 days of March 27, 2019. Mr. MacNaughtan is one of Sagard's two director designees in accordance with the terms of the Company's Certificate of Designation of Series A Convertible Participating Preferred Stock. The weighted average exercise price of the 31,458 stock options is \$1.36.
- (15) See footnotes (5) - (14).

PROPOSAL 1—ELECTION OF DIRECTORS

Nominees

Our Board of Directors currently consists of eight (8) members, James J. Bochnowski, Lisa A. Conte, Jeffery C. Johnson, Greg J. Divis, John Micek III, Jiahao Qui, Jonathan B. Siegel, and Murray David MacNaughtan, who are divided into three classes with staggered three-year terms. The Board has nominated James J. Bochnowski, Lisa A. Conte and Jonathan B. Siegel for re-election as Class I directors. If elected as a Class I director at the Annual Meeting, each of the nominees will serve and hold office for a three-year term expiring in 2022.

Each of the nominees has consented to continue his/her service as a director if elected. If any of the nominees should be unavailable to serve for any reason (which is not anticipated), the Board of Directors may designate a substitute nominee or nominees (in which event the persons named on the enclosed proxy card will vote the shares represented by all valid proxy cards for the election of such substitute nominee or nominees), allow the vacancies to remain open until a suitable candidate or candidates are located, or by resolution provide for a lesser number of directors or fill the position. All of the nominees for director are, at present, directors of Jaguar and have been nominated by our Nominating and Corporate Governance Committee and ratified by our full Board.

Vote Required

The vote required to approve Proposal 1 is the plurality of the votes cast by the holders of shares of Common Stock represented and entitled to vote at the Annual Meeting, provided a quorum is present and provided further that holders of Preferred Stock are not entitled to vote for Class I directors pursuant to Proposal 1. As a result, in accordance with Delaware law, votes that are withheld will be counted in determining whether a quorum is present but will have no other effect on the election of directors. Stockholders have no right to cumulative voting as to any matter, including the election of directors.

The Board of Directors unanimously recommends that the stockholders vote "FOR" Proposal No. 1 to elect James J. Bochnowski, Lisa A. Conte and Jonathan B. Siegel as Class I directors.

Information Regarding the Board of Directors and Director Nominees

The following table lists our directors and proposed director nominees, their respective ages and positions as of March 27, 2019:

Name	Age	Position
James J. Bochnowski(1)(2)(3)	75	Chairman of the Board (Class I)
Lisa A. Conte	60	Chief Executive Officer, President and Director (Class I)
Jeffery C. Johnson(2)(3)	47	Director (Class III)
Greg J. Divis	52	Director (Class III)
John Micek III(1)(3)	66	Director (Class II)
Jiahao Qui	33	Director (Class II)
Jonathan B. Siegel(1)(2)	45	Director (Class I)
Murray David MacNaughtan	52	Director (Class III)

(1) Member of the audit committee.

(2) Member of the compensation committee.

(3) Member of the nominating committee.

James J. Bochnowski. Mr. Bochnowski has served as a member of our board of directors since February 2014 and as Chairperson of our board since June 2014. Since 1988, Mr. Bochnowski has served as the founder and Managing Member of Delphi Ventures, a venture capital firm. In 1980, Mr. Bochnowski co-founded Technology Venture Investors. Mr. Bochnowski holds an M.B.A. from Harvard University Graduate School of Business and a B.S. in Aeronautics and Astronautics from Massachusetts Institute of Technology.

We believe Mr. Bochnowski is qualified to serve on our board of directors due to his significant experience with venture capital backed healthcare companies and experience as both an executive officer and member of the board of directors of numerous companies.

Lisa A. Conte. Ms. Conte has served as our President, Chief Executive Officer and a member of our board of directors since she founded the company in June 2013. From 2001 to 2014, Ms. Conte served as the Chief Executive Officer of our wholly-owned subsidiary, Napo Pharmaceuticals, Inc., a biopharmaceutical company she founded in November 2001. In 1989, Ms. Conte founded Shaman Pharmaceuticals, Inc., a natural product pharmaceutical company. Additionally, Ms. Conte is Napo Pharmaceuticals Inc.'s current Interim Chief Executive Officer and has served as a member of its board of directors since 2001. Ms. Conte is also currently a member of the board of directors of Healing Forest Conservatory, a California not-for-profit public benefit corporation and the Board of Visitors of the John Sloan Dickey Center for International Understanding, Dartmouth College. Ms. Conte holds an M.S. in Physiology and Pharmacology from the University of California, San Diego, and an M.B.A. and A.B. in Biochemistry from Dartmouth College.

We believe Ms. Conte is qualified to serve on our board of directors due to her extensive knowledge of our company and experience with our product and product candidates, as well as her experience managing and raising capital for public and private companies.

Jeffery C. Johnson. Mr. Johnson has served as a member of our board of directors since March 2018. Mr. Johnson is a partner at Sagard Holdings, ULC and an investment manager at Sagard Capital Partners Management Corp. He previously served as portfolio manager and senior analyst at Evercore Asset Management. He also serves on the board of directors of Peak Achievement Athletics and previously served on the board of directors of Vein Clinics of America. Mr. Johnson received his M.B.A. in Finance and Accounting from the Kellogg School of Management in 1999. Mr. Johnson was elected to our board of directors pursuant to the terms of the Series A Preferred Stock Purchase Agreement, dated as of March 23, 2018, by and between the Company and Sagard Capital Partners, L.P., and the Certificate of Designation, which gives the Preferred Stock holders the right to elect two Class III directors so long as they are entitled to vote in the aggregate 5% or more of all of the votes entitled to be cast by holders of all voting securities of the Company at any meeting of stockholders.

We believe Jeffery C. Johnson is qualified to serve on our board of directors due to his experience evaluating, investing in and managing companies in the health care sector for Sagard Holdings, ULC, and for other investment firms he was previously employed by.

Greg J. Divis. Mr. Micek has served as a member of our board of directors since June 14, 2018. Mr. Divis currently serves as the Chief Operating Officer of Avadel Pharmaceuticals plc ("Avadel"), an emerging branded specialty pharmaceutical company he joined in 2017. Prior to Avadel he served as an Executive-in-Residence and Operating Partner for Linden Capital Partners, a healthcare-focused middle market private equity firm. Previous roles also include President and Chief Executive Officer of Lumara Health, Inc., a specialty-branded pharmaceutical company focused on women's health, where Mr. Divis

led the successful turnaround and transformation of the business resulting in a series of transactions culminating in the successful sale to AMAG Pharmaceuticals, Inc. Mr. Divis has also held such notable roles as Vice President, Business Development & Lifecycle Management at Sanofi-Aventis, and Vice-President and General Manager, UK and Ireland, for Schering-Plough Corporation. He currently serves on the board of directors of Mobius Therapeutics and previously served on the board of directors of Tolero Pharmaceuticals. Mr. Divis is a graduate of the University of Iowa.

We believe Greg J. Divis is qualified to serve on our board of directors due to his extensive experience in the pharmaceutical industry and experience as both an executive officer and member of the board of directors of other companies.

John Micek III. Mr. Micek has served as a member of our board of directors since April 2016. From 2000 to 2010, Mr. Micek was managing director of Silicon Prairie Partners, LP, a Palo Alto, California based family-owned venture fund. Since 2010, Mr. Micek has been managing partner of Verdant Ventures, a merchant bank dedicated to sourcing and funding university and corporate laboratory spinouts in areas including pharmaceuticals and cleantech. Mr. Micek serves on the board of directors of Armanino Foods of Distinction, Innovare Corporation and JAL/Universal Assurors. He is also a board member and the Chief Executive Officer and Chief Financial Officer of Enovo Systems and from March 2014 to August 2015 he served as interim Chief Financial Officer for Smith Electric Vehicles, Inc. Mr. Micek is a cum laude graduate of Santa Clara University and the University of San Francisco School of Law, and is a practicing California attorney specializing in financial services.

We believe Mr. Micek is qualified to serve on our board of directors due to his many years of executive experience in management and on boards of director.

Jiahao Qui. Mr. Qui has served as a member of our board of directors since February 2014. Mr. Qui has been employed at BioVeda Management, Ltd., a life science investment firm, as associate (2010-2012), senior associate (2012-2014) and Principal since April 2014. From 2009 to 2010, he served as an interpreter for the Delegation of the European Union to China. Mr. Qui holds a B.S. in Biotechnology from the Jiao Tong University in Shanghai, China.

We believe Mr. Qui is qualified to serve on our board of directors due to his experience with evaluating, managing and investing in life science portfolio companies for BioVeda Management, Ltd.

Jonathan B. Siegel. Mr. Siegel has served as a member of our board of director since March 2018. Mr. Siegel is founder of JBS Healthcare Ventures, which pursues investments in public and private healthcare entities. In 2017 he left Kingdon Capital ("Kingdon"), where he was principal of the firm, a member of the executive committee and the sector head for healthcare. He joined Kingdon in 2011 and has more than 18 years of investment experience. Prior to joining Kingdon, Mr. Siegel was with SAC Capital Advisors from 2005 to 2011, serving as a portfolio manager for healthcare starting in 2007. Before joining SAC, he was an associate director of pharmaceutical and specialty pharmaceutical research with Bear, Stearns & Co., a research associate with Dresdner Kleinwort Wasserstein, specializing in pharmaceuticals, a consultant to the Life Sciences Division of Computer Sciences Corporation; a research associate at the Novartis Center for Immunobiology, Harvard Medical School, Beth Israel Deaconess Medical Center, and a research assistant at Tufts University School of Medicine. Additionally, he previously served on the board of KV Pharmaceutical Company. Mr. Siegel received a BS in Psychology from Tufts University in 1995 and an MBA from Columbia Business School in 1999.

We believe Mr. Siegel is qualified to serve on our board of directors due to his extensive experience in the pharmaceutical investment sector.

Murray David MacNaughtan. Mr. MacNaughtan has served as a member of our board of director since June 18, 2018. Mr. MacNaughtan has served as senior principal of CPPIB Credit Investments Inc., a wholly-owned subsidiary of the Canada Pension Plan Investment Board, since 2010,

where he leads the intellectual property investment strategy with a focus on the acquisition and securitization of pharmaceutical royalty streams. Prior to this, he was co-head of the royalty monetization fund at DRI Capital (formerly Drug Royalty Corp.). From 1999 to 2002, he was Vice President of Business Development at Paladin Labs Inc. ("Paladin"), a specialty pharmaceutical company, where he led a team responsible for acquiring and licensing products for the Canadian market. He joined Paladin from Royal Bank Capital Corp., the venture capital subsidiary of RBC, where he was an investment manager. Mr. MacNaughtan began his career in the biopharmaceutical industry at Hemosol Inc. as a process development engineer. David earned a B.Sc. and M.Sc. in Applied Science from Queen's University in Ontario, and an MBA from the University of Toronto.

We believe Mr. MacNaughtan is qualified to serve on our board of directors due to his extensive experience in specialty finance and the pharmaceutical.

There are no family relationships among any of our executive officers or among any of our executive officers and our directors. There is no arrangement or understanding between any director and any other person pursuant to which the director was selected except to the extent provided in our Certificate of Designation.

See "Corporate Governance" and "Compensation of Directors and Executive Officers" below for additional information regarding the Board of Directors.

PROPOSAL 2—APPROVAL OF THE ADOPTION OF THE AMENDMENT TO THE COI TO EFFECT THE REVERSE STOCK SPLIT

At the Annual Meeting, stockholders will be asked to approve an amendment to our COI to effect a reverse stock split of our issued and outstanding Common Stock by a numerical ratio of not less than 1-for-30 and not more than 1-for-70, with the exact ratio, if approved and effected at all, to be set within that range at the discretion of the board of directors and publicly announced by the Company on or before November 3, 2019. The proposed amendment to the COI reflecting the Reverse Stock Split is included in *Annex A* to this Proxy Statement. By approving this proposal, stockholders would give the board of directors the authority, but not the obligation, to effect the Reverse Stock Split and full discretion to approve the ratio at which shares of Common Stock will be reclassified, from and including a ratio of 1-for-30 and up to and including a ratio of 1-for-70. The ratio (if any) selected by the board of directors for the Reverse Stock Split would be publicly disclosed by the Company to the stockholders on or before the date on which the amendment to the COI reflecting the Reverse Stock Split is filed with the Secretary of State of the State of Delaware.

We are requesting stockholder approval to effect the Reverse Stock Split at a ratio of not less than 1-for-30 and not more than 1-for-70, with the exact ratio determined by the board of directors and publicly announced by the Company on or before November 3, 2019, to provide the board of directors with the flexibility to determine the appropriate ratio and timing for the Reverse Stock Split based upon our performance and other market factors. However, the board of directors reserves the right to elect not to proceed with the Reverse Stock Split, even if approved, and to abandon the Reverse Stock Split if it determines, in its sole discretion, that the Reverse Stock Split is no longer in the best interests of our stockholders. No further action by the stockholders will be required for the board of directors to either implement or abandon the Reverse Stock Split. For the avoidance of doubt, except as otherwise specified herein, all share and dollar amounts set forth in this proxy statement are on a pre-Reverse Stock Split basis.

If the board of directors does not effect the Reverse Stock Split on or before November 3, 2019, any authority granted to the board of directors by our stockholders pursuant to this Proposal 2 will terminate.

Reasons for the Reverse Stock Split

The board of directors has authorized the resolution to seek stockholder approval to effect the Reverse Stock Split with the primary intent of increasing the price of our Common Stock in order to meet The Nasdaq Capital Market's minimum price per share criteria for continued listing on that exchange. Our Common Stock is publicly traded and listed on The Nasdaq Capital Market under the symbol "JAGX." The board of directors believes that, in addition to increasing the price of our Common Stock, the reverse stock split would also reduce certain of our costs, such as Nasdaq listing fees, and make our Common Stock more attractive to a broader range of institutional and other investors. The combination of lower transaction costs and increased interest from institutional investors and investment funds may ultimately improve the trading liquidity of our Common Stock. Accordingly, we believe that authority granted to the board of directors to effect the Reverse Stock Split is in the Company's and the stockholders' best interests.

On November 9, 2018, we received a letter from the Listing Qualifications Department of Nasdaq notifying us that we were not in compliance with Nasdaq Listing Rule 5550(a)(2), as the minimum bid price for the Company's listed securities was less than \$1 for the previous 30 consecutive business days. Our Common Stock is listed on The Nasdaq Capital Market, which imposes, among other requirements a minimum bid requirement. We were granted a 180 calendar day grace period, or until May 8, 2019, to regain compliance with the minimum bid price requirement.

In addition to establishing a mechanism for the price of our Common Stock to meet Nasdaq's minimum bid price requirement, we also believe that the Reverse Stock Split will make our Common Stock more attractive to a broader range of institutional and other investors. It is our understanding that the current market price of our Common Stock may affect its acceptability to certain institutional investors, professional investors and other members of the investing public. It is also our understanding that many brokerage houses and institutional investors have internal policies and practices that either prohibit them from investing in low-priced stocks or tend to discourage individual brokers from recommending low-priced stocks to their customers. In addition, some of those policies and practices may function to make the processing of trades in low-priced stocks economically unattractive to brokers. Moreover, because brokers' commissions on low-priced stocks generally represent a higher percentage of the stock price than commissions on higher-priced stocks, the current average price per share of our Common Stock can result in individual stockholders paying transaction costs representing a higher percentage of their total share value than would be the case if the share price were substantially higher. However, some investors may view the Reverse Stock Split negatively because it reduces the number of shares of Common Stock available in the public market.

Reducing the number of outstanding shares of our Common Stock through the Reverse Stock Split is intended, absent other factors, to increase the per share market price of our Common Stock. However, other factors, such as our financial results, market conditions and the market perception of our business may adversely affect the market price of our Common Stock. As a result, there can be no assurance that the Reverse Stock Split, if completed, will result in the intended benefits described above, that the market price of our Common Stock will increase following the Reverse Stock Split, that the market price of our Common Stock will not decrease in the future, or that our Common Stock will achieve a high enough price per share to permit its continued listing by Nasdaq.

