

Prospectus Supplement
(To Prospectus dated February 11, 2019)



We have entered into an at-the-market offering agreement (the “Offering Agreement”), dated June 7, 2019, with H. C. Wainwright & Co., LLC (“Sales Agent” or “Wainwright”) as sales agent relating to the shares of our common stock offered by this prospectus supplement. In accordance with the terms of the Offering Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$6,000,000 from time to time through Wainwright acting as our sales agent.

Sales of common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in transactions that are deemed to be “at-the-market” offerings as defined in Rule 415 under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on or through The Nasdaq Capital Market, the existing trading market for our common stock, or any other existing trading market in the United States for our common stock, sales made to or through a market maker other than on an exchange or otherwise, directly to the sales agent as principal, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock into The Nasdaq Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. Wainwright will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

We will pay Wainwright a commission equal to 3% of the gross sales price per share of common stock issued by us and sold through it as our sales agent under the Offering Agreement. In connection with the sale of the common stock on our behalf, Wainwright will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright will be deemed to be underwriting commissions or discounts.

Our common stock is traded on The Nasdaq Capital Market under the trading symbol “ACHV.” The last reported sales price of our common stock on The Nasdaq Capital Market on June 6, 2019 was \$3.55 per share.

The aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$34,902,024, which was calculated based on 7,825,566 shares of our outstanding common stock held by non-affiliates on June 6, 2019 at a price of \$4.46 per share, the closing price of our common stock on May 1, 2019. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our public float in any 12-calendar month period so long as our public float remains below \$75.0 million. In the 12-month period prior to the date of this prospectus supplement we offered \$5,626,322 of securities pursuant to General Instruction I.B.6 of Form S-3.

Investing in our common stock involves significant risks. Before making an investment decision, please read the information under the heading “[Risk Factors](#)” beginning on page S-4 of this prospectus supplement and on page 3 of the accompanying prospectus, as well as in the documents incorporated herein and therein by reference, for more information before you make any investment in our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

H.C. Wainwright & Co.
The date of this prospectus supplement is June 7, 2019.

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Prospectus

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Neither we nor Wainwright have authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus supplement or the accompanying prospectus. Neither we nor Wainwright take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement and the accompanying prospectus are an offer to sell only the shares offered hereby, but only in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus relate to the sale of shares of our common stock registered for sale under our Registration Statement on Form S-3, as amended (File no. 333-229019) (the “Registration Statement”), which the Securities Exchange Commission (the “Commission” or the “SEC”) declared effective on February 11, 2019. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein and therein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

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

Neither we nor the Sales Agent have authorized anyone to provide information different from that contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering. When you make a decision about whether to invest in our common stock, you should not rely upon any information other than the information in this prospectus supplement or the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering. Neither the delivery of this prospectus supplement or the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, nor the sale of our common stock means that information contained in this prospectus supplement and the accompanying prospectus, including any free writing prospectus that we have authorized for use in this offering, is correct after their respective dates. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement.

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We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, and the Securities and Exchange Commission, or SEC, filings that are incorporated by reference into this prospectus supplement and the accompanying prospectus contain or incorporate by reference “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. These statements are often, but not always, made through the use of words or phrases such as “anticipate,” “estimate,” “plan,” “project,” “continuing,” “ongoing,” “expect,” “believe,” “intend” and similar words or phrases. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. Accordingly, these statements involve estimates, assumptions, risks and uncertainties, including the risks discussed in the section titled “Risk Factors,” that could cause actual results to differ materially from those expressed in them. You should not place undue reliance on these forward-looking statements. Although forward-looking statements reflect management’s good faith beliefs, reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. These forward-looking statements include, but are not limited to, statements about:

- our ability to continue as a going concern, our anticipated future capital requirements and the terms of any capital financing agreements;
- progress and preliminary and future results of any clinical trials;
- anticipated regulatory filings, requirements and future clinical trials;
- timing and amount of future contractual payments, product revenue and operating expenses; and
- market acceptance of our products and the estimated potential size of these markets.

Discussions containing these forward-looking statements may be found throughout this prospectus supplement, the accompanying prospectus, and the SEC filings that are incorporated by reference into this prospectus supplement and the accompanying prospectus. Forward-looking statements speak only as of the date the statements are made. We undertake no obligation to update the forward-looking statements or to reflect events or circumstances. The risks discussed in this prospectus supplement, the accompanying prospectus, and the SEC filings that are incorporated by reference into this prospectus supplement and the accompanying prospectus should be considered in evaluating our prospects and future financial performance.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information you should consider before investing in our common stock pursuant to this prospectus supplement and the accompanying prospectus. Before making an investment decision, to fully understand this offering and its consequences to you, you should carefully read this entire prospectus supplement and the accompanying prospectus, including the section "Risk Factors" in this prospectus supplement, the financial statements and related notes, and the other information that we incorporate by reference into this prospectus supplement, including the section "Risk Factors" in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2019. As used in this prospectus supplement, unless the context requires otherwise, the terms "Company," "Achieve," "we," "our" and "us" refer to Achieve Life Sciences, Inc., unless otherwise specified.

Achieve Life Sciences, Inc.

Achieve is a clinical-stage pharmaceutical company committed to the global (excluding Central and Eastern Europe plus other territories) development and commercialization of cytisinicline for smoking cessation. Cytisinicline is an established 25-day smoking cessation treatment that has been approved and marketed in Central and Eastern Europe by Sopharma AD for over 20 years under the brand name Tabex™. It is estimated that over 20 million people have used cytisinicline to help treat nicotine addiction, including over 2,000 patients in investigator-conducted, Phase 3 clinical trials in Europe and New Zealand. Both trials were published in the New England Journal of Medicine in September 2011 and December 2014, respectively.

Cytisinicline is a naturally occurring, plant-based alkaloid from the seeds of the *Laburnum anagyroides* plant. Cytisinicline is structurally similar to nicotine and has a well-defined, dual-acting mechanism of action that is both agonistic and antagonistic. It is believed to aid in smoking cessation by interacting with nicotine receptors in the brain by reducing the severity of nicotine withdrawal symptoms through agonistic binding to nicotine receptors and by reducing the reward and satisfaction associated with smoking through antagonistic properties. The currently-marketed 1.5 mg cytisinicline dosing schedule reflects that of an anti-addiction medication, with downward dose titration over a period of 25 days.

Our Corporate Information

We were incorporated in California in October 1991 and subsequently reorganized as a Delaware corporation in March 1995. On August 1, 2017, we completed our business combination with what was then known as "Achieve Life Science, Inc." and changed our corporate name to "Achieve Life Sciences, Inc." Our principal executive offices are located at 1040 West Georgia Street, Suite 1030, Vancouver, B.C. V6E 4H1, telephone number (604) 210-2217. Our website is located at <http://achievelifesciences.com/>. Except for information specifically incorporated herein by reference, the information contained on or accessible through our website is not a part of this prospectus supplement or the accompanying prospectus.

THE OFFERING

Common stock offered by us	Shares of our common stock with aggregate gross sale proceeds of up to \$6,000,000.
Common stock to be outstanding after the offering	Up to 8,411,340 shares, after giving effect to the assumed sale of 1,690,140 of shares of our common stock at a price of \$3.55 per share, which was the closing price of our common stock on The Nasdaq Capital Market on June 6, 2019. The actual number of shares issued will vary depending on the price at which shares may be sold from time to time during this offering.
Form of offering	The Sales Agent may, according to the terms of the Offering Agreement, sell the shares of our common stock offered under this prospectus supplement in an “at-the-market” offering.
Use of proceeds	We currently intend to use the net proceeds we receive from this offering to advance our product candidate cytisinicline as well as for general corporate purposes. We may also potentially use a portion of the net proceeds to in-license or acquire additional assets. See the section entitled “Use of Proceeds” on page S-6 of this prospectus supplement.
Transfer agent and registrar	The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.
Risk factors	Investing in our common stock involves significant risks. Please see “Risk Factors” in this prospectus supplement and the accompanying prospectus, as well as the discussion of risk factors contained in our annual, quarterly and current reports filed with the Securities and Exchange Commission, or SEC, under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are incorporated by reference into this prospectus supplement and the accompanying prospectus.
Nasdaq Capital Market Symbol	“ACHV”