Certain Risks Associated with the Reverse Stock Split

In evaluating the proposed Reverse Stock Split, the board of directors also took into consideration certain risks associated with reverse stock splits generally, including the negative perception of reverse stock splits held by some investors, analysts and other stock market participants, the fact that the stock price of some companies that have effected reverse stock splits has subsequently declined back to pre-reverse stock split levels, and the risks described below.

There can be no assurance that the total market capitalization of our Common Stock (the aggregate value of our Common Stock at the then market price) after the implementation of the Reverse Stock Split will be equal to or greater than the total market capitalization before the Reverse Stock Split or that the per share market price of our Common Stock following the Reverse Stock Split will increase in proportion to the reduction in the number of shares of our Common Stock outstanding before the Reverse Stock Split.

There can be no assurance that the market price per share of our Common Stock after the Reverse Stock Split will remain unchanged or increase in proportion to the reduction in the number of shares of our Common Stock outstanding before the Reverse Stock Split. For example, based on the closing price of our Common Stock on March 27, 2019, of \$0.282 per share, if the board of directors were to implement the Reverse Stock Split and utilize a ratio of 1-for-45, we cannot assure you that the post-split market price of our Common Stock would be \$12.69 (that is, \$0.282 multiplied by 45) per share or greater. The market price of our Common Stock may fluctuate and potentially decline after the Reverse Stock Split, such as the decline in the market price of our Common Stock that we experienced after our previous reverse stock split effectuated on June 1, 2018.

Accordingly, the total market capitalization of our Common Stock after the Reverse Stock Split when and if approved and effected may be lower than the total market capitalization before the Reverse Stock Split. Moreover, in the future, the market price of our Common Stock following the

Reverse Stock Split may not exceed or remain higher than the market price prior to the Reverse Stock Split.

If the Reverse Stock Split is approved and effected, the resulting per-share market price may not attract institutional investors or investment funds and may not satisfy the investing guidelines of such investors and, consequently, the trading liquidity of our Common Stock may not improve.

While the board of directors believes that a higher stock price may help generate investor interest, there can be no assurance that the Reverse Stock Split will result in a per-share market price that will attract institutional investors or investment funds or that such share price will satisfy the investing guidelines of institutional investors or investment funds. As a result, the trading liquidity of our Common Stock may not necessarily improve.

A decline in the market price of our Common Stock after the Reverse Stock Split is approved and effected may result in a greater percentage decline than would occur in the absence of the Reverse Stock Split.

If the Reverse Stock Split is approved and effected and the market price of our Common Stock declines, the percentage decline may be greater than would occur in the absence of the Reverse Stock Split. The market price of our Common Stock will, however, also be based upon our performance and other factors, which are unrelated to the number of shares of Common Stock outstanding.

Effecting the Reverse Stock Split; Board Discretion to Implement Reverse Stock Split

If approved by stockholders at the Annual Meeting and the board of directors decides that it is in the best interests of the Company and our stockholders to effect the Reverse Stock Split, the board of directors will establish an appropriate ratio for the Reverse Stock Split based on several factors existing at such time, the Company will publicly announce the ratio selected by the board of directors and we will subsequently file an amendment to the COI, in the form of the proposed amendment to COI attached in *Annex A*. The board of directors will consider, among other factors, prevailing market conditions, the likely effect of the Reverse Stock Split on the trading price of our Common Stock and on our compliance with applicable Nasdaq listing requirements, and the marketability and liquidity of our Common Stock. The board of directors will also determine the appropriate timing for filing the amendment to our COI with the Secretary of State of the State of Delaware to effect the Reverse Stock Split. If, for any reason, the board of directors deems it advisable, the board of directors in its sole discretion, may abandon the Reverse Stock Split at any time prior to the effectiveness of the amendment to our COI, without further action by our stockholders. Assuming the board of directors determines that it is in the best interests of the Company and our stockholders to proceed with the Reverse Stock Split, the Reverse Stock Split will be effective as of the date and time set forth in the amendment to our COI that is filed with the Secretary of State of the State of Delaware (the "Effective Time").

At the Effective Time, without any further action on the part of the Company or our stockholders, the outstanding shares of Common Stock held by stockholders of record as of the Effective Time will be converted into a lesser number of shares of Common Stock based on the ratio selected by the board of directors and publicly announce by the Company. For example, if the board of directors approves a ratio of 1-for-45, a stockholder who holds 4,500 shares of Common Stock as of the Effective Time will hold 100 shares of Common Stock following the Reverse Stock Split.

Effect on Outstanding Shares, Options, and Certain Other Securities

If the Reverse Stock Split is approved and effected, the number of shares of our Common Stock owned by each stockholder will be reduced in the same proportion as the reduction in the total number of shares outstanding, such that the percentage of our Common Stock owned by each stockholder will remain unchanged, except for any de minimis change resulting from the treatment of any fractional

shares that such stockholder would have received as a result of the Reverse Stock Split. The number of shares of Common Stock that may be received upon conversion, exercise or exchange, as the case may be, of outstanding options or other securities convertible into, or exercisable or exchangeable for, shares of our Common Stock, and the exercise or conversion prices for these securities, will also be adjusted in accordance with their terms, as of the Effective Time.

Effect on Registration and Stock Trading

Our Common Stock is currently registered under Section 12(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and we are subject to the periodic reporting and other requirements of the Exchange Act. The proposed Reverse Stock Split will not affect the registration of our Common Stock under the Exchange Act. If the Reverse Stock Split is approved and effected, our Common Stock will receive a new CUSIP number.

Mechanics of Reverse Split

If this Proposal 2 is approved by the stockholders at the Annual Meeting and the board of directors decides that it is in the best interests of the Company and our stockholders to effect the Reverse Stock Split, our stockholders will be notified of the ratio for the Reverse Stock Split selected by the board of directors and that the Reverse Stock Split has been approved and effected. The mechanics of the Reverse Stock Split will differ depending upon whether a stockholder holds its shares of Common Stock in brokerage accounts or "street name" or whether the shares are registered directly in a stockholder's name and held in book-entry form or certificate form.

- Our stockholders who hold shares of Common Stock in "street name" through a nominee (such as a bank or broker) will be treated in the same manner as stockholders whose shares are registered in their names, and nominees will be instructed to effect the Reverse Stock Split for their beneficial holders. However, nominees may have different procedures for processing the reverse stock split and stockholders holding shares in "street name" are encouraged to contact their nominees.
- Our registered stockholders may hold some or all of their shares of Common Stock electronically in book-entry form under the direct registration system for securities. These stockholders will not have stock certificates evidencing their ownership of our Common Stock. They are, however, provided with a statement reflecting the number of shares registered in their accounts. Stockholders holding registered shares of our Common Stock in book-entry form need not take any action to receive post-Reverse Stock Split shares as a transaction statement will automatically be sent to the stockholder's address of record indicating the number of shares held.
- Some of our registered stockholders hold all their shares of Common Stock in certificate form or a combination of certificate and book-entry form. Stockholders holding shares of Common Stock in certificate form will receive a transmittal letter from the Transfer Agent as soon as practicable after the Effective Date of the Reverse Stock Split. The letter of transmittal will contain instructions for the surrender of stock certificates received prior to the Effective Time (the "Old Certificates") to the Transfer Agent in exchange for new certificates representing the appropriate number of whole shares of Common Stock giving effect to the Reverse Stock Split. No new stock certificates will be issued to any stockholder until such stockholder has surrendered all Old Certificates, together with a properly completed and executed Letter of Transmittal, to the Transfer Agent. The stockholders will then receive, at their option, either a new certificate or certificates or book-entry shares representing the number of whole shares of Common Stock into which their pre-Reverse Stock Split shares have been converted as a result of the Reverse Stock Split. Until surrendered, we will deem outstanding Old Certificates held by

stockholders to be cancelled and to only represent the number of whole shares of post-Reverse Stock Split Common Stock to which the stockholders are entitled. STOCKHOLDERS SHOULD NOT DESTROY ANY STOCK CERTIFICATE(S) AND SHOULD NOT SUBMIT ANY CERTIFICATE(S) UNTIL REQUESTED TO DO SO.

Treatment of Fractional Shares

Stockholders who would otherwise hold fractional shares because the number of shares of Common Stock they hold before the Reverse Stock Split is not evenly divisible, based on the Reverse Stock Split ratio approved by our board of directors, will be entitled to receive cash (without interest or deduction) in lieu of such fractional shares from our transfer agent, upon receipt by our transfer agent of a properly completed and duly executed transmittal letter and, where shares are held in certificated form, the surrender of all old certificate(s), in an amount per share equal to the product obtained by multiplying (a) the closing price per share of our Common Stock on the effective date for the Reverse Stock Split as reported on the Nasdaq Stock Market by (b) the fraction of the share owned by the stockholder, without interest. The ownership of a fractional share interest will not give the holder any voting, dividend or other rights, except to receive the above-described cash payment.

Effect on Authorized but Unissued Shares of Capital Stock

Currently, we are authorized to issue up to a total of 150,000,000 shares of Common Stock, of which 59,415,042 shares were issued and outstanding as of the Record Date, 50,000,000 shares of non-voting common stock, of which 40,301,237 shares were issued and outstanding as of the Record Date, and 10,000,000 shares of Preferred Stock, of which 5,524,926 were issued and outstanding as of the Record Date. The Reverse Stock Split, if approved and effected, will not have any effect on the authorized number of shares of our Common Stock, non-voting common stock or Preferred Stock.

Accounting Consequences

The Reverse Stock Split will not affect the par value of our Common Stock per share, which will remain \$0.0001 par value per share. As a result, as of the Effective Time, the total of the stated capital attributable to Common Stock and the additional paid-in capital account on our balance sheet will not change due to the Reverse Stock Split. Reported per share net income or loss will be higher because there will be fewer shares of Common Stock outstanding.

No Going Private Transaction

Notwithstanding the decrease in the number of outstanding shares following the implementation of the Reverse Stock Split, the board of directors does not intend for this transaction to be the first step in a "going private transaction" within the meaning of Rule 13e-3 of the Exchange Act, and the implementation of the proposed Reverse Stock Split will not cause the Company to go private.

No Dissenters' Rights

Under the General Corporation Law of the State of Delaware (the "DGCL"), stockholders will not be entitled to dissenters' rights with respect to the proposed amendment to our COI to effect the reverse stock split, and we do not intend to independently provide stockholders with any such right.

Reservation of Right to Abandon the Amendment to our COI

The board of directors reserves the right to abandon the proposed amendment to our COI described in this Proposal 2 without further action by our stockholders at any time before the Effective Time, even if stockholders approve this Proposal 2 at the Annual Meeting. By voting in favor of the

Reverse Stock Split, stockholders are also expressly authorizing the board of directors to determine not to proceed with, and abandon, the Reverse Stock Split if it should so decide.

Material U.S. Federal Income Tax Consequences of the Reverse Stock Split

The following discussion is a summary of the material U.S. federal income tax consequences of the proposed reverse stock split to U.S. Holders (as defined below) of our Common Stock. This discussion is based on the Internal Revenue Code of 1986, as amended (the "Code"), U.S. Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service (the "IRS"), in each case in effect as of the date of this proxy statement. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a U.S. Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below and there can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the proposed reverse stock split.

For purposes of this discussion, a "U.S. Holder" is a beneficial owner of our Common Stock that, for U.S. federal income tax purposes, is or is treated as (i) an individual who is a citizen or resident of the United States; (ii) a corporation (or any other entity or arrangement treated as a corporation) created or organized under the laws of the United States, any state thereof, or the District of Columbia; (iii) an estate, the income of which is subject to U.S. federal income tax regardless of its source; or (iv) a trust if (1) its administration is subject to the primary supervision of a court within the United States and all of its substantial decisions are subject to the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code), or (2) it has a valid election in effect under applicable U.S. Treasury regulations to be treated as a United States person.

This discussion is limited to U.S. Holders who hold our Common Stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to the particular circumstances of a U.S. Holder, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to U.S. Holders that are subject to special rules, including, without limitation, financial institutions, insurance companies, real estate investment trusts, regulated investment companies, grantor trusts, tax-exempt organizations, brokers, dealers or traders in securities, commodities or currencies, stockholders who hold our Common Stock as part of a position in a straddle or as part of a hedging, conversion or integrated transaction for U.S. federal income tax purposes, U.S. Holders that have a functional currency other than the U.S. dollar, or U.S. Holders who actually or constructively own 10% or more of our voting stock.

If a partnership (or other entity treated as a partnership for U.S. federal income tax purposes) is the beneficial owner of our Common Stock, the U.S. federal income tax treatment of a partner in the partnership will generally depend on the status of the partner and the activities of the partnership. Accordingly, partnerships (and other entities treated as partnerships for U.S. federal income tax purposes) holding our Common Stock and the partners in such entities should consult their own tax advisors regarding the U.S. federal income tax consequences of the proposed reverse stock split to them.

In addition, the following discussion does not address the U.S. federal estate and gift tax, alternative minimum tax, or state, local and non-U.S. tax law consequences of the proposed reverse stock split. Furthermore, the following discussion does not address any tax consequences of transactions effectuated before, after or at the same time as the proposed reverse stock split, whether or not they are in connection with the proposed reverse stock split.

Each stockholder should consult his, her or its own tax advisors concerning the particular U.S. federal tax consequences of the reverse stock split, as well as the consequences arising under the laws of any other taxing jurisdiction, including any state, local or foreign income tax consequences.

The proposed reverse stock split is intended to be treated as a "recapitalization" for U.S. federal income tax purposes pursuant to Section 368(a)(1)(E) of the Code. As a result, a U.S. Holder generally should not recognize gain or loss upon the proposed reverse stock split for U.S. federal income tax purposes. A U.S. Holder's aggregate adjusted tax basis in the shares of our Common Stock received pursuant to the proposed reverse stock split should equal the aggregate adjusted tax basis of the shares of our Common Stock exchanged therefor. The U.S. Holder's holding period in the shares of our Common Stock received pursuant to the proposed reverse stock split should include the holding period in the shares of our Common Stock exchanged therefor. U.S. Treasury Regulations provide detailed rules for allocating the tax basis and holding period of shares of Common Stock surrendered in a recapitalization to shares received in the recapitalization. U.S. Holders of shares of our Common Stock acquired on different dates and at different prices should consult their tax advisors regarding the allocation of the tax basis and holding period of such shares.

The U.S. federal income tax discussion set forth above does not discuss all aspects of U.S. federal income taxation that may be relevant to a particular stockholder in light of such stockholder's circumstances and income tax situation. Accordingly, we urge you to consult with your own tax advisor with respect to all of the potential U.S. federal, state, local and foreign tax consequences to you of the reverse stock split.

Consequences if the Reverse Split is Not Approved

In the event that the Reverse Stock Split is not approved, we intend to actively monitor the trading price of our Common Stock on The Nasdaq Capital Market and will consider available options to resolve our non-compliance with the Nasdaq listing rules. We believe that our ability to remain listed on The Nasdaq Capital Market would be significantly and negatively affected if the Reverse Stock Split is not approved. If we are unable to achieve an increase in our stock price and our Common Stock is subsequently delisted, we could experience significant negative impacts including the acceleration of our outstanding debt with Kingdon Capital Management L.L.C. In addition, if our Common Stock is delisted it will significantly and negatively affect our ability to obtain alternative debt or equity financing in order to support Company operations.

Required Vote of Stockholders

The vote required to approve Proposal 2 is the affirmative vote of the holders of a majority of the outstanding shares of Common Stock and Preferred Stock (on an as converted to Common Stock basis subject to the Nasdaq Voting Limitations) as of the Record Date, present in person or represented by proxy at the Annual Meeting and entitled to vote, voting together as a single class. As a result, abstentions will have the same practical effect as a vote against Proposal 2.

The board of directors unanimously recommends that the stockholders vote "FOR" Proposal No. 2 to effect a reverse stock split at a ratio of not less than 1-for-30 and not greater than 1-for-70, with the exact ratio, if approved and effected at all, to be set within that range at the discretion of the board of directors and publicly announced by the Company on or before November 3, 2019, without further approval or authorization of our stockholders.

PROPOSAL 3—APPROVAL OF THE AMENDMENT OF OUR 2014 PLAN TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK AUTHORIZED FOR ISSUANCE UNDER THE 2014 PLAN

At the Annual Meeting, stockholders will be asked to approve an amendment to our 2014 Plan to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan such that the aggregate authorized but unissued shares under the 2014 Plan shall equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis including for purposes of this calculation as if such shares authorized under the 2014 Plan were included in the denominator (and assuming conversion of all outstanding convertible securities, including but not limited to conversion of our Series A Preferred Stock into Common Stock shares in accordance with our Certificate of Incorporation as amended from time to time without any regulatory limitations, all issued and outstanding warrants, notes, RSUs and stock options (whether issued under or outside the 2014 Plan and the like)) calculated as of the earlier of (A) the day immediately after the consummation of the Company's next underwritten public equity offering with gross proceeds of \$5 million or more or (B) July 31, 2019 (collectively, the "Calculation Date"). This amendment of our 2014 Plan under this Proposal 3 is contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2 on, or prior to, the Calculation Date. For illustrative purposes only, and only by way of example, if the total number of issued and outstanding shares of Common Stock on a fully diluted basis as of the Calculation Date is 75 Million shares, then the total number of shares approved for issuance under the 2014 Plan as of the Calculation Date would be approximately 10,714,000 shares (e.g., $10,714,000 / 85,140,000 = 12.5\%$).

The purpose of the 2014 Plan is to promote the success and enhance the value of our company by linking the personal interests of employees, directors, and consultants to those of our shareholders and by providing these individuals with an incentive to work to generate superior returns to our shareholders. The 2014 Plan is also intended to provide us with flexibility in creating competitive plans to motivate, attract, and retain the services of employees, directors, and consultants upon whose judgment, interest, and special effort our success is largely dependent.

We believe that our interests and those of the shareholders will be advanced if we can continue to offer our employees, notably at the senior management level, consultants, and directors the opportunity to acquire or increase their proprietary interests in us. We have determined that the total number of shares available for issuance under the 2014 Plan should be increased to equal 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis, contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2 on, or prior to, the Calculation Date, so that we may continue our compensation structure and strategy and succession planning process.

Background

On March 22, 2019, the Board unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders and contingent upon the Reverse Stock Split being approved and effected (see Proposal 2), to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan to a number of shares equal to 12.5% of the issued and outstanding shares of Common Stock on a fully diluted basis as of the Calculation Date.

The Board has directed that the proposal to amend the 2014 Plan be submitted to the stockholders for their approval at the Annual Meeting. The Board believes that our interests and the interests of our stockholders will be advanced if we can continue to offer our employees, notably at the senior management level, advisors, consultants, and non-employee directors the opportunity to acquire or increase their proprietary interests in us. The Board has concluded that our ability to attract, retain and motivate top quality management and employees is material to our success and would be enhanced by our continued ability to grant equity compensation under the 2014 Plan. Accordingly, the Board has

determined that the number of shares available for issuance under the 2014 Plan should be increased so that we may continue our compensation structure and strategy and succession planning process.

When adopted, a total of 22,222 shares were allocated to the 2014 Plan. Since its adoption, additional shares have been allocated to the 2014 Plan. Effective January 1, 2016, 10,833 shares were added to the 2014 Plan share pool under the 2014 Plan's automatic annual share pool increase. On April 1, 2016, the Board approved, subject to shareholder approval, an amendment to the 2014 Plan that increased the number of shares available for issuance under the 2014 Plan by 103,333 shares. Our shareholders approved this increase in the number of shares on June 14, 2016. On January 1, 2017, 18,676 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. On March 28, 2017, the Board approved, subject to shareholder approval, an amendment to the 2014 Plan that increased the number of shares available for issuance under the 2014 Plan by 433,345 shares. Our shareholders approved this increase in the number of shares on July 27, 2017. On August 2, 2017, the Board approved the amendment of the 2014 Plan to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan by 346,666. Our shareholders approved this increase in the number of shares on March 18, 2018. On January 1, 2018, 140,433 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. On November 29, 2018, the Board approved the amendment of the 2014 Plan to increase the number of shares of Common Stock authorized for issuance by 3,533,826 shares. Our shareholders approved this increase in the number of shares on February 28, 2019. On January 1, 2019, 545,797 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. The 2014 Plan currently has 4,236,399 shares available for issuance.

Under the 2014 Plan, stock awards are outstanding for a total of 3,125,360 shares that have been granted to 103 employees, directors and consultants. Thus, the total number of shares currently available for issuance under the 2014 Plan as of March 27, 2019 is 4,236,399 shares, not taking into consideration the increase of the 2014 Plan share pool that is the subject of this Proposal 3. For illustrative purposes only, and only by way of example, if the total number of issued and outstanding shares of Common Stock on a fully diluted basis as of the Calculation Date is 75,000,000, then the total number of shares approved for issuance under the 2014 Plan as of the Calculation Date would be approximately 10,714,000 shares (e.g., $10,714,000 / 85,140,000 = 12.5\%$). Based on current forecasts and estimated stock award grant rates, if the increase is not approved, it is anticipated that the 2014 Plan could run out of available shares as soon as December 31, 2019.

Stockholder approval of the amendment of the 2014 Plan is being sought (i) in order for incentive stock options to meet the requirements of the Code, and (ii) in order to meet The Nasdaq Capital Market listing requirements. If the stockholders do not approve the amendment and restatement of the 2014 Plan at the Annual Meeting, the amendment of the 2014 Plan will not become effective, and the number of shares authorized for issuance under the 2014 Plan will not be increased.

For information with respect to grants to certain executive officers in Fiscal Year 2018 under the 2014 Plan, see page 43 and for information with respect to grants to our non-employee directors, see page 46.

Material Terms of the 2014 Plan

In July 2014, our Board of Directors adopted the 2014 Plan, and in July 2014, our stockholders approved the 2014 Plan. The 2014 Plan became effective in May 2015. The 2014 Plan provides for the grant of incentive stock options to our Eligible Employees, and for the grant of nonstatutory stock options, restricted stock, and RSUs to Eligible Employees, directors and consultants.

Authorized Shares. We originally approved 22,222 shares of Common Stock for issuance pursuant to the 2014 Plan. On April 1, 2016, we unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders, which was received on June 14, 2016, to increase the number of shares

of Common Stock authorized for contingent issuance under the 2014 Plan by 103,333 shares from 33,055 to 136,388. On March 28, 2017, we unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders, which was received on July 27, 2017, to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan by 433,345 shares from 155,065 to 588,410. On August 2, 2017, we unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders, to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan by 346,666 shares from 588,410 to 935,078. On January 31, 2018, we unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders, to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan by up to 2,390,666 shares from 1,075,511 to 3,466,174. On November 29, 2018, we unanimously approved the amendment of the 2014 Plan, subject to approval by the stockholders, to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan by up to 3,533,826 shares to 7,000,000.

On January 1st of each year, ending no later than January 1, 2024, the number of shares allocated to the 2014 Plan automatically increases in an amount equal to 2% of the total number of shares of common stock outstanding on December 31st of the preceding calendar year. The Board of Directors may act prior to January 1st of any given year, at its discretion, to provide for no increase in shares or to add a lesser number of shares than provided for in the prior sentence. On January 1, 2016, a total of 10,833 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. On January 1, 2017, a total of 18,676 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. On January 1, 2018, a total of 140,433 shares were added to the 2014 Plan share pool under the automatic annual share pool increase. On January 1, 2019, a total of 545,797 shares were added to the 2014 Plan share pool under the automatic annual share pool increase.

If a stock award expires without having been exercised in full, or, with respect to restricted stock and RSUs, a stock award is forfeited, the shares that were subject to those stock awards will become available for future grant or sale under the 2014 Plan (unless the 2014 Plan has terminated). If unvested shares of restricted stock or RSUs are repurchased by the company or are forfeited to the company, such shares will become available for future awards under the 2014 Plan.

Plan Administration. The 2014 Plan is administered by the Compensation Committee. In the case of awards intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Code, the Compensation Committee will consist of two or more "outside directors" within the meaning of Section 162(m) of the Code. In addition, if we determine it is desirable to qualify transactions under the 2014 Plan as exempt under Rule 16b-3, such transactions will be structured to satisfy the requirements for exemption under Rule 16b-3. Subject to the provisions of the 2014 Plan, the committee has the power to administer the 2014 Plan, including but not limited to, the power to interpret the terms of the 2014 Plan and stock awards granted under it, to create, amend and revoke rules relating to the 2014 Plan, including creating sub-plans, and to determine the terms of the awards, including the exercise price, the number of shares subject to each such award, the exercisability of the awards and the form of consideration, if any, payable upon exercise.

Options. Both incentive stock options qualifying under Section 422 of the Code and non-statutory stock options may be granted under the 2014 Plan. Of the total number of shares allocated to the 2014 Plan, the maximum aggregate number of shares that may be issued pursuant to the exercise of incentive stock options shall not exceed 7,000,000 shares. The exercise price of options granted under the 2014 Plan must at least be equal to the fair market value of the Common Stock on the date of grant. The term of an incentive stock option may not exceed ten years, except that with respect to any participant who owns more than 10% of the voting power of all classes of our outstanding stock, the term must not exceed five years and the exercise price must equal at least 110% of the fair market value on the grant date. For nonstatutory stock options the exercise price must equal at least 100% of the fair market value. The committee will determine the methods of payment of the exercise price of an option, which may include cash, shares or other property acceptable to the committee, as well as

other types of consideration permitted by applicable law. After the termination of service of an employee, director or consultant, he or she may exercise the vested portion of his or her option for the period of time stated in his or her award agreement, except in the case of an employee terminated for cause (as defined in the 2014 Plan) the option will terminate upon his or her termination from service. Generally, if termination is due to death or disability, the vested portion of the option will remain exercisable for 12 months. In all other cases, the vested portion of the option generally will remain exercisable for three months following the termination of service. An option may not be exercised after expiration of its term. However, if the exercise of an option is prevented by applicable law the exercise period may be extended under certain circumstances. Subject to the provisions of the 2014 Plan, the committee determines the other terms of options.

Restricted Stock. Restricted stock awards may be granted under the 2014 Plan. Restricted stock awards are grants of shares of Common Stock that vest in accordance with terms and conditions established by the committee. The committee will determine the number of shares of restricted stock granted to any employee, director or consultant and, subject to the provisions of the 2014 Plan, will determine the terms and conditions of such awards. The committee may impose whatever conditions to vesting it determines to be appropriate (for example, the committee may set restrictions based on the achievement of specific performance goals or continued service to us); provided, however, that the committee, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock awards generally will have voting and dividend rights with respect to such shares upon grant without regard to vesting, unless the committee provides otherwise. Shares of restricted stock that do not vest are subject to our right of repurchase or forfeiture.

RSUs. Awards of RSUs may be granted under the 2014 Plan. An RSU is the right to receive a share of Common Stock at a future date. The committee determines the terms and conditions of RSUs, including the vesting criteria (which may include accomplishing specified performance criteria or continued service to us) and the form and timing of payment. Notwithstanding the foregoing, the committee, in its sole discretion, may accelerate the time at which RSUs will vest.

Non-Transferability of Awards. Unless the committee provides otherwise, stock awards issued under the 2014 Plan are not transferrable other than by will or the laws of descent and distribution, and only the recipient of an award may exercise an award during his or her lifetime, although a recipient may designate a beneficiary to exercise an award after death.

Certain Adjustments. In the event of certain changes in the capitalization, to prevent diminution or enlargement of the benefits or potential benefits available under the 2014 Plan, the committee will adjust the number and class of shares that may be delivered under the 2014 Plan and/or the number, class and price of shares covered by each outstanding award, and the numerical share limits set forth in the 2014 Plan. In the event of the proposed liquidation or dissolution, the committee will notify participants as soon as practicable and all awards will terminate immediately prior to the consummation of such proposed transaction.

Merger or Change in Control. The 2014 Plan provides that in the event of a merger or change in control, as defined under the 2014 Plan, each outstanding award will be treated as the committee determines, including (i) the assumption, continuation or substitution of the stock awards by the successor corporation or its parent or subsidiary, (ii) the acceleration of vesting for any unvested portion of the stock awards, or (iii) the cash-out of the stock awards.

Amendment; Termination. The Board has the authority to amend, suspend or terminate the 2014 Plan provided such action does not impair the existing rights of any participant.

Required Vote of Stockholders

To approve the amendment of the 2014 Plan (this Proposal 3), the affirmative vote of the holders of a majority of shares of votes cast, in person or by remote communication, if applicable, or represented by proxy at the Annual Meeting, voting together as a single class and entitled to vote, is required. Although failure to submit a proxy or vote in person at the Annual Meeting, or a failure to provide your broker, nominee, fiduciary or other custodian, as applicable, with instructions on how to vote your shares will not affect the outcome of the vote on this proposal, the failure to submit a proxy or vote in person at the Annual Meeting will make it more difficult to meet the requirement under our bylaws that the holders of a majority of our capital stock issued and outstanding and entitled to vote at the Annual Meeting be present in person or by proxy to constitute a quorum at the Annual Meeting.

The Board of Directors unanimously recommends that the stockholders vote "FOR" Proposal No. 3 to amend the 2014 Plan to increase the number of shares of Common Stock authorized for issuance under the 2014 Plan, contingent upon the Reverse Stock Split being approved and effected in accordance with Proposal 2.

PROPOSAL 4—APPROVAL OF THE ISSUANCE OF SHARES OF COMMON STOCK UPON EXCHANGE OF PROMISSORY NOTES AND EXERCISE OF WARRANTS ISSUED IN THE NOTES FINANCING

At the Annual Meeting, stockholders will be asked to approve the issuance of shares of Common Stock upon exchange of promissory notes and exercise of warrants issued in one or more private placement transactions. All per share dollar figures included in this Proposal 4 are subject to adjustment for stock splits, stock dividends, reclassifications and other similar recapitalization transactions.

Background

Notes Financing

On March 18, 2019 (the "Execution Date"), the Company 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. The Company will use the proceeds for working capital and other general corporate purposes. The initial offering closed on March 18, 2019, and as of March 21, 2019, \$800,000 aggregate principal amount of Notes were issued and the proceeds from such offering were paid to the Company.

The Notes bear interest at the rate of 12% per annum and mature on July 18, 2019 (the "Maturity Date"). Each Note is subject to a right to purchase by Sagard Capital Partners, L.P. and its affiliates (collectively, "Sagard"), pursuant to which Sagard may elect, within 5 business days of providing notice thereof to the holder such Note, to purchase all or any portion of such Note and all accrued interest thereon.

At the time of entering into a Securities Purchase Agreement, an Investor may elect to purchase either a Note that is subject to a mandatory exchange provision (each a "125% Coverage Note") or a Note that is not subject to a mandatory exchange provision but is otherwise substantially the same as the 125% Coverage Note (each, a "75% Coverage Note"). The mandatory exchange provision in the 125% Coverage Notes provides that, at the Company's option upon the consummation of an underwritten public offering of Common Stock by the Company on or before the Maturity Date (the "Public Offering"), the principal amount of the 125% Coverage Notes plus any unaccrued interest thereon will be mandatorily exchanged into shares of Common Stock (the "Exchange Shares") at a price equal to the per share price at which the Company issues Common Stock in the Public Offering (the "Exchange Price"), subject to adjustment for reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction. Upon such exchange, the 125% Coverage Notes would be deemed repaid and terminated.