The information above and in the foregoing table is based on 6,721,200 shares outstanding as of March 31, 2019, assumes the issuances and sales described above, and excludes:

- 144,750 shares of our common stock that may be issued upon the conversion of our Series A Convertible Preferred Stock outstanding as of March 31, 2019;
- 967,685 shares of common stock issuable upon the exercise of options outstanding as of March 31, 2019, with a weighted average exercise price of \$11.21 per share;
- 35,000 shares of common stock issuable upon the exercise of options granted after March 31, 2019, with a weighted average exercise price of \$4.02 per share;
- 15,009 shares of common stock subject to restricted stock units outstanding as of March 31, 2019;
- 4,055,890 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2019, with a weighted average exercise price of \$7.38 per share; and
- 647,305 shares of common stock reserved for future issuance under our equity incentive plans as of March 31, 2019.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Quarterly Report on Form 10-Q and any subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus supplement, and all other information contained or incorporated by reference into this prospectus supplement, as updated by our subsequent filings under the Exchange Act before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

Risks Related to this Offering

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. The net proceeds from this offering will be used for general corporate purposes, which may include sales and marketing costs, clinical studies, research and development costs, manufacturing development, the acquisition or licensing of other businesses or technologies, repayment and refinancing of debt, working capital and capital expenditures. Our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock.

You may experience immediate and substantial dilution.

The offering price per share in this offering may exceed the net tangible book value per share of our common stock outstanding prior to this offering. Assuming that an aggregate of 1,690,140 shares of our common stock are sold at a price of \$3.55 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on June 6, 2019, for aggregate gross proceeds of \$6 million, after deducting commissions and estimated aggregate offering expenses payable by us, you will experience immediate dilution of \$2.06 per share, representing the difference between our as-adjusted net tangible book value per share as of March 31, 2019, after giving effect to this offering and the assumed offering price. The exercise of outstanding stock options and warrants may result in further dilution of your investment. See the section entitled “Dilution” below for a more detailed illustration of the dilution you would incur if you participate in this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

Because we do not currently intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the operation, development and growth of our business. Furthermore, any future debt agreements may also preclude us from paying or place restrictions on our ability to pay dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain with respect to your investment for the foreseeable future.

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The exercise of our outstanding options and warrants and the vesting of our outstanding restricted stock units will dilute stockholders and could decrease our stock price.

The exercise of our outstanding options and warrants and the vesting of our outstanding restricted stock units may adversely affect our stock price due to sales of a large number of shares or the perception that such sales could occur. These factors also could make it more difficult to raise funds through future offerings of our securities, and could adversely impact the terms under which we could obtain additional equity capital. Exercise of outstanding options and warrants, vesting of outstanding restricted stock units or any future issuance of additional shares of common stock or other equity securities, including but not limited to options, warrants, restricted stock units or other derivative securities convertible into our common stock, may result in significant dilution to our stockholders and may decrease our stock price.

The common stock offered hereby will be sold in “at-the-market” offerings, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

The actual number of shares we will issue under the Offering Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the Offering Agreement and compliance with applicable law, we have the discretion to deliver a sales notice to Wainwright at any time throughout the term of the Offering Agreement. The number of shares that are sold by Wainwright after delivering a sales notice will fluctuate based on the market price of the common stock during the sales period and limits we set with Wainwright. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares that will be ultimately issued.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to \$6,000,000 from time to time. The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will sell any shares under or fully utilize the Offering Agreement with the agent as a source of financing.

We intend to use the net proceeds of this offering to advance our product candidate cytisinicline and for general corporate purposes, which may include sales and marketing costs, clinical studies, research and development costs, manufacturing development, the acquisition or licensing of other businesses or technologies, repayment and refinancing of debt, working capital and capital expenditures. We may temporarily invest the net proceeds in a variety of capital preservation instruments, including short-term, investment grade, interest bearing instruments and U.S. government securities, until they are used for their stated purpose. The expected use of the net proceeds from the sale of common stock offered by this prospectus supplement represents our intentions based upon our current plans. The amounts and timing of our actual expenditures of such proceeds may vary significantly depending on numerous factors and, as a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

DILUTION

Purchasers of common stock offered by this prospectus supplement and the accompanying prospectus will suffer immediate and substantial dilution in the net tangible book value per share of common stock. Our net tangible book value as of March 31, 2019 was approximately \$6.9 million or approximately \$1.03 per share of common stock. Net tangible book value per share represents the amount of total tangible assets (total assets less intangible assets) less total liabilities, divided by the number of shares of our common stock outstanding as of March 31, 2019.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the assumed sale of shares of our common stock in the aggregate amount of approximately \$6 million at an assumed offering price of \$3.55 per share, the last reported sale price of our common stock on June 6, 2019, and after deduction of commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2019 would have been approximately \$12.52 million, or \$1.49 per share of common stock. This represents an immediate increase in net tangible book value of \$0.46 per share of common stock to our existing stockholders as a result of this offering and an immediate dilution in net tangible book value of \$2.06 per share of common stock to investors participating in this offering at an assumed offering price of \$3.55 per share. The following table illustrates this per share dilution:

Assumed public offering price per share		\$	3.55
Net tangible book value per share as of March 31, 2019	\$	1.03	
Increase in net tangible book value per share attributable to this offering		<u>0.46</u>	
As adjusted net tangible book value per share as of March 31, 2019, after giving effect to this offering			<u>1.49</u>
Dilution per share to new investors purchasing shares in this offering		\$	<u>2.06</u>

The table above assumes for illustrative purposes that an aggregate of 1,690,140 shares of our common stock are sold at a price of \$3.55 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on June 6, 2019, for aggregate gross proceeds of \$6 million. The shares sold in this offering, if any, will be sold from time to time at various prices. An increase of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$3.55 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$6 million is sold at that price, would increase our adjusted net tangible book value per share after the offering to \$1.56 per share and would increase the dilution in net tangible book value per share to new investors in this offering to \$2.99 per share, after deducting commissions and estimated aggregate offering expenses payable by us. A decrease of \$1.00 per share in the price at which the shares are sold from the assumed offering price of \$3.55 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$6 million is sold at that price, would decrease our adjusted net tangible book value per share after the offering to \$1.38 per share and would decrease the dilution in net tangible book value per share to new investors in this offering to \$1.17 per share, after deducting commissions and estimated aggregate offering expenses payable by us. This information is supplied for illustrative purposes only, and will adjust based on the actual offering prices, the actual number of shares that we offer and sell in this offering and other terms of each sale of shares in this offering.

The information above and in the foregoing table is based on 6,721,200 shares outstanding as of March 31, 2019, assumes the issuances and sales described above, and excludes:

- 144,750 shares of our common stock that may be issued upon the conversion of our Series A Convertible Preferred Stock outstanding as of March 31, 2019;

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- 967,685 shares of common stock issuable upon the exercise of options outstanding as of March 31, 2019, with a weighted average exercise price of \$11.21 per share;
- 35,000 shares of common stock issuable upon the exercise of options granted after March 31, 2019, with a weighted average exercise price of \$4.02 per share;
- 15,009 shares of common stock subject to restricted stock units outstanding as of March 31, 2019;
- 4,055,890 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2019, with a weighted average exercise price of \$7.38 per share; and
- 647,305 shares of common stock reserved for future issuance under our equity incentive plans as of March 31, 2019.

Furthermore, we may choose to raise additional capital through the sale of equity or equity-linked securities due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that any of our outstanding warrants or options are exercised, new equity awards are issued under our equity incentive plans or we issue additional shares of common stock or other equity or equity-linked securities in the future, there may be further dilution to investors participating in this offering.

PLAN OF DISTRIBUTION

We have entered into the Offering Agreement, dated as of June 7, 2019, with Wainwright as sales agent under which we may issue and sell up to \$6,000,000 of shares of our common stock from time to time through Wainwright as our agent. The Offering Agreement provides that sales of our common stock, if any, under this prospectus supplement may be made in sales deemed to be “at-the-market” equity offerings as defined in Rule 415(a) (4) promulgated under the Securities Act. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock into The Nasdaq Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act.

From time to time during the term of the Offering Agreement, we may deliver a sales notice to the Sales Agent specifying the length of the selling period, the amount of common stock to be sold and the minimum price below which sales may not be made. Upon receipt of a sales notice from us, and subject to the terms and conditions of the Offering Agreement, the Sales Agent agrees to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such shares of our common stock on such terms. We or the Sales Agent may suspend the offering of our common stock at any time upon proper notice to the other, at which time the sales notice will immediately terminate. Settlement for sales of our common stock will occur at 10:00 a.m. (New York City time), or at some other time that is agreed upon by us and Wainwright in connection with a particular transaction, on the second trading day following the date any sales were made, unless we otherwise agree with the Sales Agent. The obligation of the Sales Agent under the Offering Agreement to sell shares of our common stock pursuant to any sales notice is subject to a number of conditions, which the Sales Agent may waive in its sole discretion. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Wainwright may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay the Sales Agent a placement fee of 3% of the gross sales price of the shares of our common stock that the Sales Agent sells pursuant to the Offering Agreement. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse Wainwright for certain specified expenses, including the fees and disbursements of its legal counsel in an amount not to exceed \$50,000. Additionally, pursuant to the terms of the Offering Agreement, we agreed to reimburse Wainwright for the documented fees and costs of its legal counsel reasonably incurred in connection with Wainwright’s ongoing diligence, drafting and other filing requirements arising from the transactions contemplated by the sales agreement in an amount not to exceed \$2,500 in the aggregate per calendar quarter.

In connection with the sale of the common stock on our behalf, Wainwright will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Wainwright against certain civil liabilities, including liabilities under the Securities Act.

We will report at least quarterly the number of shares of our common stock sold through the Sales Agent, as our agent, in this offering and, to the extent applicable, the number of shares of our common stock issued upon settlement of any terms agreements, and the net proceeds to us in connection with such sales of our common stock.

The offering of our common stock pursuant to the Offering Agreement will terminate upon the earlier of: (1) the sale of all of our common stock subject to the Offering Agreement; (2) termination of the Offering Agreement by either us or the Sales Agent at any time; or (3) the three year anniversary of the date of the Offering Agreement.

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To the extent required by Regulation M, Wainwright will not engage in any market making activities involving our shares of common stock while the offering is ongoing under this prospectus supplement.

Wainwright and its affiliates may in the future provide various investment banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees.

We estimate that the total expenses for the offering, excluding compensation and reimbursements payable to Wainwright under the terms of the Offering Agreement, will be approximately \$150,000.

Our common stock is traded on The Nasdaq Capital Market under the symbol “ACHV.”

LEGAL MATTERS

The validity of the common stock being offered by this prospectus supplement has been passed upon for us by Fenwick & West LLP, Seattle, Washington. Ellenoff Grossman & Schole LLP, New York, New York, is acting as counsel to the Sales Agent in connection with this offering.

EXPERTS

The consolidated financial statements of Achieve Life Sciences, Inc. as of December 31, 2018 and 2017, and for each of the years in the three-year period ended December 31, 2018, have been incorporated by reference herein and in the registration statement in reliance upon the report of PricewaterhouseCoopers LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC, which are available at the SEC's website at <http://www.sec.gov>. In addition, we maintain a website that contains information about us at <http://www.achievelifesciences.com>. The information found on, or otherwise accessible through, our website is not incorporated into, and does not form a part of, this prospectus supplement or any other report or document we file with or furnish to the SEC.

We have filed with the SEC a registration statement on Form S-3 (File No. 333-229019) under the Securities Act with respect to the common stock offered by this prospectus supplement. When used in this prospectus supplement, the term "registration statement" includes amendments to the registration statement as well as the exhibits, schedules, financial statements and notes filed as part of the registration statement or incorporated by reference therein. This prospectus supplement, which constitutes a part of the registration statement, omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information on us and our consolidated subsidiaries and the common stock we are offering by this prospectus supplement. Statements herein concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's website.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus supplement is considered to be part of this prospectus supplement. Because we are incorporating by reference future filings with the SEC, this prospectus supplement is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus supplement. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus supplement or in any document previously incorporated by reference have been modified or superseded. This prospectus supplement incorporates by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) after the date of this prospectus supplement until the termination of this offering:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2018, filed with the SEC on March 14, 2019;
- our Quarterly Report on [Form 10-Q](#) for the year ended March 31, 2019, filed with the SEC on May 15, 2019;
- our Current Reports on Form 8-K filed with the SEC on [January 22, 2019](#); [May 15, 2019](#); and [June 3, 2019](#);
- our Definitive Proxy Statement on [Schedule 14A](#) filed with the SEC on March 28, 2019; and
- the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on September 27, 1995 (paper filing) under Section 12 of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

These documents may also be accessed on our website at www.achievelifesciences.com. Except as otherwise specifically incorporated by reference in this prospectus supplement, information contained in, or accessible through, our website is not a part of this prospectus supplement.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents by writing or telephoning us at the following address:

Achieve Life Sciences, Inc.
1040 West Georgia Street, Suite 1030
Vancouver, B.C. V6E 4H1
(604) 210-2217

PROSPECTUS



\$100,000,000

Achieve Life Sciences, Inc.

**Common Stock, Preferred Stock,
Debt Securities, Warrants, Subscription Rights and Units**

We may offer and sell common stock, preferred stock, debt securities, warrants, subscription rights and units, or any combination thereof, with a total value of up to \$100,000,000.

This prospectus provides a general description of securities we may offer and sell from time to time. Each time we sell those securities, we will provide their specific terms in a supplement to this prospectus. This prospectus supplement and any free writing prospectus may also add, update or change information contained in this prospectus. You should read carefully this prospectus and the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before you invest in any securities. This prospectus is not an offer and may not be used to consummate a sale of securities unless accompanied by the applicable prospectus supplement.

The aggregate market value of our outstanding common stock held by non-affiliates was approximately \$14.5 million, which was calculated based on 6,466,406 shares of outstanding common stock held by non-affiliates as of November 7, 2018, and a price per share of \$2.25, the closing price of our common stock on November 7, 2018. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities pursuant to this registration statement with a value more than one-third of the aggregate market value of our common stock held by non-affiliates in any 12-month period, so long as the aggregate market value of our common stock held by non-affiliates is less than \$75.0 million. In the event that subsequent to the effective date of this registration statement, the aggregate market value of our outstanding common stock held by non-affiliates equals or exceeds \$75.0 million, then the one-third limitation on sales shall not apply to additional sales made pursuant to this registration statement. We have sold an aggregate amount of \$7.1 million of securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to, and including, the date of this registration statement.

We may offer and sell these securities, from time to time, to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis, at prices and on other terms to be determined at the time of offering. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is listed on The Nasdaq Capital Market under the symbol "ACHV." On December 24, 2018, the last reported sale price of our common stock on The Nasdaq Capital Market was \$1.27 per share. None of the other securities we may offer are currently traded on any securities exchange. The applicable prospectus supplement and any related free writing prospectus will contain information, where applicable, as to any other listing on The Nasdaq Capital Market or any securities market or exchange of the securities covered by the applicable prospectus supplement and any related free writing prospectus.

An investment in our securities involves a high degree of risk. You should carefully consider the information under the heading "[Risk Factors](#)" beginning on page 3 of this prospectus before investing in our securities.

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

The date of this prospectus is February 11, 2019

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf registration process, from time to time, we may sell any combination of the securities described in this prospectus in one or more offerings, up to an aggregate dollar amount of \$100,000,000, subject to any applicable limits prescribed by General Instruction I.B.6. of Form S-3. We have provided to you in this prospectus a general description of the securities we may offer. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the offering. We may also add, update or change in the applicable prospectus supplement any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and the applicable prospectus supplement, you should rely on the information in the applicable prospectus supplement; provided that, if any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference in this prospectus or any applicable prospectus supplement), the statement in the document having the later date modifies or supersedes the earlier statement. You should read both this prospectus and any applicable prospectus supplement together with additional information described under the heading “Where You Can Find More Information.”