As an inducement to enter into the Securities Purchase Agreements, (i) each holder of 75% Coverage Notes will receive a 5-year warrant (the "75% Coverage Warrant") to purchase shares of Common Stock (the "Warrant Shares") in an amount equal to 75% of the principal amount of such holder's 75% Coverage Note divided by the Exercise Price (as defined below) and (ii) each holder of 125% Coverage Notes will receive a 5-year warrant (the "125% Coverage Warrant" and, together with the 75% Coverage Warrant, the "Warrants") to purchase Warrant Shares in an amount equal to 125% of the principal amount of such holder's 125% Coverage Note divided by the Exercise Price. The exercise price for the 75% Coverage Warrant and 125% Coverage Warrant is the price per share at which the Company issues Common Stock in the Public Offering, provided that if the Company has not consummated a Public Offering by the Maturity Date, then the exercise price will be equal to the closing sales price of the shares of Common Stock on the Maturity Date, in each case subject to adjustment for reclassification of the Common Stock, non-cash dividend, stock split, reverse stock split or other similar transaction (the "Exercise Price").

Under the Securities Purchase Agreements, the Company is subject to certain restrictive covenants, including a covenant restricting the Company's right to pay dividends or otherwise make any payment or distribution in respect of the Company's capital stock, subject to certain limited exceptions, without the prior written consent of the holders of the Notes. In addition, the Company is required to use 100% of the net amount of any outside investments received by the Company (excluding product sales revenue) for repayment of the Notes.

The Company and each Investor have contractually agreed to restrict the Company's ability to exchange the 125% Coverage Notes and such Investor's ability to exercise the Warrants such that the total cumulative number of number of Exchange Shares and Warrant Shares that may be issued to the Investors after such exchange or exercise does not exceed 19.99% of the Company's then total issued and outstanding shares of Common Stock (the "Notes Financing Exchange Cap"), unless stockholder approval is obtained to issue more shares than the Notes Financing Exchange Cap. The Notes Financing Exchange Cap shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction.

Among those contemplating participation in the Company's proposed issuance of Notes and Warrants are James J. Bochnowski, a member of the Board of Directors, Lisa A. Conte, our President, Chief Executive Officer and a member of our Board of Directors, and Jonathan B. Siegel, a member of the Board of Directors who may purchase up to approximately \$700,000 of Notes.

Stockholder Approval Requirements

Nasdaq Listing Rule 5635(c)

Pursuant to Nasdaq Listing Rule 5635(c), stockholder approval is required prior to the issuance of Common Stock in connection with certain non-public offerings involving the sale, issuance or potential issuance by the Company of equity compensation. For this purpose, "equity compensation" includes Common Stock (and/or securities convertible into or exercisable for Common Stock) issued to the Company's officers, directors, employees or consultants at a discount to the market price of the Common Stock, and "market value" is the closing bid price immediately preceding the time that the Company enters into a binding agreement with such officer, director, employee or consultant to issue the equity compensation.

As noted above, the Exercise Price for the Warrants and Exchange Price for the 125% Coverage Notes is at a future determined price, including potentially at a price below the market price of the Common Stock. Therefore, the issuance of Common Stock upon exchange of the 125% Coverage Notes or exercise of the Warrants to James J. Bochnowski, Lisa A. Conte, and Jonathan B. Siegel may be considered to be "equity compensation" under Nasdaq Listing Rule 5635(c).

We are therefore seeking stockholder approval for the potential issuance of Notes and Warrants to James J. Bochnowski, Lisa A. Conte, and Jonathan B. Siegel.

Nasdaq Listing Rule 5635(d)

As noted above, the Notes and the Warrants restrict the amount of shares that may be issued to the Investors to the Notes Financing Exchange Cap. We can remove this Notes Financing Exchange Cap by obtaining stockholder approval in compliance with the applicable Listing Rules of The Nasdaq Stock Market. The Common Stock is listed on The Nasdaq Capital Market and, as such, we are subject to the Nasdaq Listing Rules.

Pursuant to Nasdaq Listing Rule 5635(d), stockholder approval is required prior to a 20% Issuance at a price that is less than the Minimum Price. For purposes of Nasdaq Listing Rule 5635(d), (A) "20% Issuance" means a transaction, other than a public offering, involving: (i) the sale, issuance or potential issuance by us of Common Stock (or securities convertible into or exercisable for Common Stock),

which alone or together with sales by our officers, directors or substantial stockholders equals 20% or more of Common Stock (which for purposes of this calculation, includes issued and outstanding shares of our voting Common Stock and non-voting common stock) or 20% or more of the voting power outstanding before the issuance and (B) "Minimum Price" means a price that is the lower of: (i) the closing price (as reflected on Nasdaq.com) immediately preceding the signing of the binding agreement; or (ii) the average closing price of Common Stock (as reflected on Nasdaq.com) for the five trading days immediately preceding the signing of the binding agreement. Stockholder approval of this proposal will constitute stockholder approval for purposes of Nasdaq Listing Rule 5635(d).

On March 27, 2019, there were 62,101,791 shares of our Common Stock and non-voting common stock issued and outstanding in the aggregate. Accordingly, our issuance of more than 9,609,247 shares under the Notes and Warrants requires the approval of our stockholders under Nasdaq Listing Rule 5635(d). The issuance of shares of Common Stock to Investors upon the exchange of the 125% Coverage Notes, together with the issuance of shares of Common Stock to Investors upon exercise of the Warrants, could result in the issuance of shares of Common Stock to the Investors that represents more than 20% of our Common Stock or 20% of the voting power outstanding prior to the issuance of the Notes and Warrants. For illustration purposes only, below is a table showing the number of shares of common stock that may potentially be issued pursuant to the Notes and Warrants based on three hypothetical Exercise Prices, assuming that all \$5.5 million Notes are issued and that each of the noteholders elected to receive the 125% Coverage Notes and the 125% Coverage Warrants. The number of shares issuable will correspondingly increase or decrease depending on the actual Exchange Price and Exercise Price for the Notes and Warrants, respectively. Please note that the share figures and exercise prices set forth in the table below are on a pre-Reverse Stock Split basis:

	Scenario A	Scenario B	Scenario C
Hypothetical Exercise Price of Warrants	\$ 0.15	\$ 0.30	\$ 0.45
Hypothetical Aggregate Principal Amount of 125% Coverage Notes	\$ 5,500,000.00	\$ 5,500,000.00	\$ 5,500,000.00
Number of Exchange Shares	36,666,667	18,333,333	12,222,222
Number of Warrant Shares Issuable under 125% Coverage Warrants	45,833,333	22,916,667	15,277,778
Total Number of Shares	82,500,000	41,250,000	27,500,000

We are therefore seeking stockholder approval for the issuance of shares of Common Stock that may be issued to Investors upon (i) exchange of the outstanding balance (including interest thereon), or any portion thereof, of the Notes at the Exchange Price, subject to the terms of the Notes and (ii) exercise of the Warrants pursuant to the terms thereof at the Exercise Price.

Required Vote of Stockholders

To approve the issuance of shares of common stock upon the exchange of promissory notes and exercise of warrants issued in the Notes Financing (this Proposal 4), the affirmative vote of the holders of a majority of shares of votes cast, in person or by remote communication, if applicable, or represented by proxy at the Annual Meeting, voting together as a single class and entitled to vote, is required. Although failure to submit a proxy or vote in person at the Annual Meeting, or a failure to provide your broker, nominee, fiduciary or other custodian, as applicable, with instructions on how to vote your shares will not affect the outcome of the vote on this proposal, the failure to submit a proxy or vote in person at the Annual Meeting will make it more difficult to meet the requirement under our bylaws that the holders of a majority of our capital stock issued and outstanding and entitled to vote at the Annual Meeting be present in person or by proxy to constitute a quorum at the Annual Meeting.

The board of directors unanimously recommends that the stockholders vote "FOR" Proposal No. 4 to issue shares of common stock upon exchange of promissory notes and exercise of warrants issued in the Notes Financing in accordance with the stockholder approval requirements of Nasdaq Listing Rules 5635(c) and 5635(d).

PROPOSAL 5—APPROVAL OF THE ISSUANCE OF SHARES OF COMMON STOCK UPON THE EXERCISE OF THE LOC WARRANT

At the Annual Meeting, stockholders will be asked to approve the issuance of shares of Common Stock upon exercise of the LOC Warrant (as defined below) issued in connection with the Company's entry in the LOC Cancellation and Warrant Issuance Agreement (as defined below). All per share dollar figures included in this Proposal 5 are subject to adjustment for stock splits, stock dividends, reclassifications and other similar recapitalization transactions.

Background

On August 28, 2018, the Company entered into an Office Lease Agreement (the "Lease") with CA-Mission Street Limited Partnership, a Delaware limited partnership ("Landlord"), to extend the Company's lease for approximately 6,311 square feet of office space located at 201 Mission Street, Suite 2375, San Francisco, California (the "Premises"). Concurrently with the execution of this Lease, the Company was required to deliver to the Landlord a standby, unconditional, irrevocable, transferable letter of credit, naming Landlord as beneficiary, as collateral for the full performance by the Company of all of its obligations under the Lease and for all losses and damages Landlord may suffer as a result of the Company's failure to comply with one or more provisions of the Lease.

To satisfy the letter of credit requirement in the Lease, Pacific Capital Management, LLC (the "LC Facilitator"), one of the Company's existing shareholders, caused its financial institution to issue a letter of credit in the amount of \$475,000 (the "Landlord Letter of Credit") on behalf of the Company in favor of Landlord 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 ("Landlord LOC Agreement"). Under the terms of the Landlord LOC Agreement, if the Company did not receive on a consolidated basis at least \$5 million of gross proceeds in the aggregate from any source (in the form of debt or equity or debt or equity like instruments or any combination thereof) on, or before, October 1, 2018 ("Capital Raise Requirement"), then the Company was required to cause LC Facilitator's exposure under the Landlord Letter of Credit to be reduced by \$122,000, whether pursuant to a release of LC Facilitator of such amount under the Landlord Letter of Credit, replacement or modification of the Landlord Letter of Credit in whole or in part, partial replacement or additional collateral in favor of LC Facilitator or otherwise (the "Reduced Exposure Obligation"). Since the Company did not meet the Capital Raise Requirement, the Company caused its financial institution, Western Alliance Bank (the "Issuing Bank"), to issue a letter of credit in the amount of \$122,000 in favor of the letter of credit beneficiary ("LC Beneficiary"), who is the managing member of the LC Facilitator, pursuant to the terms of the Irrevocable Standby Letter of Credit No. LC22120-602, dated December 13, 2018 signed by the Issuing Bank (the "LC Beneficiary Letter of Credit") in order to reduce LC Facilitator's exposure under the Landlord Letter of Credit.

The Company and the LC Beneficiary intend to enter into a letter of credit cancellation and warrant issuance agreement ("LOC Cancellation and Warrant Issuance Agreement"), pursuant to which LC Beneficiary will agree to cancel the LC Beneficiary Letter of Credit and terminate the Company's Reduced Exposure Obligation in consideration for the Company's issuance of a 5-year warrant to purchase shares of Common Stock (the "LOC Warrant") in an amount equal to 75% of the principal amount of Reduced Exposure Obligation divided by the Exercise Price. For illustration purposes only, below is a table showing the number of shares of common stock that may potentially be issued pursuant to the LOC Warrant based on three hypothetical Exercise Prices. The number of shares issuable will correspondingly increase or decrease depending on the actual Exercise Price for the LOC

Warrant. Please note that the share figures and exercise prices set forth in the table below are on a pre-Reverse Stock Split basis:

	Scenario A	Scenario B	Scenario C
Hypothetical Exercise Price of LOC Warrant	\$ 0.15	\$ 0.30	\$ 0.45
Aggregate Amount of LOC Warrant	\$ 91,500.00	\$ 91,500.00	\$ 91,500.00
Number of Warrant Shares Issuable Under LOC Warrant	762,500	381,250	254,167

Stockholder Approval Requirement

Pursuant to Nasdaq Listing Rule 5635(d), stockholder approval is required prior to a 20% Issuance at a price that is less than the Minimum Price. For purposes of Nasdaq Listing Rule 5635(d), (A) "20% Issuance" means a transaction, other than a public offering, involving: (i) the sale, issuance or potential issuance by us of Common Stock (or securities convertible into or exercisable for Common Stock), which alone or together with sales by our officers, directors or substantial stockholders equals 20% or more of Common Stock (which for purposes of this calculation, includes issued and outstanding shares of our voting Common Stock and non-voting common stock) or 20% or more of the voting power outstanding before the issuance and (B) "Minimum Price" means a price that is the lower of: (i) the closing price (as reflected on Nasdaq.com) immediately preceding the signing of the binding agreement; or (ii) the average closing price of Common Stock (as reflected on Nasdaq.com) for the five trading days immediately preceding the signing of the binding agreement. Stockholder approval of this proposal will constitute stockholder approval for purposes of Nasdaq Listing Rule 5635(d).

The issuance of shares of Common Stock to the LC Beneficiary upon the exercise of the LOC Warrant could result in the issuance of shares of Common Stock to the LC Beneficiary that represents more than 20% of our Common Stock or 20% of the voting power outstanding prior to the issuance of the LOC Warrant.

We are therefore seeking stockholder approval for the issuance of shares of Common Stock that may be issued to the LC Beneficiary upon the exercise of the LOC Warrant pursuant to the terms thereof at the Exercise Price.

Required Vote of Stockholders

To approve the issuance of shares of common stock upon the exercise of the LOC Warrant (this Proposal 5), the affirmative vote of the holders of a majority of shares of votes cast, in person or by remote communication, if applicable, or represented by proxy at the Annual Meeting, voting together as a single class and entitled to vote, is required. Although failure to submit a proxy or vote in person at the Annual Meeting, or a failure to provide your broker, nominee, fiduciary or other custodian, as applicable, with instructions on how to vote your shares will not affect the outcome of the vote on this proposal, the failure to submit a proxy or vote in person at the Annual Meeting will make it more difficult to meet the requirement under our bylaws that the holders of a majority of our capital stock issued and outstanding and entitled to vote at the Annual Meeting be present in person or by proxy to constitute a quorum at the Annual Meeting.

The board of directors unanimously recommends that the stockholders vote "FOR" Proposal No. 5 to issue shares of common stock upon exercise of the LOC Warrant in accordance with the stockholder approval requirements of Nasdaq Listing Rule 5635(d).

**PROPOSAL 6—GRANT OF DISCRETIONARY AUTHORITY TO ADJOURN THE ANNUAL MEETING IF NECESSARY TO SOLICIT
ADDITIONAL PROXIES**

Although it is not expected, the Annual Meeting may be adjourned for the purpose of soliciting additional proxies. Any such adjournment of the Annual Meeting may be made without notice, other than by the announcement made at the Annual Meeting, by approval of the holders of a majority of the outstanding shares of our Common Stock and Preferred Stock, voting together as a single class, present in person or by proxy and entitled to vote at the Annual Meeting, whether or not a quorum exists. We are soliciting proxies to grant discretionary authority to the chairperson of the Annual Meeting to adjourn the Annual Meeting, if necessary, for the purpose of soliciting additional proxies in favor of Proposals 1 through 5. The chairperson will have the discretion to decide whether or not to use the authority granted to such person pursuant to this Proposal 6 to adjourn the Annual Meeting.

Required Vote of Stockholders

To approve the grant of discretionary authority to the chairperson of the Annual Meeting to adjourn the Annual Meeting, if necessary, for the purpose of soliciting additional proxies in favor of Proposals 1 through 5, the affirmative vote of the holders of a majority of shares of our Common Stock and Preferred Stock, present in person or by remote communication, if applicable, or represented by proxy at the Annual Meeting, voting together as a single class and entitled to vote, is required. Although failure to submit a proxy or vote in person at the Annual Meeting, or a failure to provide your broker, nominee, fiduciary or other custodian, as applicable, with instructions on how to vote your shares will not affect the outcome of the vote on this proposal, the failure to submit a proxy or vote in person at the Annual Meeting will make it more difficult to meet the requirement under our bylaws that the holders of a majority of the our capital stock issued and outstanding and entitled to vote at the Annual Meeting be present in person or by proxy to constitute a quorum at the Annual Meeting.

The Board of Directors unanimously recommends that the stockholders vote "FOR" Proposal No. 6 to grant discretionary authority to adjourn the Annual Meeting, if necessary, to solicit additional proxies in favor of Proposals 1 through 5.

CORPORATE GOVERNANCE

Director Independence

Our common stock is listed on The Nasdaq Capital Market. Under Nasdaq rules, independent directors must comprise a majority of a listed company's board of directors. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's Audit, Compensation and Nominating Committee must be independent. Audit Committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act. Under Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of the company's board of directors, such person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

To be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, our board of directors, or any other board committee (1) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or (2) be an affiliated person of the listed company or any of its subsidiaries.

Our board of directors periodically undertakes a review of its composition, the composition of its committees and the independence of our directors and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that five of our eight directors (i.e., Mr. Bochnowski, Mr. Micek, Mr. Qui, Mr. Siegel and Mr. Divis) do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the Nasdaq rules. Our board of directors also determined that Mr. Micek (chairperson), Mr. Bochnowski, and Mr. Siegel, who comprise our Audit Committee, Mr. Bochnowski (chairperson), Mr. Johnson and Mr. Siegel, who comprise our Compensation Committee, and Mr. Johnson (chairperson), Mr. Bochnowski and Mr. Micek, who comprised our Nominating Committee, satisfy the independence standards for those committees established by applicable SEC rules and the Nasdaq rules and listing standards.

In making this determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances our board of directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director.

MEETINGS AND COMMITTEES OF THE BOARD OF DIRECTORS

Audit Committee

The members of our Audit Committee are Mr. Micek, Mr. Bochnowski, and Mr. Siegel. Mr. Micek is the chairperson of the Audit Committee. Our Audit Committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from that firm;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;

- monitoring our internal control over financial reporting, disclosure controls and procedures and code of conduct;
- discussing our risk management policies;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- reviewing and approving or ratifying any related person transactions; and
- preparing the Audit Committee report required by SEC rules.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our Audit Committee.

Our board of directors has determined that each of Mr. Micek, Mr. Bochnowski, and Mr. Siegel is an independent director under Nasdaq rules and under Rule 10A-3. All members of our Audit Committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and Nasdaq. Our board of directors has determined that Mr. Micek is an "audit committee financial expert," as defined by applicable SEC rules, and has the requisite financial sophistication as defined under the applicable Nasdaq rules and regulations.

The Audit Committee held 4 meetings in 2018. The audit committee has adopted a written charter approved by our board of directors, which is available on our website at: <https://jaguarhealth.gcs-web.com/static-files/aeabd726-16c2-4219-a755-475e9c87b851>

Compensation Committee

The members of our Compensation Committee are Mr. Bochnowski (chairperson), Mr. Johnson and Mr. Siegel. Mr. Bochnowski is the chairperson of the Compensation Committee. Our Compensation Committee's responsibilities include:

- determining, or making recommendations to our board of directors with respect to, the compensation of our Chief Executive Officer;
- determining, or making recommendations to our board of directors with respect to, the compensation of our other executive officers;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation; and
- preparing the Compensation Committee report and necessary disclosure in our annual proxy statement in accordance with applicable SEC rules.

To determine compensation, the Compensation Committee, with input from the Chief Executive Officer (who does not participate in the deliberations regarding her own compensation), reviews, at least annually, and makes recommendations to the board of directors appropriate compensation levels for each executive officer of the Company. The Compensation Committee considers all factors it deems relevant in setting executive compensation.

Our board has determined that each of Mr. Bochnowski (chairperson), Mr. Johnson and Mr. Siegel is independent under the applicable Nasdaq rules and regulations, is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act, and is an "outside director" as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended.

The Compensation Committee held 3 meetings in 2018. All compensation-related matters were approved at the board of directors level. The Compensation Committee has adopted a written charter approved by the board of directors, which is available on our website at: <https://jaguarhealth.gcs-web.com/static-files/653862da-1aa9-4819-b559-5c5654189e80>. Under its charter, the Compensation Committee has the authority, in its sole discretion, to select, retain and obtain the advice of a compensation consultant as necessary to assist with the execution of its duties and responsibilities as set forth in its charter but only after taking into consideration factors relevant to the compensation consultant's independence from management specified in NASDAQ Listing Rule 5605(d)(3)(D). The Compensation Committee currently has not retained or sought advice from a compensation consultant.

Nominating Committee

The members of our Nominating Committee are Mr. Bochnowski (chairperson), Mr. Johnson and Mr. Micek. Mr. Johnson is the chairperson of the Nominating Committee. Our Nominating Committee's responsibilities include:

- identifying individuals qualified to become members of our board of directors;
- evaluating qualifications of directors;
- recommending to our board of directors the persons to be nominated for election as directors and to each of the committees of our board of directors; and
- overseeing an annual evaluation of our board of directors.

The Nominating Committee did not hold any meetings in 2018. All nomination-related matters were approved at the board of directors level. The Nominating Committee has adopted a written charter approved by the board of directors, which is available on our website at: <https://jaguarhealth.gcs-web.com/static-files/02dfed04-9508-44cd-a96a-3215e565111c>.

Meetings and Attendance During 2018

The board of directors held 13 meetings in 2018. Except for Jiahao Qui, each director who served as a director during 2018 participated in 75% or more of the meetings of the board of directors and of the committees on which he or she served, if any, during the year ended December 31, 2018 (during the period that such director served). Mr. Johnson, Mr. Siegel and Mr. Divis were not appointed to the board of directors until March 23, 2018, March 29, 2018 and June 14, 2018, respectively, and therefore, did not attend any meetings in 2018 prior to their respective dates of appointment.

We do not have a written policy on director attendance at annual meetings of stockholders. We encourage, but do not require, our directors to attend the Annual Meeting. One director attended the 2018 Annual Meeting of Stockholders.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to our directors, officers and employees, including our President and Chief Executive Officer, our Chief Financial Officer and other employees who perform financial or accounting functions. The Code of Business Conduct and Ethics sets forth the basic principles that guide the business conduct of our employees. A current copy of the code is on our website at <https://jaguarhealth.gcs-web.com/static-files/2686b919-e219-4c2a-b863-e6df4533aea9>. We intend to disclose future amendments to certain provisions of our code of business conduct and ethics, or waivers of such provisions on our website to the extent required by applicable rules and exchange requirements. The inclusion of our website address in this proxy

statement does not incorporate by reference the information on or accessible through our website into this proxy statement.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee has ever been an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or Compensation Committee or other board committee performing equivalent functions of any entity that has one or more of its executive officers serving on our board of directors or Compensation Committee.

Limitation of Liability and Indemnification

Our COI and Bylaws contain provisions that limit the personal liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the DGCL; or
- any transaction from which the director derived an improper personal benefit.

Such limitation of liability does not apply to liabilities arising under federal securities laws and does not affect the availability of equitable remedies, such as injunctive relief or rescission.

Our COI provides that we indemnify our directors to the fullest extent permitted by Delaware law. In addition, our Bylaws provide that we indemnify our directors and officers to the fullest extent permitted by Delaware law. Our Bylaws also provide that we shall advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity, regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. With certain exceptions, these agreements provide for indemnification for related expenses including, among others, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our COI and Bylaws and our indemnification agreements, may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty of care. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers. There is no pending litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

Board Leadership Structure

Our Bylaws and corporate governance guidelines provide our board of directors with flexibility in its discretion to combine or separate the positions of Chairperson of the board of directors and chief executive officer. As a general policy, our board of directors believes that separation of the positions of Chairperson and chief executive officer reinforces the independence of the board of directors from management, creates an environment that encourages objective oversight of management's performance and enhances the effectiveness of the board of directors as a whole. We expect and intend the positions of Chairperson of the board and chief executive officer to be held by two individuals in the future.

Risk Oversight

Our board of directors monitors our exposure to a variety of risks through our Audit Committee. Our Audit Committee charter gives the Audit Committee responsibilities and duties that include discussing with management and the independent auditors our major financial risk exposures and the steps management has taken to monitor and control such exposures, including our risk assessment and risk management policies.

Nomination of Directors

There have been no material changes to the procedures by which stockholders may recommend nominees to our board of directors. Recommendations to the board of directors for election as directors of Jaguar at an annual meeting may be made only by the Nominating Committee or by the Company's stockholders (through the Nominating Committee) who comply with the timing, informational, and other requirements of our Bylaws, except for the right of the holders of Series A Preferred Stock to elect up to two directors (voting as a separate class), which is not subject to such procedural limitations. Stockholders have the right to recommend persons for nomination by submitting such recommendation, in written form, to the Nominating Committee, and such recommendation will be evaluated pursuant to the policies and procedures adopted by the board of directors. Such recommendation must be delivered to or mailed to and received by the Secretary of the Company at the principal executive offices not less than 90 days nor more than 120 calendar days prior to the first anniversary of the date the preceding year's annual meeting, except that if no annual meeting of stockholders was held in the preceding year or if the date of the annual meeting of stockholders has been changed by more than 30 calendar days from the date contemplated at the time of the preceding year's proxy statement, the notice shall be received by the Secretary at the Company's principal executive offices not less than 150 calendar days prior to the date of the contemplated annual meeting or the date that is 10 calendar days after the date of the first public announcement or other notification to stockholders of the date of the contemplated annual meeting, whichever first occurs. The deadline to submit recommendations for election as directors at the 2019 Annual Meeting has already passed.

The Nominating Committee, in accordance with the board of directors' governance principles, seeks to create a board that has the ability to contribute to the effective oversight and management of the Company, that is as a whole strong in its collective knowledge of and diversity of skills and experience with respect to accounting and finance, management and leadership, vision and strategy, business judgment, biotechnology industry knowledge, corporate governance and global markets. The Nominating Committee does not currently have a policy with regard to the consideration of diversity in identifying director nominees. When the Nominating Committee reviews a potential new candidate, the Nominating Committee looks specifically at the candidate's qualifications in light of the needs of the board of directors and the Company at that time given the then current mix of director attributes.

General criteria for the nomination and evaluation of director candidates include:

- loyalty and commitment to promoting the long term interests of the Company's stockholders;

- the highest personal and professional ethical standards and integrity;
- an ability to provide wise, informed and thoughtful counsel to top management on a range of issues;
- a history of achievement that reflects superior standards for themselves and others;
- an ability to take tough positions in constructively-challenging the Company's management while at the same time working as a team player; and
- individual backgrounds that provide a portfolio of personal and professional experience and knowledge commensurate with the needs of the Company.

The Nominating Committee must also ensure that the members of the board of directors as a group maintain the requisite qualifications under the applicable Nasdaq Stock Market listing standards for populating the Audit, Compensation and Nominating Committees.

Written recommendations from a stockholder for a director candidate must include the following information:

- the stockholder's name and address, as they appear on our corporate books;
- the class and number of shares that are beneficially owned by such stockholder;
- the dates upon which the stockholder acquired such shares; and
- documentary support for any claim of beneficial ownership.

Additionally, the recommendation needs to include, as to each person whom the stockholder proposes to recommend to the Nominating Committee for nomination to election or reelection as a director, all information relating to the person that is required pursuant to Regulation 14A under the Exchange Act, as amended, and evidence satisfactory to us that the nominee has no interests that would limit their ability to fulfill their duties of office.

Once the Nominating Committee receives a recommendation, it will deliver a questionnaire to the director candidate that requests additional information about his or her independence, qualifications and other information that would assist the Nominating Committee in evaluating the individual, as well as certain information that must be disclosed about the individual in the Company's proxy statement, if nominated. Individuals must complete and return the questionnaire within the time frame provided to be considered for nomination by the Nominating Committee.

The Nominating Committee will review the stockholder recommendations and make recommendations to the board of directors that the Committee feels are in the best interests of the Company and its stockholders.

The Nominating Committee has not received any recommendations from stockholders for the Annual Meeting.

Communications with the Board of Directors

Stockholders may contact an individual director or the board of directors as a group, or a specified board committee or group, including the non-employee directors as a group, by the following means:

Mail:	Attn: Board of Directors Jaguar Health, Inc. 201 Mission Street, Suite 2375 San Francisco, CA 94105
Email:	AskBoard@jaguar.health

Each communication should specify the applicable addressee or addressees to be contacted as well as the general topic of the communication. We will initially receive and process communications before forwarding them to the addressee. We also may refer communications to other departments within the Company. We generally will not forward to the directors a communication that is primarily commercial in nature, relates to an improper or irrelevant topic, or requests the Company's general information.

Complaint and Investigation Procedures for Accounting, Internal Accounting Controls, Fraud or Auditing Matters

We have created procedures for confidential submission of complaints or concerns relating to accounting or auditing matters and contracted with Nasdaq to facilitate the gathering, monitoring and delivering reports on any submissions. As of the date of this report, there have been no submissions of complaints or concerns to Nasdaq. Complaints or concerns about our accounting, internal accounting controls or auditing matters may be submitted to the Audit Committee and our executive officers by contacting Nasdaq. Nasdaq provides phone, internet and e-mail access and is available 24 hours per day, seven days per week, 365 days per year. The hotline number is 1-844-417-8861 and the website is <https://www.openboard.info/jagx>. Any person may submit a written Accounting Complaint to jagx@openboard.info.

Our Audit Committee under the direction and oversight of the Audit Committee Chair will promptly review all submissions and determine the appropriate course of action. The Audit Committee Chair has the authority, in his discretion, to bring any submission immediately to the attention of other parties or persons, including the full board of directors, accountants and attorneys. The Audit Committee Chair shall determine the appropriate means of addressing the concerns or complaints and delegate that task to the appropriate member of senior management, or take such other action as it deems necessary or appropriate to address the complaint or concern, including obtaining outside counsel or other advisors to assist the Audit Committee.

EXECUTIVE OFFICERS

Our executive officers as of the date of this proxy statement are as follows:

Name	Age	Position
Lisa A. Conte	60	Chief Executive Officer, President and Director
Steven R. King, Ph.D.	61	Executive Vice President, Sustainable Supply, Ethnobotanical Research and Intellectual Property and Secretary
Karen S. Wright	63	Chief Financial Officer and Treasurer

Set forth below is a summary of the business experience of our Executive Vice President of Sustainable Supply, Ethnobotanical Research and Intellectual Property and Secretary, Steven R. King, and our Chief Financial Officer, Karen S. Wright. Our Chief Executive Officer's biography has been provided above.

Steven R. King, Ph.D. Dr. King has served as our Executive Vice President of Sustainable Supply, Ethnobotanical Research and Intellectual Property since March 2014 and as our Secretary since September 2014. From 2002 to 2014, Dr. King served as the Senior Vice President of Sustainable Supply, Ethnobotanical Research and Intellectual Property at our wholly-owned subsidiary, Napo Pharmaceuticals, Inc. Prior to that, Dr. King served as the Vice President of Ethnobotany and Conservation at Shaman Pharmaceuticals, Inc. Dr. King has been recognized by the International Natural Products and Conservation Community for the creation and dissemination of research on the long-term sustainable harvest and management of *Croton lechleri*, the widespread source of crofelemer. Dr. King is currently a member of the board of directors of Healing Forest Conservatory, a California not-for-profit public benefit corporation. Dr. King holds a Ph.D. in Biology from the Institute of Economic Botany of the New York Botanical Garden and an M.S. in Biology from the City University of New York.