You should rely only on the information contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. No dealer, salesperson or any other person is authorized to give any information or to make any representation other than the information and representations contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. If different information is given or different representations are made, you may not rely on that information or those representations as having been authorized by us. You may not imply from the delivery of this prospectus and any applicable prospectus supplement, nor from a sale made under this prospectus and any applicable prospectus supplement, that our affairs are unchanged since the date of this prospectus and any applicable prospectus supplement or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus and any applicable prospectus supplement or any sale of a security. This prospectus and any applicable prospectus supplement may only be used where it is legal to sell the securities.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

Unless the context indicates otherwise, as used in this prospectus, the terms “Achieve Life Sciences,” “Achieve,” “the Company,” “Registrant,” “we,” “us” and “our” refer to Achieve Life Sciences, Inc., a Delaware corporation, and its subsidiaries taken as a whole, unless otherwise noted.

This prospectus includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included in this prospectus are the property of their respective owners. This prospectus and the information incorporated herein by reference contains references to trademarks, service marks and trade names referred to in this prospectus and the information incorporated herein, including logos, artwork, and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks or trade names. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

This summary may not contain all the information that you should consider before investing in securities. You should read the entire prospectus and the information incorporated by reference in this prospectus carefully, including “Risk Factors” and the financial data and related notes and other information incorporated by reference, before making an investment decision.

Company Overview

We are a clinical-stage pharmaceutical company committed to the global (excluding Central & Eastern Europe plus other territories) development and commercialization of cytisinicline for smoking cessation. Our focus is to address the global smoking health epidemic, which is a leading cause of preventable death and is responsible for approximately seven million deaths annually worldwide.

Cytisinicline is an established 25-day smoking cessation treatment that has been approved and marketed in Central and Eastern Europe by Sopharma AD for over 20 years under the brand name Tabex™. It is estimated that over 20 million people have used cytisinicline to help treat nicotine addiction, including over 2,000 patients in investigator-conducted, Phase 3 clinical trials in Europe and New Zealand. Both trials were published in the New England Journal of Medicine in September 2011 and December 2014, respectively.

Cytisinicline is a naturally occurring, plant-based alkaloid from the seeds of the *Laburnum anagyroides* plant. Cytisinicline is structurally similar to nicotine and has a well-defined, dual-acting mechanism of action that is both agonistic and antagonistic. It is believed to aid in smoking cessation by interacting with nicotine receptors in the brain by reducing the severity of nicotine withdrawal symptoms through agonistic binding to nicotine receptors and by reducing the reward and satisfaction associated with smoking through antagonistic properties. The cytisinicline dosing schedule reflects that of an anti-addiction medication, with downward dose titration over a period of 25 days.

The Securities We May Offer

With this prospectus, we may offer common stock, preferred stock, debt securities, warrants, subscription rights and units, or any combination of the foregoing. The aggregate offering price of securities that we offer with this prospectus will not exceed \$100,000,000, subject to any applicable limits prescribed by General Instruction I.B.6. of Form S-3. Each time we offer securities with this prospectus, we will provide offerees with a prospectus supplement that will contain the specific terms of the securities being offered. The following is a summary of the securities we may offer with this prospectus.

Common Stock

We may offer shares of our common stock, par value \$0.001 per share.

Preferred Stock

We may offer shares of our preferred stock, par value \$0.001 per share, in one or more series. Our board of directors will determine the dividend, voting, conversion and other rights of the series of shares of preferred stock being offered.

Debt Securities

We may offer general obligations, which may be secured or unsecured, senior or subordinated and convertible into shares of our common stock or preferred stock. In this prospectus, we refer to the senior debt securities and the subordinated debt securities together as the “debt securities.” The senior debt securities will have the same rank as all of our other indebtedness that is not subordinated. The subordinated debt securities will be entitled to payment only after payment on our senior debt. In addition, the subordinated debt securities will be effectively subordinated to creditors. Our board of directors will determine the terms of each series of debt securities being offered.

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We will issue the debt securities under an indenture or indentures between us and a trustee. In this document, we have summarized general features of the debt securities from the indentures. We encourage you to read the indentures, which are exhibits to the registration statement of which this prospectus is a part.

Warrants

We may offer warrants for the purchase of debt securities, shares of preferred stock or shares of common stock. Our board of directors will determine the terms of the warrants.

Subscription Rights

We may offer subscription rights to purchase our common stock, preferred stock or debt securities. We may issue subscription rights independently or together with other securities. Our board of directors or a committee designated by our board of directors will determine the terms of the subscription rights.

Units

We may offer units consisting of some or all of the securities described above, in any combination, including common stock, preferred stock, warrants and/or debt securities. The terms of these units will be set forth in a prospectus supplement. The description of the terms of these units in the related prospectus supplement will not necessarily be complete. You should refer to the applicable form of unit and unit agreement for complete information with respect to these units.

Corporate Information

We were incorporated in California in October 1991 and subsequently reorganized as a Delaware corporation in March 1995. Our principal executive offices are located at 400 – 1001 W. Broadway, Vancouver, B.C., Canada V6H 4B1, and our telephone number is (604) 736-3678.

In August 2017, our company, then named OncoGenex Pharmaceuticals, Inc., completed its merger, or the Arrangement, with Achieve, as contemplated by the Merger Agreement between the companies. We then changed our name to Achieve Life Sciences, Inc. As a result of the Arrangement, Achieve became our wholly owned subsidiary. Achieve was formed in 2015 as a Delaware corporation and has one direct wholly-owned subsidiary, Extab Corporation, a Delaware corporation, which was formed in 2009. Extab Corporation in turn has one direct wholly-owned subsidiary, Achieve Pharma UK Limited, a United Kingdom company, which was formed in 2009.

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus, including in (i) our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2018, and (ii) other documents we file with the SEC that are deemed incorporated by reference into this prospectus, which may be amended, supplemented, or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and are required to file annual, quarterly, and other reports, proxy statements, and other information with the SEC. The SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and various other of our information. You may also inspect the documents described herein at our principal executive offices, 1001 W. Broadway, Suite 400, Vancouver, BC V6H 4B1, during normal business hours.

Our Internet address is www.achievelifesciences.com. There we make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with the Securities and Exchange Commission. The information found on our website is not part of this prospectus and investors should not rely on any such information in deciding whether to invest.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with the SEC, which means that we can disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information we file later with the SEC will automatically update and supercede this information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of any offering of securities made by this prospectus:

- our [Annual Report on Form 10-K](#) (File No. 033-80623) for the year ended December 31, 2017 filed with the SEC on March 1, 2018, including certain information incorporated by reference therein from our [Definitive Proxy Statement on Schedule 14A](#) for our 2018 annual meeting of stockholders filed with the SEC on April 19, 2018;
- our [Quarterly Reports on Form 10-Q](#) (File Nos. 033-80623) for the quarter ended March 31, 2018, filed with the SEC on May 9, 2018 and [amended](#) on May 23, 2018, and for the quarters ended [June 30, 2018](#) and [September 30, 2018](#), filed with the SEC on August 8, 2018 and November 7, 2018, respectively;
- our current reports on Form 8-K (File Nos. 033-80623) filed with the SEC on [January 24, 2018](#), [May 23, 2018](#), [June 20, 2018](#), [September 21, 2018](#), [September 28, 2018](#), and [October 1, 2018](#);
- the description of our common stock contained in our registration statement on Form 8-A (File No. 000-21243) filed with the Commission on September 27, 1995 under Section 12 of the Exchange Act, including any amendment or report filed for the purpose of updating such description; and
- filings we make with the SEC pursuant to the Exchange Act after the date of the initial registration statement, of which this prospectus is a part, and prior to the effectiveness of the registration statement.

Upon written or oral request, we will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, a copy of any or all of such documents that are incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates). Written or oral requests for copies should be directed to Achieve Life Sciences, Inc., 1001 W. Broadway, Suite 400, Vancouver, BC V6H 4B1, Attn: Sandra Thomson, telephone number (604) 736-3678.

Any statement contained in this prospectus, or in a document all or a portion of which is incorporated by reference, shall be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or any document incorporated by reference modifies or supersedes such statement. Any such statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this prospectus.