Karen S. Wright. Ms. Wright has served as our Chief Financial Officer since December 15, 2015. Prior to joining us, Ms. Wright served as head of finance for Clene Nanomedicine, Inc., beginning in August 2014. From June 2011 to May 2014, Ms. Wright served as vice president of finance and corporate controller at Veracyte, Inc., and from 2006 to 2011, she served as vice president of finance, corporate controller and principal accounting officer of VIA Pharmaceuticals, Inc. Ms. Wright holds a BS in Accounting and Marketing from the University of California Walter A. Haas School of Business.

Officers serve at the discretion of the board of directors. There are no family relationships among any of our executive officers or among any of our executive officers and our directors. There is no arrangement or understanding between any executive officer and any other person pursuant to which the executive officer was selected.

COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS

Summary Compensation Table (2018 and 2017)

The total compensation paid to the Company's Principal Executive Officer and its three highest compensated executive officers other than the Principal Executive Officer, respectively, for services rendered in 2018 and 2017, as applicable, is summarized as follows:

	Year	Salary (\$)	Bonus (\$)	Option awards \$(1)	All other compensation \$(2)	Total (\$)
Lisa A. Conte President and Chief Executive Officer	2018	480,000	\$ 30,000	490,046	19,014	1,019,060
	2017	440,000	—	184,990	17,599	642,589
Steven R. King, Ph.D. Executive Vice President, Sustainable Supply, Ethnobotanical Research and Intellectual Property	2018	287,045	—	460,001	36,316	783,362
	2017	280,500	—	80,925	32,032	393,457
Karen S. Wright Chief Financial Officer and Treasurer(3)	2018	280,667	30,000	120,509	—	431,175
	2017	240,000	5,000	554,108	—	300,108

Footnotes to Summary Compensation Table

- (1) Represents the dollar amounts recognized for financial statement reporting purposes with respect to the fiscal year (for stock option awards) determined under FASB ASC Topic 718. The following are the options held by each executive officer as of December 31, 2018:
- a. Ms. Conte—an aggregate of 734,411 shares were granted as follows: 10,691 shares granted April 1, 2014, 5,707 shares granted July 2, 2015, 7,546 shares granted July 7, 2015, 7,546 shares granted July 7, 2015, 4,664 shares granted April 1, 2016 which became effective at the annual stockholders' meeting of June 14, 2016, 21,200 shares granted September 22, 2016, 1,133 shares granted December 19, 2016, 19,053 shares granted December 21, 2017, 216,482 shares granted on March 12, 2018 and 447,935 shares granted on June 1, 2018. The weighted average exercise price of all of Ms. Conte option grants is \$6.54.
 - b. Dr. King—an aggregate of 257,470 shares were granted as follows: 6,237 shares granted April 1, 2014, 3,328 shares granted July 2, 2015 which became effective at the annual stockholders' meeting of June 14, 2016, 1,883 shares granted April 1, 2016 which became effective at the annual stockholders' meeting of June 14, 2016, 1,536 shares granted September 22, 2016, 299 shares granted December 19, 2016, 6,351 shares granted December 21, 2017, 88,525 shares granted on March 12, 2018 and 149,311 shares granted on June 1, 2018. The weighted average exercise price of all of Dr. King's option grants is \$6.72.
 - c. Ms. Wright—an aggregate of 164,753 shares were granted as follows: 1,333 shares granted November 23, 2015, 253 shares granted April 1, 2016 which became effective at the annual stockholders' meeting of June 14, 2016, 6,913 shares granted September 22, 2016, 191 shares granted December 19, 2016, 3,619 shares granted December 21, 2017, 66,590 shares granted on March 12, 2018 and 85,854 shares granted on June 1, 2018. The weighted average exercise price of all of Ms. Wright's option grants is \$5.94.
 - d. All of the April 1, 2014 option grants vested 25% on January 1, 2015 (nine months from grant date), with the remainder vesting equally over the following 27 months such that the options

are vested in full on April 1, 2017. Ms. Wright's November 23, 2015 option vested 25% on September 9, 2016, with the remainder vesting equally over the following 27 months such that the option is vested in full on November 9, 2018. All of the July 2, 2015 options were granted contingent upon approval of the Company's stockholders at the June 14, 2016 annual stockholders' meeting and vest 1/36th per month beginning one month after grant date, with the remainder vesting equally over the following 35 months such that the option is vested in full on July 2, 2018. Ms. Conte's July 7, 2015 option was likewise granted contingent upon approval of the Company's stockholders at the June 14, 2016 annual stockholders' meeting and vests 1/36th per month beginning one month after grant date, with the remainder vesting equally over the following 35 months such that the option is vested in full on July 7, 2018. All of the options granted on April 1, 2016 which became effective at the annual stockholders' meeting of June 14, 2016, September 22, 2016, December 19, 2016 vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on December 19, 2019. All of the December 21, 2017 options grants vested in full as of March 31, 2018 if the option holder was an employee on that date. All of the March 12, 2018 options grants vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on March 12, 2021. All of the June 1, 2018 options grants vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on June 1, 2021.

- (2) Amounts shown in this column reflect incremental health insurance premiums paid for such executive's family members.
- (3) Ms. Wright has served as Chief Financial Officer and Treasurer since December 15, 2015.

Narrative to Summary Compensation Table

Understanding our history is key to the understanding of our compensation structure for 2017 and 2018. After our initial public offering closed on May 18, 2015, the executive officers of privately-held Jaguar Health, Inc. (f/k/a Jaguar Animal Health, Inc.) became our named executive officers.

Base Salary

On July 2, 2015, the Compensation Committee increased Ms. Conte's annual base salary from \$400,000 to \$440,000 and Dr. King's annual base salary from \$255,000 to \$280,500. The pay increases were effective June 15, 2015. On December 15, 2015, the Company's board of directors appointed Karen S. Wright as the Company's new Chief Financial Officer. Ms. Wright's annual base salary is \$240,000. On April 12, 2018, the Compensation Committee increased Ms. Conte's annual base salary from \$440,000 to \$500,000, Dr. King's annual base salary from \$280,500 to \$290,317, and Ms. Wright's annual base salary from \$240,000 to \$301,000, all effective May 31, 2018.

Bonuses

We paid a performance based bonus to Ms. Wright of \$5,000 in 2017 and a one-time cash bonus of \$30,000 to both Ms. Conte and Ms. Wright in 2018.

Equity Compensation

Ms. Conte and Dr. King received stock option grants at the time they were hired by privately-held Jaguar Animal Health, Inc. Such options generally vest over time, with 25% of the options vesting after nine months of employment and monthly vesting thereafter with full vesting after three years. Ms. Wright received stock option grants with a similar vesting schedule at the time they were hired by

us. The board of directors periodically grants additional options to the current named executive officers that typically vest ratably over a three-year period.

All stock options and RSUs issued to our current named executive officers vest and become exercisable upon a change in control.

Outstanding Equity Awards at 2018 Fiscal Year End

The following table provides information regarding outstanding equity awards held by our named executive officers as of December 31, 2018.

	Options Vesting Commencement Date	Number of Securities Underlying Unexercised Options		Option exercise price	Stock Option expiration date
		Exercisable	Unexercisable		
Lisa A. Conte	4/1/2014	10,691	—(1)	\$ 37.95	4/1/2024
	7/2/2015	5,707	—(2)	\$ 76.35	7/2/2025
	7/7/2015	7,546	—(3)	\$ 75.60	7/7/2025
	4/1/2016	4,146	518(5)	\$ 23.70	4/1/2026
	9/22/2016	8,833	12,367(6)	\$ 18.75	9/22/2026
	12/19/2016	755	378(7)	\$ 11.10	12/19/2026
	12/21/2017	19,053	—(8)	\$ 1.85	12/21/2027
	3/12/2018	96,214	120,268(9)	\$ 8.40	3/12/2028
	6/1/2018	99,541	348,394(10)	\$ 2.73	6/1/2028
Steven R. King, Ph.D.	4/1/2014	6,237	—(1)	\$ 37.95	4/1/2024
	7/2/2015	3,328	—(2)	\$ 76.35	7/2/2025
	4/1/2016	1,674	209(5)	\$ 23.70	4/1/2026
	9/22/2016	640	896(6)	\$ 18.75	9/22/2026
	12/19/2016	199	100(7)	\$ 11.10	12/19/2026
	12/21/2017	6,351	—(8)	\$ 1.85	12/21/2027
	3/12/2018	39,344	49,181(9)	\$ 8.40	3/12/2028
	6/1/2018	33,180	116,131(10)	\$ 2.73	6/1/2028
Karen S. Wright	11/9/2015	1,333	—(4)	\$ 30.60	11/23/2025
	4/1/2016	225	28(5)	\$ 23.70	4/1/2026
	9/22/2016	5,185	1,728(6)	\$ 18.75	9/22/2026
	12/19/2016	127	64(7)	\$ 11.10	12/19/2026
	12/21/2017	3,619	—(8)	\$ 1.85	12/21/2027
	3/12/2018	29,596	36,994(9)	\$ 8.40	3/12/2028
	6/1/2018	19,079	66,775(10)	\$ 2.73	6/1/2028

- (1) On January 1, 2015, 25% of each of such named executive officer's shares vested and became exercisable. The remainder of the shares were vested in approximately equal monthly installments through April 1, 2017, subject to continued service with us through each relevant vesting date.
- (2) The shares were granted on July 2, 2015 contingent upon the approval of the stockholders at the June 14, 2016 annual stockholders' meeting and vest 1/36th per month beginning one month after grant date, with the remainder vested equally over the following 35 months such that the option was fully vested on July 2, 2018, subject to continued service with us through each relevant vesting date.
- (3) The shares were granted on July 7, 2015 contingent upon the approval of the stockholders at the June 14, 2016 annual stockholders' meeting and vested 1/36th per month beginning one month after grant date, with the remainder vested equally over the following 35 months such that the

option was fully vested on July 7, 2018, subject to continued service with us through each relevant vesting date.

- (4) The shares were granted on November 23, 2015. On August 9, 2016, 25% of such named executive officer's shares vested and became exercisable. The remainder of the shares vested in approximately equal monthly installments through November 9, 2018.
- (5) The options were granted on April 1, 2016, which became effective at the annual stockholders' meeting of June 14, 2016, and vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on April 1, 2019, subject to continued service with us through each relevant vesting date.
- (6) The options were granted on September 22, 2016 and vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on September 22, 2019, subject to continued service with us through each relevant vesting date.
- (7) The options were granted on December 19, 2016 and vest 1/36th per month beginning one month after grant, with the remainder vesting equally over the following 35 months such that the option is vested in full on December 19, 2019, subject to continued service with us through each relevant vesting date.(10)
- (8) The options were granted on December 21, 2017 and vest 100% on March 31, 2018 if the officer is an employee as of such date.
- (9) The options were granted on March 12, 2018 and vest 1/36th per month over thirty-six months such that the option is vested in full on March 12, 2021, subject to continued service with us through each relevant vesting date.
- (10) The options were granted on June 1, 2018 and vest 1/36th per month over thirty-six months such that the option is vested in full on June 12, 2021, subject to continued service with us through each relevant vesting date.

Executive Employment Agreements

Lisa A. Conte

In March 2014, we entered into an offer letter with Ms. Conte to serve as our Chief Executive Officer, effective March 1, 2014, in an at-will capacity. Under this offer letter, Ms. Conte's annual base salary is \$400,000, she is eligible for an annual target bonus of 30% of her base salary. Effective June 15, 2015, our board of directors has reviewed the terms of Ms. Conte's employment arrangement in connection with its annual compensation review, and has adjusted Ms. Conte's base salary to \$440,000. Ms. Conte is entitled to participate in all employee benefit plans, including group health care plans and all fringe benefit plans. Effective May 1, 2018, the Compensation Committee adjusted Ms. Conte's base salary to \$500,000.

In April 2014, Ms. Conte was granted a stock option to purchase 160,383 shares of Common Stock at an exercise price of \$2.54 per share. The option has a 10-year term and vests as follows: 25% vested on January 1, 2015, 9 months after the grant date, with the remainder vesting equally over the next 27 months such that the option was vested in full on April 1, 2017. On June 2, 2014, Ms. Conte was granted 17,820 RSUs, or RSUs. Fifty percent of the shares of Common Stock underlying the RSUs vested and were issued on January 1, 2016, and the remaining 50% will vest and be issuable on July 1, 2017 pursuant to the terms of the RSU agreement. In the event of a change in control, as defined in the Jaguar Health, Inc. 2013 Equity Incentive Plan (the "2013 Plan"), the vesting of all outstanding awards granted to Ms. Conte under the 2013 Plan will accelerate if Ms. Conte's service with us is terminated without cause within twelve months of the change in control.

Steven R. King, Ph.D.

In February 2014, we entered into an offer letter with Dr. King to serve as our Executive Vice President, Sustainable Supply, Ethnobotanical Research and Intellectual Property, effective March 1, 2014, in an at-will capacity. Under the offer letter, Dr. King's annual base salary of \$255,000, he is eligible for an annual target bonus of 30% of his base salary, and he is eligible to participate in the employee benefit plans we offer to our other employees. Effective June 15, 2015, our board of directors has reviewed the terms of Dr. King's employment arrangement in connection with its annual compensation review, and has adjusted Dr. King's base salary to \$280,500. Dr. King is entitled to participate in all employee benefit plans, including group health care plans and all fringe benefit plans. Effective May 1, 2018, the Compensation Committee adjusted Dr. King's base salary to \$290,317.

In April 2014, Dr. King was granted a stock option to purchase 93,556 shares of Common Stock at an exercise price of \$2.54 per share. The option has a 10-year term and vests as follows: 25% vested on January 1, 2015, 9 months after the grant date, with the remainder vesting equally over the next 27 months such that the option was vested in full on April 1, 2017. In June 2014, Dr. King was granted 10,395 RSUs. Fifty percent of the shares of Common Stock underlying the RSUs vested and were issued on January 1, 2016, and the remaining 50% will vest and be issuable on July 1, 2017 pursuant to the terms of the RSU agreement. In the event of a change in control, as defined in the 2013 Plan, the vesting of all outstanding awards granted to Dr. King under the 2013 Plan will accelerate if Dr. King's service with us is terminated without cause within twelve months of the change in control.

Karen S. Wright

In October 2015, we entered into an offer letter with Ms. Wright to serve as our Executive Vice President, Finance, effective November 9, 2015, in an at-will capacity. On December 15, 2015 the board of directors approved Ms. Wright's appointment to serve as our Chief Finance Officer. Under the offer letter, Ms. Wright's annual base salary is \$240,000, she is eligible for an annual target bonus of 25% of her base salary, and she is eligible to participate in the employee benefit plans we offer to our other employees. Effective May 1, 2018, the Compensation Committee adjusted Ms. Wright's base salary to \$301,000.

In November 2015, Ms. Wright was granted a stock option to purchase 20,000 shares of Common Stock at an exercise price of \$2.04 per share. The option has a 10-year term and vests as follows: 25% vested on August 9, 2016, 9 months after the hire date, with the remainder vesting equally over the next 27 months such that the option is vested in full on November 9, 2018.

Compensation of Directors

The following table summarizes the total compensation earned in 2017 and 2018 for the Company's non-management directors. Ms. Conte receives no additional compensation for her service as a director. Messrs. Johnson and Siegel did not join the board of directors until March 2018, and

Messrs. Divis and MacNaughtan did not join the board of directors until June 2018, and therefore, did not receive any compensation for 2018.

	Year	Fees Earned or Paid in Cash (\$)	Option awards (\$)(4)	Total (\$)
James J. Bochnowski	2018	—	160,622	114,976
	2017	—	88,941	88,941
Folkert W. Kamphuis(1)	2018	—	109,931	109,931
	2017	—	88,410	88,410
Jiahao Qui	2018	—	18,065	18,065
	2017	—	16,435	16,435
Zhi Yang(2)	2018	—	18,065	18,065
	2017	—	16,435	16,435
John Micek III	2018	—	108,760	108,760
	2017	—	42,861	42,861
Ari Azhir(3)	2018	—	30,327	30,327
	2017	—	20,380	20,380
Jeffery C. Johnson	2018	—	29,286	29,286
	2017	—	—	—
Greg J. Divis	2018	—	15,223	15,223
	2017	—	—	—
Jonathan B. Siegel	2018	—	29,286	29,286
	2017	—	—	—
Murray David MacNaughtan	2018	—	15,223	15,223
	2017	—	—	—

Footnote to Compensation of Directors Table

- (1) Mr. Kamphuis's 3-year term on the board of directors ended effective May 18, 2018.
- (2) Dr. Yang's 3-year term on the board of directors ended effective May 18, 2018.
- (3) Dr. Azhir resigned from the board of directors effective March 29, 2018.
- (4) Represents the dollar amounts recognized for financial statement reporting purposes with respect to the fiscal year (for stock option awards) determined under FASB ASC Topic 718. The aggregate number of options held by each non-management director officer as of December 31, 2018 was as follows: Mr. Bochnowski holds an aggregate of 334,177 options (2,627 options granted in fiscal year 2014, 1,333 options granted in fiscal year 2015, 6,843 options granted in fiscal year 2016 and 323,374 options granted in fiscal year 2018); Mr. Kamphuis holds an aggregate of 62,247 options (3,333 shares granted in fiscal year 2015; 5,750 shares granted in fiscal year 2016 and 53,614 shares granted in fiscal year 2018); Mr. Qui holds an aggregate of 13,757 options (666 shares granted in fiscal year 2015; 126 shares granted in fiscal year 2016 and 12,965 shares granted in fiscal year 2018); Dr. Yang holds an aggregate of 133 options (100 shares granted fiscal year 2015, 24 shares granted fiscal year 2016 and 8 shares granted fiscal year 2018); Mr. Micek III holds an aggregate of 192,626 options (7,179 shares granted fiscal year 2016 and 185,447 shares granted fiscal year 2018); Mr. Azhir holds an aggregate of 21,818 options (4,358 shares granted fiscal year 2016 and 17,460 shares granted fiscal year 2018); Mr. Johnson holds an aggregate of 104,860 options (104,860 shares granted fiscal year 2018); Mr. Divis holds an aggregate of 104,860 options (104,860 shares granted fiscal year 2018); Mr. Siegel holds an aggregate of 104,860 options (104,860 shares granted fiscal year 2018); and Mr. MacNaughtan holds an aggregate of 104,860 options (104,860 shares granted fiscal year 2018).

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following includes a summary of transactions since January 1, 2018, to which we have been a party in which the amount involved exceeded or will exceed the lesser of (i) \$120,000 and (ii) one percent (1%) of the average of our total assets at year-end for the prior two fiscal years, and in which any of our directors, executive officers or beneficial owners of more than 5% of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest. Compensation arrangements for our directors and executive officers are described in our annual proxy statement on Schedule 14A.

Transactions with Sagard

Preferred Stock Offering

Preferred Stock Purchase Agreement

On March 23, 2018, we entered into the Preferred Stock Purchase Agreement with Sagard Capital Partners, L.P. ("Sagard"), pursuant to which we, in a private placement, agreed to issue and sell to Sagard 5,524,926 shares of Preferred Stock (the "Preferred Shares"), for an aggregate purchase price of \$9,199,001. The Preferred Stock Purchase Agreement also provides for customary representations, warranties and covenants among the parties. Among other things, the Preferred Stock Purchase Agreement requires that we (i) file prior to the initial closing the Certificate of Designation and (ii) enter into a registration rights agreement with Sagard providing for the registration of shares of our Common Stock, issuable upon conversion of the Preferred Shares (the "Conversion Shares"). In addition, so long as Sagard or its affiliates own, in the aggregate, no less than 50% or more of the cumulative amount of the Preferred Shares and Conversion Shares issued in the Preferred Stock Offering, Sagard and its affiliates have the right to purchase (x) 100% of the first \$10 million of any new securities issued by us and thereafter (y) a pro rata portion of any new securities that we may issue from time to time, subject to certain exceptions specified in the Preferred Stock Purchase Agreement. The Preferred Shares are subject to a 12-month lock-up period, which period may be shortened in limited circumstances specified in the Preferred Stock Purchase Agreement.

The Preferred Stock Purchase Agreement also provides that Sagard has the right to designate at least one non-voting observer (subject to increase to two if at any time two designees of the Preferred Shares and the Conversion Shares are not represented on the board of directors) to attend meetings of the Board, the board of directors of any of our subsidiaries and each committee of any of the foregoing (a "Board Observer"). In addition, at such time as no shares of Preferred Stock are outstanding, and so long as Sagard holds (i) at least 35% of the total number of the Conversion Shares that have been issued upon conversion of all shares of Preferred Stock issued in the Preferred Stock Offering, Sagard shall be entitled thereunder to nominate two directors of the Company (each, a "Series A Director") and (ii) less than 35% but at least 20% of the total number of the Conversion Shares that have been issued upon conversion of all shares of Preferred Stock issued in the Preferred Stock Offering, Sagard shall be entitled thereunder to nominate one director of the Company.

Notwithstanding the foregoing, the number of Series A Directors shall be reduced to the extent necessary to comply with our obligations, if any, under the rules or regulations of the Nasdaq Stock Market (including Nasdaq Listing Rule 5640). The Preferred Stock Purchase Agreement provides that, if one Series A Director may not be appointed due to compliance with Nasdaq Listing Rule 5640, then Sagard shall be entitled to designate one additional Board Observer to attend meetings of the board of directors, the board of directors of any of our subsidiaries and each committee of any of the foregoing as an observer.

Terms of Series A Preferred Stock

The Certificate of Designation authorizes 5,524,926 shares of Preferred Stock and provides for the rights, preferences and privileges of such Preferred Stock. Any reference to share prices in the below description of the Preferred Stock, including but not limited to the conversion price for the Preferred Shares and the amount of the liquidation preference per share, is subject to adjustment in the event of any stock dividend, stock split, reverse stock split, combination or other similar recapitalization, as further described in the Certificate of Designation.

Dividends

Holders of shares of Preferred Stock are entitled to participate equally and ratably with the holders of shares of Common Stock in all dividends paid and distributions made to the holders of Common Stock on the shares of Common Stock on an as converted basis.

Election of Directors and Voting Rights

The holders of a majority of the outstanding shares of Preferred Stock are entitled to elect two (2) members of the Company's Board of Directors. Notwithstanding the foregoing, the number of Series A Directors shall be reduced to the extent necessary to comply with the Company's obligations, if any, under the rules or regulations of the Nasdaq Stock Market (including Nasdaq Listing Rule 5640).

The holders of shares of Preferred Stock have the right to vote with holders of shares of the Common Stock, voting together as one class on all other matters, with each share of Preferred Stock entitling the holder thereof to cast that number of votes per share as is equal to the aggregate number of shares of Common Stock into which it is then convertible; provided that, holders of shares of Preferred Stock will not be entitled to vote together with the holders of Common Stock on any matter presented to the stockholders of the Company to the extent that such vote would be in violation of Nasdaq Listing Rule 5640.

Voluntary Conversion

Each share of Preferred Stock is initially convertible into six shares of Common Stock at an effective conversion price of \$0.2775 per share (based on an original price per Preferred Share of \$1.665). Subject to certain limited exceptions, the shares of Preferred Stock cannot be offered, pledged or sold by Sagard for one year from the date of issuance. The conversion price is subject to certain adjustments in the event of any stock dividend, stock split, reverse stock split, combination or other similar recapitalization.

Mandatory Conversion

The shares of Preferred Stock will be mandatorily converted upon the date and time, or the occurrence of an event, specified by vote or written consent of the holders of a majority of the then outstanding shares of Preferred Stock at a conversion price of \$0.2775 per share. In each case, the number of shares of Common Stock issuable upon such conversion will be limited to the extent necessary to satisfy limitations on beneficial ownership as described under "Voluntary Conversion" above.

Optional Redemption

At any time after the first anniversary of the issuance of the Preferred Shares, so long as certain call conditions specified in the Certificate of Designation have been satisfied, the Company shall have the right to offer to redeem shares of Preferred Stock at a share price equal to two times the original

share issue price of the Preferred Shares. The Company is only permitted to exercise this right to redeem two times, the first of which must be for an aggregate redemption price of \$9,199,001 and the second of which must be for all remaining shares of Preferred Stock remaining. If a holder of Preferred Shares fails to accept the Company's redemption offer, such holder's shares of Preferred Stock shall be automatically converted into shares of Common Stock pursuant to the terms of "Mandatory Conversion" as described above.

Mandatory Redemption

If (i) the Company's consolidated net revenues attributable to the Mytesi products ("Mytesi Revenues") for the six-month period ended March 31, 2021 are less than \$22 million, (ii) the average volume-weighted average price of the Common Stock for the thirty days immediately prior to the Measurement Date (as defined below) is less than \$1.50 or (iii) the Company fails to file with the SEC on or before June 30, 2021 its quarterly report on Form 10-Q for the three months ended March 31, 2021, then the holders of at least a majority of shares of Preferred Stock then outstanding may require the Company to redeem all shares of Preferred Stock then outstanding at a per share purchase price equal to \$2.3057. For purposes of the foregoing sentence, "Measurement Date" means the later of (x) April 30, 2021 and (y) the date on which the Company files its quarterly report on Form 10-Q for the three months ended March 31, 2021 (but in no event later than June 30, 2021).

The mandatory redemption right described above shall terminate if, prior to the Measurement Date, both (i) the Mytesi Revenues for any six-month period ending at the end of a calendar quarter are equal to or exceed \$22 million and (ii) the average volume-weighted average price of the Common Stock for the thirty days immediately preceding the end of such calendar quarter is equal to or greater than \$1.50.

Services Agreement

On March 23, 2018, the Company entered into a management services agreement with Sagard Capital Partners Management Corp. ("SCPM"), an affiliate of Sagard, pursuant to which SCPM will provide certain consulting and management advisory services to the Company over a three-year period (the "Initial Term") for an annual fee of \$450,000, which fees will be paid in equal installments over the Initial Term beginning in the second year of the Initial Term (the "Services Agreement"). The Services Agreement may be terminated earlier than the initial three-year term (i) upon mutual consent of the parties, (ii) by either party following a breach of the Services Agreement by the other party that remains uncured following 30 days' written notice thereof, (iii) in SCPM's sole discretion with 10 day's prior written notice, or (iv) upon the consummation of a Deemed Liquidation (so long as all accrued and unpaid fees payable thereunder as of such termination have been paid in full) or a Fundamental Change in which all of the Company's shares of Preferred Stock are repurchased by the Company.

As described above, Jeffery C. Johnson, a member of our board of directors, is an investment manager at SCPM.

Transactions with CVP

On February 26, 2018, the Company entered into a securities purchase agreement with Chicago Venture Partners L.P. ("CVP"), pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of \$2,240,909 for an aggregate purchase price of \$1,560,000 (the "Feb 2018 Note"). The Feb 2018 Note carries an original issue discount of \$655,909, and the initial principal balance also includes \$25,000 to cover CVP's transaction expenses. The Feb 2018 Note bears interest at the rate of 8% per annum and matures on August 26, 2019.

On March 21, 2018, the Company entered into a securities purchase agreement with CVP, pursuant to which the Company issued to CVP a promissory note in the aggregate principal amount of

\$1,090,341 for an aggregate purchase price of \$750,000 (the "March 2018 Note"). The March 2018 Note carries an original issue discount of \$315,341, and the initial principal balance also includes \$25,000 to cover CVP's transaction expenses. The March 2018 Note bears interest at the rate of 8% per annum and matures on September 21, 2019.

Effective August 13, 2018, the Company entered into an acknowledgement agreement with CVP extending the maturity date of the \$2,155,000 secured convertible promissory note dated July 29, 2017 (the "June 2017 Note") from August 2, 2018 to August 26, 2019 and also extending the maturity date of the \$1,587,500 secured promissory note dated December 8, 2017 (the "Dec 2017 Note" and, together with the June 2017 Note, the Feb 2018 Note and the March 2018 Note, the "CVP Notes") from September 8, 2018 to August 26, 2019.

In January through March 2019, the Company entered into exchange agreements with CVP, pursuant to which the Company issued 18,764,637 shares of Common Stock in the aggregate to CVP in exchange for a reduction of approximately \$4.4 million in the principal amount of the CVP 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.

Transactions with Oasis Capital

On January 7, 2019, the Company entered into a common stock purchase agreement (the "January CSPA") with Oasis Capital, LLC ("Oasis Capital"), relating to an offering (the "Original Equity Line Offering") of an aggregate of up to 5,633,333 shares (the "Original Shares") of Common Stock, of which 5,333,333 of such Original Shares are being offered in a primary offering consisting of an equity line of credit. The Company initially issued 300,000 shares of Common Stock (the "Commitment Shares") to Oasis Capital as an inducement to enter into the January CSPA. Additionally, under the terms of the January CSPA, the Company has the right to "put," or sell, up to 5,333,333 shares of Common Stock (the "January Purchase Shares") to Oasis Capital for an amount equal to the product of (i) the number of January Purchase Shares set forth on the applicable put notice (minus the deposit and clearing fees associated with such purchase) and (ii) a fixed price of \$0.75 per share or such other price agreed upon between the Company and Oasis Capital. The Company had the option to increase the equity line of credit by an additional 8,000,000 shares of Common Stock by notifying Oasis Capital at any time after the effective date of the January CSPA (the "January Upsize Option"). On March 18, 2019, the Company delivered a notice to Oasis Capital of its decision to exercise the January Upsize Option. The Company has sold the Original Shares and all 8,000,000 shares of Common Stock under the January Upsize Option to Oasis Capital.

On March 24, 2019, the Company entered into a securities purchase agreement (the "Purchase Agreement") with Oasis Capital, pursuant to which the Company agreed to issue and sell, in a registered public offering by the Company directly to Oasis Capital (the "RDO"), an aggregate of 1,331,332 shares of Common Stock (the "RDO Shares") at an offering price of \$0.20 per share for gross proceeds of approximately \$266,266 before deducting the placement agent fee and related offering expenses.

On April 1, 2019, the Company entered into another common stock purchase agreement (the "April CSPA") with Oasis Capital relating to an offering (the "April Equity Line Offering") of an aggregate of up to 20,000,000 shares (the "April Purchase Shares") of the Company's common stock, all of which are being offered in a primary offering consisting of an equity line of credit. Under the terms of the April CSPA, the Company has the right to "put," or sell, the April Purchase Shares to Oasis Capital for an amount equal to the product of (i) the number of April Purchase Shares set forth in the applicable put notice (minus the deposit and clearing fees associated with such purchase) and (ii) a fixed price of \$0.28 per share or such other price agreed upon between the Company and Oasis Capital. The Company had the option to increase the equity line of credit by an additional 20,000,000

shares of Common Stock by notifying Oasis Capital at any time after the effective date of the April CSPA.

Transactions with Lisa A. Conte

Lisa A. Conte has served as our President, Chief Executive Officer and a member of our board of directors since she founded the company in June 2013. On July 18, 2018, Ms. Conte purchased 1,500 shares of common stock for an aggregate purchase price of \$1,668.60.

Transactions with Jonathan B. Siegel

On March 29, 2018, our board of directors appointed Mr. Jonathan B. Siegel to fill the vacancy created by Dr. Azhir's resignation and serve as Class I director of the Company until the 2019 annual meeting of stockholders or until his successor is elected and qualified.