FORWARD-LOOKING STATEMENTS

This prospectus and documents incorporated herein by reference contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events. Such statements include, but are not limited to, statements about future financial and operating results, plans, objectives, expectations and intentions, costs and expenses, interest rates, outcome of contingencies, financial condition, results of operations, liquidity, business strategies, cost savings, objectives of management and other statements that are not historical facts. You can find many of these statements by looking for words like “believes,” “expects,” “anticipates,” “estimates,” “may,” “should,” “will,” “could,” “plan,” “intend,” or similar expressions in this prospectus or in documents incorporated by reference into this prospectus. We intend that such forward-looking statements be subject to the safe harbors created thereby. Examples of these forward-looking statements include, but are not limited to:

- progress and preliminary and future results of clinical trials conducted by us or our collaborators;
- anticipated regulatory filings and requirements and future clinical trials conducted by us or our collaborators;
- timing and amount of future contractual payments, product revenue and operating expenses;
- market acceptance of our products and the estimated potential size of these markets; and
- our anticipated future capital requirements and the terms of any capital financing agreements.

These forward-looking statements are based on the current beliefs and expectations of our management and are subject to significant risks and uncertainties. If underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results may differ materially from current expectations and projections. Factors that might cause such a difference include those discussed in Item 1A “Risk Factors” in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, as well as those discussed in this prospectus and in the documents incorporated by reference into this prospectus. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus or, in the case of documents referred to or incorporated by reference, the date of those documents.

All subsequent written or oral forward-looking statements 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 section. We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities law. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Unless otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of securities under this prospectus for general corporate purposes, which may include funding research and development, sales and marketing activities, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products, or technologies that are complementary to our own and capital expenditures. We will set forth in the prospectus supplement our intended use for the net proceeds received from the sale of any securities. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, long-term, investment-grade, interest-bearing securities.

PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus to one or more underwriters for public offering and sale by them, and may also sell the securities to investors directly or through agents. We will name any underwriter or agent involved in the offer and sale of securities in the applicable prospectus supplement. We have reserved the right to sell or exchange securities directly to investors on our own behalf in jurisdictions where we are authorized to do so. We may distribute the securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

We may solicit directly offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time. We will name in a prospectus supplement any agent involved in the offer or sale of our securities. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis, and a dealer will purchase securities as a principal for resale at varying prices to be determined by the dealer.

If we utilize an underwriter in the sale of the securities being offered by this prospectus, we will execute an underwriting agreement with the underwriter at the time of sale and we will provide the name of any underwriter in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions, or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We will provide in the applicable prospectus supplement any compensation we pay to underwriters, dealers, or agents in connection with the offering of the securities, and any discounts, concessions, or commissions allowed by underwriters to participating dealers. Underwriters, dealers, and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers, and agents against civil liabilities, including liabilities under the Securities Act, and to reimburse them for certain expenses. We may grant underwriters who participate in the distribution of our securities under this prospectus an option to purchase additional securities to cover any over-allotments in connection with the distribution.

The securities we offer under this prospectus may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. This may include short sales of the securities, which involves the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such short positions by making purchases in the open market or by exercising their option to purchase additional securities. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

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We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and they may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in these sale transactions will be an underwriter and will be identified in the applicable prospectus supplement. In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. The financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

We will file a prospectus supplement to describe the terms of any offering of our securities covered by this prospectus. The prospectus supplement will disclose:

- the terms of the offer;
- the names of any underwriters, including any managing underwriters, as well as any dealers or agents;
- the purchase price of the securities from us;
- the net proceeds to us from the sale of the securities;
- any delayed delivery arrangements;
- the nature of the underwriters' obligations to take the securities;
- any over-allotment or other options under which underwriters, if any, may purchase additional securities from us;
- any underwriting discounts, commissions or other items constituting underwriters' compensation, and any commissions paid to agents;
- in a subscription rights offering, whether we have engaged dealer-managers to facilitate the offering or subscription, including their name or names and compensation;
- any securities exchanges or markets on which such securities may be listed;
- any public offering price; and
- other facts material to the transaction.

We will bear all or substantially all of the costs, expenses, and fees in connection with the registration of our securities under this prospectus. The underwriters, dealers, and agents may engage in transactions with us, or perform services for us, in the ordinary course of business.

DESCRIPTION OF CAPITAL STOCK

General

As of the date of this prospectus, our authorized capital stock consists of 155,000,000 shares. Those shares consist of 150,000,000 shares of common stock, par value of \$0.001 per share, and 5,000,000 shares of preferred stock, par value of \$0.001 per share. As of September 30, 2018, there were 4,901,095 shares of common stock issued and outstanding. In addition, as of September 30, 2018, we had reserved, pursuant to various plans, 1,294,091 shares of our common stock for issuance upon exercise of stock options and settlement of restricted stock units by our employees, directors, officers and consultants, of which 665,585 were reserved for outstanding options, 15,156 were reserved for outstanding restricted stock units and 613,350 were available for future equity grants.

As of September 30, 2018, there were warrants outstanding to purchase an aggregate of 3,173,764 shares of our common stock at a weighted-average exercise price of \$8.57 per share. Our common stock is traded on The Nasdaq Capital Market under the symbol "ACHV."

The following description summarizes the material terms of our capital stock. This summary is, however, subject to the provisions of our certificate of incorporation and bylaws. For greater detail about our capital stock, please refer to our certificate of incorporation and bylaws.

Common Stock

Voting Rights. For all matters submitted to a vote of stockholders, each holder of our common stock is entitled to one vote for each share registered in his or her name. Except as may be required by law and in connection with some significant actions, such as mergers, consolidations, or amendments to our certificate of incorporation that affect the rights of stockholders, holders of our common stock vote together as a single class. There is no cumulative voting in the election of our directors, which means that, subject to any rights to elect directors that are granted to the holders of any class or series of preferred stock, a plurality of the votes cast at a meeting of stockholders at which a quorum is present is sufficient to elect a director.

Liquidation. In the event we are liquidated, dissolved or our affairs are wound up, after we pay or make adequate provision for all of our known debts and liabilities, each holder of our common stock will be entitled to share ratably in all assets that remain, subject to any rights that are granted to the holders of any class or series of preferred stock.

Dividends. Subject to preferential dividend rights of any other class or series of stock, the holders of shares of our common stock are entitled to receive dividends, including dividends of our stock, as and when declared by our board of directors, subject to any limitations imposed by law and to the rights of the holders, if any, of our preferred stock. We have never paid cash dividends on our common stock. We do not anticipate paying periodic cash dividends on our common stock for the foreseeable future. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions and on such other factors as the board of directors deems relevant.

Other Rights and Restrictions. Subject to the preferential rights of any other class or series of stock, all shares of our common stock have equal dividend, distribution, liquidation and other rights, and have no preference, appraisal or exchange rights, except for any appraisal rights provided by Delaware law. Furthermore, holders of our common stock have no conversion, sinking fund or redemption rights, or preemptive rights to subscribe for any of our securities. Our certificate of incorporation and our bylaws do not restrict the ability of a holder of our common stock to transfer his or her shares of our common stock.

The rights, powers, preferences and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of holders of shares of any series of preferred stock which we may designate and issue in the future.

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Listing. Our common stock is listed on The Nasdaq Capital Market under the symbol “ACHV.”

Transfer Agent and Registrar. The transfer agent for our common stock is American Stock Transfer & Trust Company, LLC.

Preferred Stock

The following description of preferred stock and the description of the terms of any particular series of preferred stock that we choose to issue hereunder and that will be set forth in the related prospectus supplement are not complete. These descriptions are qualified in their entirety by reference to the certificate of designation relating to that series. The rights, preferences, privileges, and restrictions of the preferred stock of each series will be fixed by the certificate of designation relating to that series.

The board of directors has the authority, without stockholder approval, subject to limitations prescribed by law, to provide for the issuance of the shares of preferred stock in one or more series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each series and the qualifications, limitations, or restrictions, including, but not limited to, the following:

- the number of shares constituting that series;
- dividend rights and rates;
- voting rights;
- conversion terms;
- rights and terms of redemption (including sinking fund provisions); and
- rights of the series in the event of liquidation, dissolution, or winding up.

All shares of preferred stock offered hereby will, when issued, be fully paid and nonassessable and will not have any preemptive or similar rights. Our board of directors could authorize the issuance of shares of preferred stock with terms and conditions that could have the effect of discouraging a takeover or other transaction that might involve a premium price for holders of the shares or which holders might believe to be in their best interests.

We will set forth in a prospectus supplement relating to the series of preferred stock being offered the following items:

- the title and stated value of the preferred stock;
- the number of shares of the preferred stock offered, the liquidation preference per share, and the offering price of the preferred stock;
- the dividend rate(s), period(s), and/or payment date(s) or method(s) of calculation applicable to the preferred stock;
- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;
- the procedures for any auction and remarketing, if any, for the preferred stock;
- the provisions for a sinking fund, if any, for the preferred stock;
- the provision for redemption, if applicable, of the preferred stock;
- any listing of the preferred stock on any securities exchange;
- the terms and conditions, if applicable, upon which the preferred stock will be convertible into common stock, including the conversion price (or manner of calculation) and conversion period;

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- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon the liquidation, dissolution, or winding up of our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the class or series of preferred stock as to dividend rights and rights upon liquidation, dissolution, or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations, or restrictions of the preferred stock.

The transfer agent and registrar for any series of preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

The following description of the terms of the debt securities summarizes some general terms that will apply to the debt securities. The description is not complete, and we refer you to the indentures which we filed with the SEC as exhibits to the registration statement of which this prospectus is a part.

General

The debt securities will be either our senior debt securities or our subordinated debt securities. We will issue our debt securities under one or more separate indentures between us and a trustee. Senior debt securities will be issued under a senior indenture and subordinated securities will be issued under a subordinated indenture. A copy of the form of each type of indenture has been filed as an exhibit to the registration statement of which this prospectus is a part. The indentures may be supplemented by one or more supplemental indentures. We refer to the senior indenture and the subordinated indenture, together with any supplemental indentures, as the “indentures” throughout the remainder of this prospectus.

The indentures do not limit the amount of debt securities that we may issue. The indentures provide that debt securities may be issued up to the principal amount that we authorize from time to time. The senior debt securities will be secured or unsecured and will have the same rank as all of our other indebtedness that is not subordinated. The subordinated debt securities will be secured or unsecured and will be subordinated and junior to all senior indebtedness. The terms of the indentures do not contain any covenants or other provisions designed to give holders of any debt securities protection against changes in our operations, financial condition or transactions involving us, but those provisions may be included in the documents that include the specific terms of the debt securities.

We may issue the debt securities in one or more separate series of senior debt securities and subordinated debt securities. The prospectus supplement relating to the particular series of debt securities being offered will specify the particular amounts, prices and terms of those debt securities. These terms may include:

- the title of the debt securities;
- any limit upon the aggregate principal amount of the debt securities;
- if other than United States dollars, the currency or currencies, including the euro and other composite currencies, in which payments on the debt securities will be payable and whether the holder may elect payment to be made in a different currency;
- the date or dates when payments on the principal must be made or the method of determining that date or dates;
- interest rates, and the dates from which interest, if any, will accrue, and the dates when interest is payable and the maturity;
- the right, if any, to extend the interest payment periods and the duration of the extensions;
- the places where payments may be made and the manner of payments;
- any mandatory or optional redemption provisions;
- any subordination provisions;
- the denominations in which debt securities will be issued;
- the terms applicable to any debt securities issued at a discount from their stated principal amount;
- the currency or currencies of payment of principal or interest and the period, if any, during which a holder may elect to pay in a currency other than the currency in which the debt securities are denominated;

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- if the amount of payments of principal or interest is to be determined by reference to an index or formula, or based on a coin or currency other than that in which the debt securities are stated to be payable, the manner in which these amounts are determined and the calculation agent, if any;
- whether the debt securities will be secured or unsecured;
- whether the debt securities will be issued in the form of one or more global securities in temporary or definitive form;
- whether and on what terms we will pay additional amounts to holders of the debt securities that are not United States persons in respect of any tax, assessment or governmental charge withheld or deducted and, if so, whether and on what terms we will have the option to redeem the debt securities rather than pay the additional amounts;
- the certificates or forms required for the issuance of debt securities in definitive form;
- the trustees, depositaries, authenticating or paying agents, transfer agents or registrars of the debt securities;
- any deletions of, or changes or additions to, the events of default or covenants;
- conversion or exchange provisions, if any, including conversion or exchange prices or rates and adjustments to those prices and rates; and
- any other specific terms of the debt securities.

If any debt securities are sold for any foreign currency or currency unit or if any payments on the debt securities are payable in any foreign currency or currency unit, the prospectus supplement will contain any restrictions, elections, tax consequences, specific terms and other information with respect to the debt securities and the foreign currency or currency unit.

Some of the debt securities may be issued as original issue discount debt securities. Original issue discount securities may bear no interest or bear interest at below-market rates and will be sold at a discount below their stated principal amount and may bear no or below market interest. The applicable prospectus supplement will also contain any special tax, accounting or other information relating to original issue discount securities other kinds of debt securities that may be offered, including debt securities linked to an index or payable in currencies other than United States dollars.

Senior Debt Securities

Payment of the principal of, premium, if any, and interest on senior debt securities will rank on a parity with all of our other indebtedness that is not subordinated.

Subordinated Debt Securities

Payment of the principal of, premium, if any, and interest on subordinated debt securities will be junior in right of payment to the prior payment in full of all of our unsubordinated debt, including senior debt securities. We will state in the applicable prospectus supplement relating to any subordinated debt securities the subordination terms of the securities as well as the aggregate amount of outstanding debt, as of the most recent practicable date, that by its terms would be senior to the subordinated debt securities. We will also state in such prospectus supplement limitations, if any, on issuance of additional senior debt.

Registrar and Paying Agent

The debt securities may be presented for registration of transfer or for exchange at the corporate trust office of the security registrar or at any other office or agency that we maintain for those purposes. In addition, the debt securities may be presented for payment of principal, interest and any premium at the office of the paying agent or at any office or agency that we maintain for those purposes.

Global Securities

We may issue the debt securities of a series in whole or in part in the form of one or more global certificates that will be deposited with a depository we will identify in a prospectus supplement. We may issue global debt securities in either temporary or definitive form. We will describe the specific terms of the depository arrangement with respect to any series of debt securities in the prospectus supplement.

Conversion or Exchange Rights

Debt securities may be convertible into or exchangeable for shares of our common stock. The terms and conditions of conversion or exchange will be stated in the applicable prospectus supplement. The terms will include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding the convertibility or exchangeability of the debt securities, including who may convert or exchange;
- events requiring adjustment to the conversion or exchange price;
- provisions affecting conversion or exchange in the event of our redemption of the debt securities; and
- any anti-dilution provisions, if applicable.

Registered Global Securities

Unless and until it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred except as a whole:

- by the depository for that registered global security to its nominee;
- by a nominee of the depository to the depository or another nominee of the depository; or
- by the depository or its nominee to a successor of the depository or a nominee of the successor.

The prospectus supplement relating to a series of debt securities will describe the specific terms of the depository arrangement involving any portion of the series represented by a registered global security.

We anticipate that the following provisions will apply to all depository arrangements for debt securities:

- ownership of beneficial interests in a registered global security will be limited to persons that have accounts with the depository for that registered global security, these persons being referred to as “participants,” or persons that may hold interests through participants;
- upon the issuance of a registered global security, the depository for the registered global security will credit, on its book-entry registration and transfer system, the participants’ accounts with the respective principal amounts of the debt securities represented by the registered global security beneficially owned by the participants;
- any dealers, underwriters or agents participating in the distribution of the debt securities will designate the accounts to be credited; and
- ownership of beneficial interest in that registered global security will be shown on, and the transfer of that ownership interest will be effected only through, records maintained by the depository for that registered global security for interests of participants and on the records of participants for interests of persons holding through participants.

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The laws of some states may require that specified purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in registered global securities.