Mr. Siegel was formerly a principal and member of the executive committee of Kingdon Capital ("Kingdon") and the head for Kingdon's healthcare sector. As described further above, on March 31, 2017, Napo Pharmaceuticals, Inc. ("Napo") entered into the Kingdon NPA with the Kingdon Purchasers, which are affiliates of Kingdon, under which remains outstanding approximately \$10 million in aggregate principal amount of the Kingdon Notes. Napo's obligations under the Kingdon Notes are secured by a security interest in substantially all of Napo's assets, including Napo intellectual property.

On July 16, 17, and 18, 2018, JBS Healthcare Ventures LLC purchased an aggregate of 15,000 shares of common stock in the open market for an aggregate purchase price of \$18,653. Mr. Siegel is the sole member of JBS Healthcare Ventures LLC.

Transactions with Charles C. Conte

Charles C. Conte is the brother of Lisa A. Conte, who has served as our President, Chief Executive Officer and a member of our board of directors since she founded the company in June 2013.

On September 11, 2018, Charles C. Conte purchased a convertible promissory note in the aggregate principal amount of \$111,250 convertible at a price of \$0.85 per share of common stock and a warrant exercisable for 33,918 shares of common stock with an exercise price of \$1.23 per share on terms substantially the same as those negotiated with a third party.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and officers. These agreements, among other things, require us or will require us to indemnify each director to the fullest extent permitted by Delaware law, including indemnification of expenses such as expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted incurred by the director or officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person's services as a director or officer.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act, and regulations of the SEC thereunder require our directors, officers and persons who own more than 10% of our Common Stock, as well as certain affiliates of such persons, to file initial reports of their ownership of our Common Stock and subsequent reports of changes in such ownership with the SEC. Directors, officers and persons owning more than 10% of our Common Stock are required by SEC regulations to furnish us with copies of all Section 16(a) reports they file. Based solely on our review of the copies of such reports and amendments thereto received by us and written representations from these persons that no other reports were required, we believe that during the fiscal year ended December 31, 2018, our directors, officers and owners of more than 10% of our Common Stock complied with all applicable filing requirements except that each of Ari Azhir, Zhi Yang, Folkert Kamphuis, Jiahao Qui, John Micek III and James Bochnowski filed a Form 4 on June 6, 2018 reporting a grant of stock options that should have been filed on March 14, 2018 pursuant to Section 16(a) of the Exchange Act.

**AUDIT AND OTHER FEES AND AUDIT AND
AUDIT COMMITTEE PRE-APPROVAL PROCESS**

Principal Accountant Fees and Services

Below is a listing of the services provided by type and amount charged to us by our independent registered public accounting firms for fiscal years 2018 and 2017. Effective on April 2, 2019, BDO USA, LLP ("BDO") declined to stand for re-election as our independent registered public accounting firm for the fiscal year ending December 31, 2019. The change will not be effective until the Company files its Form 10-K for the year ended December 31, 2018.

The reports of BDO on the Company's consolidated financial statements for the fiscal years ended December 31, 2017 and 2016 contained an explanatory paragraph regarding the Company's ability to continue as a going concern and contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles. During the fiscal years ended December 31, 2017 and 2016, and in the subsequent interim period through April 2, 2019, there have been no disagreements with BDO on any matters of accounting principles or practices, financial statement disclosure or auditing scope and procedure which, if not resolved to the satisfaction of BDO, would have caused BDO to make reference to the matter in its reports on the financial statements for such years.

During the two fiscal years ended December 31, 2017 and 2016 and the subsequent interim period through April 2, 2019, there were no reportable events (as that term is described in Item 304(a)(1)(v) of Regulation S-K), except as follows:

- BDO's audit reports for the fiscal years ended December 31, 2017 and 2016 included an explanatory paragraph indicating that there was substantial doubt about the Company's ability to continue as a going concern.
- As previously disclosed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, there was a material weakness in the internal control over financial information relating to the review of the tax provision.
- The Company will disclose a material weakness in the internal control over financial information in its Annual Report on Form 10-K for the fiscal year ended December 31, 2018 relating to staff turnover in its accounting department. The Company did not maintain a sufficient complement of internal personnel with appropriate knowledge, experience and/or training commensurate with its financial reporting requirements. The Company relied on outside consulting technical experts and did not maintain adequate internal qualified personnel to properly supervise and review the information provided by the outside consulting technical experts to ensure certain significant complex transactions and technical matters were properly accounted for, specifically with respect to accurately reflecting all potential accrued services on the balance sheet at December 31, 2018. In addition, the Company identified inadequate internal technical staffing levels and expertise to properly supervise and review the information of the outside consulting technical experts to properly apply ASC 815-40 for liability classification of certain warrants and ASC 470-50 and ASC 470-60 to properly reflect the accounting impact to multiple modifications of the Company's debt instruments.

The following table sets forth the fees billed for audit and other services rendered by BDO for the two fiscal years ended December 31, 2018 and 2017:

	Years ended	
	December 31,	
	2018	2017
Audit Fees	\$ 599,140	\$ 594,909
Audit Related Fees	—	—
Tax Fees	—	—
All Other Fees	—	—
Total	<u>\$ 599,140</u>	<u>\$ 594,909</u>

Audit fees include fees and out-of-pocket expenses, whether or not yet invoiced, for professional services provided in connection with the audit of our annual financial statements and review of our quarterly financial statements. In 2017 and 2018, audit fees also include fees for our follow-on public offerings and reviews of services provided in connection with other SEC filings.

Policy on Audit Committee Preapproval of Audit and Permissible Non-audit Services of the Independent Registered Public Accounting Firm

As specified in the Audit Committee charter, the Audit Committee pre-approves all audit and non-audit services provided by the independent registered public accounting firm prior to the receipt of such services. Thus, the Audit Committee approved 100% of the services set forth in the above table prior to the receipt of such services and no services were provided under the permitted *de minimus* threshold provisions.

The Audit Committee determined that the provision of such services was compatible with the maintenance of the independence of BDO.

AUDIT COMMITTEE REPORT

Management has primary responsibility for our financial statements and the overall reporting process, including maintaining effective internal control over financial reporting and assessing the effectiveness of our system of internal controls. The independent registered public accounting firm audits the annual financial statements prepared by management, expresses an opinion as to whether those financial statements fairly present our financial position, results of operations and cash flows in conformity with U.S. generally accepted accounting principles, and discusses with the Audit Committee any issues it believes should be raised with the Audit Committee. These discussions include a discussion of the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments, and the clarity of disclosures in the financial statements. The Audit Committee monitors our processes, relying, without independent verification, on the information provided to it and on the representations made by management and the independent registered public accounting firm.

BDO USA, LLP (BDO), our Company's independent auditor for the year ended December 31, 2018, is responsible for expressing an opinion on the fairness of the presentation of the Company's financial statements in conformity with accounting principles generally accepted in the United States of America, in all material respects.

In this context, the Audit Committee has reviewed and discussed with management and BDO the audited financial statements for the year ended December 31, 2018. The Audit Committee has discussed with BDO the matters that are required to be discussed under the Public Accounting Oversight Board Auditing Standard No. 1301 "*Communications with Audit Committees*". BDO has provided to the Audit Committee the written disclosures and the letter required by applicable requirements of the Public Company Accounting Oversight Board's Ethics and Independence rule 3526 "*Communications with Audit Committees Concerning Independence*", and the Audit Committee has discussed with BDO that firm's independence. The Audit Committee has concluded that BDO's provision of audit and non-audit services to the Company are compatible with BDO's independence.

Based on the considerations and discussions referred to above, the Audit Committee recommended to our Board of Directors that the audited financial statements for the year ended December 31, 2018 be included in our Annual Report on Form 10-K for 2018. This report is provided by the following independent directors, who comprise the Audit Committee:

Audit Committee:

John Micek III, Chairperson
James J. Bochnowski
Jonathan B. Siegel

May 1, 2019

STOCKHOLDER PROPOSALS FOR 2020 ANNUAL MEETING

In accordance with SEC Rule 14a-8, in order for stockholder proposals intended to be presented at the 2020 Annual Meeting of Stockholders to be eligible for inclusion in our proxy statement for such meeting, they must be received by us at our executive offices in San Francisco, California, before December 28, 2019. The board of directors has not determined the date of the 2020 Annual Meeting of the Company's Stockholders, but does not currently anticipate that the date will be changed by more than 30 calendar days from the date of the 2019 Annual Meeting of Stockholders.

Stockholder proposals (including recommendations of nominees for election to the board of directors) intended to be presented at the 2020 Annual Meeting of Stockholders, other than a stockholder proposal submitted pursuant to SEC Rule 14a-8, must be received in writing at our principal executive office no earlier than January 1, 2020 and no later January 31, 2020, in accordance with our bylaws. If the date of the 2020 Annual Meeting of Stockholders is scheduled for a date more than 30 days before or more than 60 days after May 24, 2020, then such proposals must be received not later than the close of business on the later of the 90th day prior to the scheduled date of the 2020 Annual Meeting or the 10th day following the day on which public disclosure of the date of the 2020 Annual Meeting of Stockholders is first made, as set forth in our bylaws.

AVAILABILITY OF ANNUAL REPORT TO STOCKHOLDERS AND REPORT ON FORM 10-K

A copy of our Annual Report, which includes certain financial information about the Company, is being provided with this Proxy Statement. Copies of our Annual Report (exclusive of exhibits and documents incorporated by reference) may also be obtained for free by directing written requests to: Jaguar Health, Inc., Attention: Karen S. Wright, 201 Mission Street, Suite 2375, San Francisco, CA 94105 (415.371.8300 phone). Copies of exhibits and basic documents filed with the Annual Report or referenced therein will be furnished to stockholders upon written request and payment of a nominal fee in connection with the furnishing of such documents. You may also obtain the Annual Report over the Internet at the SEC's website, www.sec.gov, or at <https://jaguarhealth.gcs-web.com/financial-information/annual-reports>.

LIST OF THE COMPANY'S STOCKHOLDERS

A list of our stockholders as of March 27, 2019, the Record Date, will be available for inspection at our corporate headquarters during normal business hours during the 10-day period prior to the Annual Meeting. The list of stockholders will also be available for such examination at the Annual Meeting.

DELIVERY OF PROXY MATERIALS TO HOUSEHOLDS

Unless contrary instructions are received, we may send a single copy of the Annual Report, Proxy Statement and Notice of Annual Meeting to any household at which two or more stockholders reside if we believe the stockholders are members of the same family. Each stockholder in the household will continue to receive a separate proxy card. This process is known as "householding" and helps reduce the volume of duplicate information received at a single household, which reduces costs and expenses borne by us.

If you would like to receive a separate set of our annual disclosure documents this year or in future years, follow the instructions described below and we will deliver promptly a separate set.

Similarly, if you share an address with another stockholder and the two of you would like to receive only a single set of our annual disclosure documents, follow the instructions below:

1. If your shares are registered in your own name, please contact our transfer agent by writing to them at Computershare Investor Services, PO Box 30170, College Station, Texas 77842-3170 (Attn: Jaguar Health, Inc. Representative) or calling 1-800-962-4284.
2. If a bank, broker or other nominee holds your shares, please contact your bank, broker or other nominee directly.

OTHER MATTERS THAT MAY COME BEFORE THE ANNUAL MEETING

Our board of directors knows of no matters other than those referred to in the accompanying Notice of Annual Meeting of Stockholders which may properly come before the Annual Meeting. However, if any other matter should be properly presented for consideration and voting at the Annual Meeting or any adjournments or postponements thereof, it is the intention of the persons named as proxies on the enclosed form of proxy card to vote the shares represented by all valid proxy cards in accordance with their judgment of what is in the best interest of the Company.

By Order of the Board of Directors.



Lisa A. Conte
Chief Executive Officer & President

San Francisco, California
May 1, 2019

**CERTIFICATE OF FOURTH AMENDMENT TO THE
THIRD AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF
JAGUAR HEALTH, INC.**

Jaguar Health, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies that:

1. The name of the Corporation is Jaguar Health, Inc. The date of filing of the Corporation's original Certificate of Incorporation with the Secretary of State of the State of Delaware was June 6, 2013, under the name Jaguar Animal Health, Inc.
2. This Certificate of Fourth Amendment to the Third Amended and Restated Certificate of Incorporation was duly authorized and adopted by the Corporation's Board of Directors and stockholders in accordance with Section 242 of the General Corporation Law of the State of Delaware and amends the provisions of the Company's Third Amended and Restated Certificate of Incorporation.
3. The amendment to the existing Third Amended and Restated Certificate of Incorporation being effected hereby is as follows:
 - a. Add the following paragraph at the end of Section IV.A. as a new Section IV.A.7:

"7. Second Reverse Stock Split. Upon this Amendment to the Third Restated Certificate becoming effective pursuant to the DGCL (the "*Effective Time*"), each thirty to seventy shares of Common Stock issued and outstanding immediately prior to the Effective Time shall automatically be reclassified and combined into one (1) validly issued, fully paid and non-assessable share of Common Stock, the exact ratio within the foregoing range to be determined by the Board of Directors prior to the Effective Time and publicly announced by the Corporation, without any further action by the Corporation or the holder thereof (the "*Second Reverse Stock Split*"). No fractional shares shall be issued in connection with the Second Reverse Stock Split. Stockholders who otherwise would be entitled to receive fractional shares of Common Stock shall be entitled to receive cash (without interest or deduction) from the Corporation's transfer agent in lieu of such fractional share interests upon the submission of a transmission letter by a stockholder holding the shares in book-entry form and, where shares are held in certificated form, upon the surrender of the stockholder's Old Certificates (as defined below), in an amount equal to the product obtained by multiplying (a) the closing price per share of the Common Stock as reported on the Nasdaq Capital Market as of the date of the Effective Time, by (b) the fraction of one share owned by the stockholder. Each certificate that immediately prior to the Effective Time represented shares of Common Stock ("*Old Certificates*"), shall thereafter represent that number of shares of Common Stock into which the shares of Common Stock represented by the Old Certificate shall have been combined, subject to the elimination of fractional share interests as described above."
4. This Certificate of Fourth Amendment to the Third Amended and Restated Certificate of Incorporation shall be effective immediately upon filing with the Delaware Secretary of State.

IN WITNESS WHEREOF, Jaguar Health, Inc. has caused this Certificate of Fourth Amendment to the Third Amended and Restated Certificate of Incorporation to be signed by [], its [], this [•] day of [•], 2019.

JAGUAR HEALTH, INC.

A Delaware corporation

By: _____

Name:

Title:

A-2

2019 Annual Meeting Admission Ticket

2019 Annual Meeting of
Jaguar Health, Inc. Shareholders

Friday, May 24, 2019, 8:30 a.m. Local Time
201 Mission Street, Suite 2375
San Francisco, CA 94105

Upon arrival, please present this admission ticket
and photo identification at the registration desk.



▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Proxy – JAGUAR HEALTH, INC.



Notice of 2019 Annual Meeting of Shareholders

201 Mission Street, Suite 2375, San Francisco, CA 94105

Proxy Solicited by Board of Directors for Annual Meeting – May 24, 2019

Lisa Conte and Karen Wright, or any of them, each with the power of substitution, are hereby authorized to represent and vote the shares of the undersigned, with all the powers which the undersigned would possess if personally present, at the Annual Meeting of [Stockholders](#) of JAGUAR HEALTH, INC. to be held on May 24, 2019 or at any postponement or adjournment thereof.

If this proxy is properly completed and returned, shares represented by this proxy will be voted as directed by the [stockholder](#). If no such directions are indicated, this proxy will be voted in accordance with the recommendations of the board of directors, i.e., FOR Proposals 1, 2, 3, 4, 5 and 6.

In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the meeting or any adjournment or postponement thereof.

(Items to be voted appear on reverse side.)

B Authorized Signatures – This section must be completed for your vote to be counted. – Date and Sign Below

Please sign exactly as name(s) appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title.

Date (mm/dd/yyyy) – Please print date below.

Signature 1 – Please keep signature within the box.

Signature 2 – Please keep signature within the box.

C Non-Voting Items

Change of Address – Please print new address below.



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