So long as the depository for a registered global security, or its nominee, is the registered owner of that registered global security, the depository or that nominee will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the indenture. Except as stated below, owners of beneficial interests in a registered global security:

- will not be entitled to have the debt securities represented by a registered global security registered in their names;
- will not receive or be entitled to receive physical delivery of the debt securities in definitive form; and
- will not be considered the owners or holders of the debt securities under the indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for the registered global security and, if the person is not a participant, on the procedures of a participant through which the person owns its interest, to exercise any rights of a holder under the indenture.

We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the indenture, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and the participants would authorize beneficial owners owning through the participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

We will make payments of principal and premium, if any, and interest, if any, on debt securities represented by a registered global security registered in the name of a depository or its nominee to the depository or its nominee as the registered owners of the registered global security. None of us, the trustee or any other of our agents or agents of the trustee will be responsible or liable for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

We expect that the depository for any debt securities represented by a registered global security, upon receipt of any payments of principal and premium, if any, and interest, if any, in respect of the registered global security, will immediately credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the registered global security as shown on the records of the depository. We also expect that standing customer instructions and customary practices will govern payments by participants to owners of beneficial interests in the registered global security held through the participants, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name." We also expect that any of these payments will be the responsibility of the participants.

If the depository for any debt securities represented by a registered global security is at any time unwilling or unable to continue as depository or stops being a clearing agency registered under the Exchange Act, we will appoint an eligible successor depository. If we fail to appoint an eligible successor depository within 90 days, we will issue the debt securities in definitive form in exchange for the registered global security. In addition, we may at any time and in our sole discretion decide not to have any of the debt securities of a series represented by one or more registered global securities. In that event, we will issue debt securities of the series in a definitive form in exchange for all of the registered global securities representing the debt securities. The trustee will register any debt securities issued in definitive form in exchange for a registered global security in the name or names as the depository, based upon instructions from its participants, will instruct the trustee.

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Merger, Consolidation or Sale of Assets

Under the terms of the indentures, we may consolidate or merge with another company, or sell, lease or convey all or substantially all our assets to another company, if:

- we are the continuing entity; or
- (i) we are not the continuing entity, (ii) the successor entity is organized under the laws of the United States of America and expressly assumes all payments on all of the debt securities and the performance and observance of all the covenants and conditions of the applicable indenture, and (iii) the merger, sale of assets or other transaction must not cause a default on the debt securities and we must not already be in default.

Events of Default

Unless otherwise provided for in the prospectus supplement, the term “event of default,” when used in the indentures means any of the following:

- failure to pay interest for 30 days after the date payment is due and payable; however, if we extend an interest payment period under the terms of the debt securities, the extension will not be a failure to pay interest;
- failure to pay principal or premium, if any, on any debt security when due, either at maturity, upon any redemption, by declaration or otherwise;
- failure to perform other covenants for 60 days after notice that performance was required;
- certain events in bankruptcy, insolvency or reorganization of our company; or
- any other event of default provided in the applicable resolution of our board of directors or the supplemental indenture under which we issue a series of debt securities.

An event of default for a particular series of debt securities does not necessarily constitute an event of default for any other series of debt securities issued under an indenture. If an event of default relating to the payment of interest, principal or any sinking fund installment involving any series of debt securities has occurred and is continuing, the trustee or the holders of not less than 25% in aggregate principal amount of the debt securities of each affected series may declare the entire principal of all the debt securities of that series to be due and payable immediately.

If an event of default relating to the performance of other covenants occurs and is continuing for a period of 60 days after notice of that event of default, or if any other event of default occurs and is continuing involving all of the series of senior debt securities, then the trustee or the holders of not less than 25% in aggregate principal amount of all of the series of senior debt securities may declare the entire principal amount of all of the series of senior debt securities due and payable immediately.

Similarly, if an event of default relating to the performance of other covenants occurs and is continuing for a period of 60 days after notice, or if any other event of default occurs and is continuing involving all of the series of subordinated debt securities, then the trustee or the holders of not less than 25% in aggregate principal amount of all of the series of subordinated debt securities may declare the entire principal amount of all of the series of subordinated debt securities due and payable immediately.

If, however, the event of default relating to the performance of other covenants or any other event of default that has occurred and is continuing is for less than all of the series of senior debt securities or subordinated debt securities, then, the trustee or the holders of not less than 25% in aggregate principal amount of each affected series of the senior debt securities or the subordinated debt securities, as the case may be, may declare the entire principal amount of all debt securities of that affected series due and payable immediately. The

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holders of not less than a majority, or any applicable supermajority, in aggregate principal amount of the debt securities of a series may, after satisfying conditions, rescind and annul any of the above-described declarations and consequences involving the series.

If an event of default relating to events in bankruptcy, insolvency or reorganization occurs and is continuing, then the principal amount of all of the debt securities outstanding, and any accrued interest, will automatically become due and payable immediately, without any declaration or other act by the trustee or any holder.

Each indenture imposes limitations on suits brought by holders of debt securities against us. Except for actions for payment of overdue principal or interest, no holder of debt securities of any series may institute any action against us under each indenture unless:

- the holder has previously given to the trustee written notice of default and continuance of that default;
- the holders of at least 25% in principal amount of the outstanding debt securities of the affected series have requested that the trustee institute the action;
- the requesting holders have offered the trustee reasonable indemnity for expenses and liabilities that may be incurred by bringing the action;
- the trustee has not instituted the action within 60 days of the request; and
- the trustee has not received inconsistent direction by the holders of a majority in principal amount of the outstanding debt securities of the series.

We will be required to file annually with the trustee a certificate, signed by an officer of our company, stating whether or not the officer knows of any default by us in the performance, observance or fulfillment of any condition or covenant of an indenture.

Discharge, Defeasance and Covenant Defeasance

We can discharge or defease our obligations under the indentures as stated below or as provided in the prospectus supplement.

Unless otherwise provided in the applicable prospectus supplement, we may discharge obligations to holders of any series of debt securities that have not already been delivered to the trustee for cancellation and that have either become due and payable or are by their terms to become due and payable, or are scheduled for redemption, within one year. We may effect a discharge by irrevocably depositing with the trustee cash or United States government obligations, as trust funds, in an amount certified to be enough to pay when due, whether at maturity, upon redemption or otherwise, the principal of, premium, if any, and interest on the debt securities and any mandatory sinking fund payments.

Unless otherwise provided in the applicable prospectus supplement, we may also discharge any and all of our obligations to holders of any series of debt securities at any time, which we refer to as “defeasance.” We may also be released from the obligations imposed by any covenants of any outstanding series of debt securities and provisions of the indentures, and we may omit to comply with those covenants without creating an event of default under the trust declaration, which we refer to as “covenant defeasance.” We may effect defeasance and covenant defeasance only if, among other things:

- we irrevocably deposit with the trustee cash or United States government obligations, as trust funds, in an amount certified to be enough to pay at maturity, or upon redemption, the principal, premium, if any, and interest on all outstanding debt securities of the series;
- we deliver to the trustee an opinion of counsel from a nationally recognized law firm to the effect that (i) in the case of covenant defeasance, the holders of the series of debt securities will not recognize

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income, gain or loss for United States federal income tax purposes as a result of the defeasance, and will be subject to tax in the same manner and at the same times as if no covenant defeasance had occurred and (ii) in the case of defeasance, either we have received from, or there has been published by, the Internal Revenue Service a ruling or there has been a change in applicable United States federal income tax law, and based on that ruling or change, the holders of the series of debt securities will not recognize income, gain or loss for United States federal income tax purposes as a result of the defeasance and will be subject to tax in the same manner as if no defeasance had occurred; and

- in the case of subordinated debt securities, no event or condition will exist that, based on the subordination provisions applicable to the series, would prevent us from making payments of principal of, premium, if any, and interest on any of the applicable subordinated debt securities at the date of the irrevocable deposit referred to above or at any time during the period ending on the 91st day after the deposit date.

Although we may discharge or decrease our obligations under the indentures as described in the two preceding paragraphs, we may not avoid, among other things, our duty to register the transfer or exchange of any series of debt securities, to replace any temporary, mutilated, destroyed, lost or stolen series of debt securities or to maintain an office or agency in respect of any series of debt securities.

Modification of the Indenture

Except as provided in the prospectus supplement, each indenture provides that we and the trustee may enter into supplemental indentures without the consent of the holders of debt securities to:

- secure any debt securities;
- evidence the assumption by a successor corporation of our obligations and the conversion of any debt securities into the capital stock of that successor corporation, if the terms of those debt securities so provide;
- add covenants for the protection of the holders of debt securities;
- cure any ambiguity or correct any inconsistency in the indenture;
- establish the forms or terms of debt securities of any series; and
- evidence and provide for the acceptance of appointment by a successor trustee.

Each indenture also provides that we and the trustee may, with the consent of the holders of not less than a majority in aggregate principal amount of debt securities of all series of senior debt securities or of subordinated debt securities then outstanding and affected, voting as one class, add any provisions to, or change in any manner, eliminate or modify in any way the provisions of, the indenture or modify in any manner the rights of the holders of the debt securities. We and the trustee may not, however, without the consent of the holder of each outstanding debt security affected:

- extend the stated maturity of any debt security;
- reduce the principal amount or premium, if any;
- reduce the rate or extend the time of payment of interest;
- reduce any amount payable on redemption;
- change the currency in which the principal, unless otherwise provided for a series, premium, if any, or interest is payable;
- reduce the amount of the principal of any debt security issued with an original issue discount that is payable upon acceleration or provable in bankruptcy;
- impair the right to institute suit for the enforcement of any payment on any debt security when due; or

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- reduce the percentage of holders of debt securities of any series whose consent is required for any modification of the indenture for any such series.

Concerning the Trustee

Each indenture provides that there may be more than one trustee under the indenture, each for one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust under the indentures separate and apart from the trust administered by any other trustee under the indenture. Except as otherwise indicated in this prospectus or any prospectus supplement, any action permitted to be taken by a trustee may be taken by that trustee only on the one or more series of debt securities for which it is the trustee under the indenture. Any trustee under the indentures may resign or be removed from one or more series of debt securities. All payments of principal of, premium, if any, and interest on, and all registration, transfer, exchange, authentication and delivery of, the debt securities of a series may be effected by the trustee for that series at an office or agency designated by the trustee of that series.

If the trustee becomes a creditor of our company, each indenture places limitations on the right of the trustee to obtain payment of claims or to realize on property received in respect of any such claim as security or otherwise. The trustee may engage in other transactions. If it acquires any conflicting interest relating to any duties concerning the debt securities, however, it must eliminate the conflict or resign as trustee.

The holders of a majority in aggregate principal amount of any series of debt securities then outstanding will have the right to direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee concerning the applicable series of debt securities, so long as the direction:

- would not conflict with any rule of law or with the applicable indenture;
- would not be unduly prejudicial to the rights of another holder of the debt securities; and
- would not involve any trustee in personal liability.

Each indenture provides that if an event of default occurs, is not cured and is known to any trustee, the trustee must use the same degree of care as a prudent person would use in the conduct of his or her own affairs in the exercise of the trust's power. The trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they have offered to the trustee security and indemnity satisfactory to the trustee.

No Individual Liability of Incorporators, Stockholders, Officers or Directors

Each indenture provides that no incorporator and no past, present or future stockholder, officer or director of our company or any successor corporation in those capacities will have any individual liability for any of our obligations, covenants or agreements under the debt securities or such indenture.

Governing Law

The indentures and the debt securities will be governed by, and construed in accordance with, the laws of the State of New York.

DESCRIPTION OF WARRANTS

General

We may issue warrants for the purchase of our debt securities, preferred stock or common stock, or any combination thereof. Warrants may be issued independently or together with our debt securities, preferred stock, or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

Debt Warrants

The prospectus supplement relating to a particular issue of warrants to purchase debt securities will describe the terms of the debt warrants, including the following:

- the title of the debt warrants;
- the offering price for the debt warrants, if any;
- the aggregate number of the debt warrants;
- the designation and terms of the debt securities, including any conversion rights, purchasable upon exercise of the debt warrants;
- if applicable, the date from and after which the debt warrants and any debt securities issued with them will be separately transferable;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities, or other property;
- the dates on which the right to exercise the debt warrants will commence and expire;
- if applicable, the minimum or maximum amount of the debt warrants that may be exercised at any one time;
- whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered or bearer form;
- information with respect to book-entry procedures, if any; the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the debt warrants, if any;
- the redemption or call provisions, if any, applicable to the debt warrants;
- any provisions with respect to the holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the debt warrants, including procedures, and limitations relating to the exchange, exercise, and settlement of the debt warrants.

Debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations. Debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt

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warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal or any premium, if any, or interest on the debt securities purchasable upon exercise.

Equity Warrants

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of warrants;
- the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the warrants, including procedures, and limitations relating to the exchange, exercise, and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent, or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of Achieve.

DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue subscription rights to purchase our common stock, preferred stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The applicable prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock, preferred stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock, preferred stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

The description in the applicable prospectus supplement of any subscription rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable subscription rights certificate, which will be filed with the SEC if we offer subscription rights. We urge you to read the applicable subscription rights certificate and any applicable prospectus supplement in their entirety.

DESCRIPTION OF UNITS

We may issue units consisting of some or all of the securities described above, in any combination, including common stock, preferred stock, warrants and/or debt securities. The terms of these units will be set forth in a prospectus supplement. The description of the terms of these units in the related prospectus supplement will not necessarily be complete. You should refer to the applicable form of unit and unit agreement for complete information with respect to these units.

CERTAIN PROVISIONS OF DELAWARE LAW AND THE COMPANY'S CERTIFICATE OF INCORPORATION AND BYLAWS

The following paragraphs summarize certain provisions of the Delaware General Corporation Law, or the DGCL, and our certificate of incorporation and bylaws. The summary does not purport to be complete and is subject to and qualified in its entirety by reference to the DGCL and to our certificate of incorporation and bylaws, copies of which are on file with the SEC as exhibits to documents previously filed by us. See "Where You Can Find More Information."

Our certificate of incorporation limits the personal liability of our directors to Achieve and our stockholders to the fullest extent permitted by the DGCL. The inclusion of this provision in our certificate of incorporation may reduce the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breach of their duty of care.

Our certificate of incorporation and bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our company, including the following:

- only the chairman of the board, the chief executive officer, the president or a majority of our board of directors may call special meetings of stockholders, and the business transacted at special meetings of stockholders is limited to the business stated in the notice of such meetings;
- advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders, including certain requirements regarding the form and content of a stockholder's notice;
- our board of directors may designate the terms of and issue new series of preferred stock;
- unless otherwise required by our bylaws, our certificate of incorporation or by law, our board of directors may amend our bylaws without stockholder approval; and
- only our board of directors may fill vacancies on our board of directors.

In addition, we are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any "business combination" with an "interested stockholder," for a period of three years after the date of the transaction in which a person became an "interested stockholder," unless:

- prior to such date the board of directors of the corporation approved either the "business combination" or the transaction that resulted in the stockholder becoming an "interested stockholder";
- upon consummation of the transaction which resulted in the stockholder becoming an "interested stockholder," the "interested stockholder" owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of voting shares outstanding (but not the voting shares owned by the "interested stockholder") those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time the "business combination" is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of a least 66 $\frac{2}{3}$ % of the outstanding voting stock that is not owned by the "interested stockholder."

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A “business combination” includes mergers, stock or asset sales and other transactions resulting in a financial benefit to the “interested stockholders.” An “interested stockholder” is a person who, together with affiliates and associates, owns (or within three years, did own) 15% or more of the corporation’s voting stock. Although Section 203 permits us to elect not to be governed by its provisions, we have not made this election. As a result of the application of Section 203, our potential acquirers may be discouraged from attempting to effect an acquisition transaction with us, thereby possibly depriving holders of our securities of certain opportunities to sell or otherwise dispose of such securities at above-market prices pursuant to such transactions.

LEGAL MATTERS

Fenwick & West LLP, Seattle, Washington, will issue an opinion about certain legal matters with respect to the securities. Any underwriters or agents will be advised about legal matters relating to any offering by their own counsel.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form10-K for the year ended December 31, 2017 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.



Up to \$6,000,000

Common Stock

PROSPECTUS SUPPLEMENT

June 7, 2019