

The information contained in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and they are not soliciting an offer to buy these securities in any jurisdiction where any such offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5)  
Registration No. 333-224881

SUBJECT TO COMPLETION, DATED JUNE 29, 2018

PRELIMINARY PROSPECTUS SUPPLEMENT  
(To prospectus dated May 23, 2018)



**CHF Solutions, Inc.**  
**Common Stock**

We are offering \_\_\_\_\_ shares of our common stock. Our common stock is traded on the Nasdaq Capital Market under the symbol "CHFS." On June 28, 2018, the last reported sale price of our common stock was \$2.10 per share.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page S-7 of this prospectus supplement and page 6 of the accompanying prospectus.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions <sup>(1)</sup>	\$	\$
Proceeds, before expenses, to us	\$	\$

(1) We have also agreed to reimburse the underwriters for certain offering-related expenses. See "Underwriting."

*The underwriters have a 45-day option to purchase up to \_\_\_\_\_ additional shares of common stock from us to cover over-allotments, if any. If the underwriters exercise this option in full, total underwriting discounts and commissions payable by us will be \$ \_\_\_\_\_ and the total proceeds to us, before expenses, will be \$ \_\_\_\_\_.*

Our Chief Executive Officer has indicated an interest in purchasing approximately \$50,000 of our common stock in this offering on the same terms and at the same price as the shares sold to the public in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to our Chief Executive Officer, and our Chief Executive Officer may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares of common stock purchased by our Chief Executive Officer as they will on any other shares sold to the public in this offering.

As of June 27, 2018, the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was \$16,243,931 based on 4,505,953 shares of outstanding common stock, at a price of \$3.61 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on May 4, 2018. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on and includes the date of this prospectus supplement.

**Neither the Securities and Exchange Commission nor any state securities commission has approved of anyone's investment in these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

We anticipate that delivery of the shares of common stock will be made through the facilities of the Depository Trust Company on or about July \_\_\_\_\_, 2018.

\_\_\_\_\_  
*Sole Book-Running Manager*  
**Ladenburg Thalmann**  
*Co-Manager*  
**Dawson James Securities, Inc.**

The date of this prospectus supplement is \_\_\_\_\_, 2018.

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement or the accompanying prospectus. You must not rely on any unauthorized information or representations. This prospectus supplement and the accompanying prospectus are an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of their respective dates.

## ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus dated May 23, 2018 is part of a “shelf” registration statement on Form S-3 we filed with the Securities and Exchange Commission, or SEC, which became effective on May 23, 2018. By using a “shelf” registration statement, we may sell shares of common stock, preferred stock, debt securities, warrants and subscription rights in one or more offerings and in any combination, as described in the accompanying prospectus, from time to time in one or more offerings.

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. 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, 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.

You should rely only on the information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein. We have not authorized, and the underwriters have not authorized, anyone to provide you with information that is different. The information contained in this prospectus supplement or the accompanying prospectus, or any documents incorporated by reference herein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, 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 by Reference” in this prospectus supplement and in the accompanying prospectus.

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.

Unless otherwise stated, all references in this prospectus supplement and the accompanying prospectus to “we,” “us,” “our,” “CHF Solutions,” the “Company” and similar designations refer to CHF Solutions, Inc. and its subsidiaries on a consolidated basis.

This prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein by reference, include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

## PROSPECTUS SUPPLEMENT SUMMARY

*This summary highlights selected information contained elsewhere in this prospectus supplement, the accompanying prospectus, or in the documents incorporated by reference in this prospectus supplement, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus supplement, the accompanying prospectus, and any related free writing prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained herein. You should also carefully read the information incorporated by reference into this prospectus supplement, including our financial statements, and the exhibits to the registration statement of which this prospectus supplement is a part.*

### Our Company

We are a medical device company focused on commercializing the Aquadex FlexFlow® System for Aquapheresis therapy. The Aquadex FlexFlow System is indicated for temporary (up to eight hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy and extended (longer than 8 hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy and require hospitalization.

### The Aquadex FlexFlow System

The Aquadex FlexFlow system is designed to simply, safely, and precisely remove excess fluid (primarily excess salt and water) from patients suffering from fluid overload who have failed diuretic therapy. With the Aquadex FlexFlow system, medical practitioners can specify and control the amount of fluid to be extracted at a safe, predictable, and effective rate, in a process we refer to as Aquapheresis® therapy. All Aquapheresis treatments must be administered by a healthcare provider, under physician prescription, both of whom have received training in extracorporeal therapies. The Aquadex FlexFlow system has been shown to have no clinically significant impact on electrolyte balance, blood pressure or heart rate.<sup>1</sup>

### Benefits of the Aquadex FlexFlow System

The Aquadex FlexFlow ultrafiltration system offers a safe approach to treating fluid overload and:

- Provides complete control over rate and total volume of fluid removed by allowing a medical practitioner to specify the amount of fluid to be removed from each individual patient;
- Aquapheresis therapy can be performed via peripheral or central venous access;
- Removes isotonic fluid (extracts sodium while sparing potassium and magnesium)<sup>2</sup>;
- Following ultrafiltration, neurohormonal activation is reset toward a more physiological condition and diuretic efficacy is restored<sup>3</sup>;
- Provides highly automated operation with only one setting required to begin;
- Utilizes a single-use, disposable auto-loading blood filter circuit that facilitates easy set-up;
- The console guides medical practitioner through the setup and operational process; and
- Decreased hospital readmissions and duration<sup>4</sup> resulting in cost savings at 90 days<sup>5</sup>.

The Aquadex FlexFlow system consists of:

- A console, a piece of capital equipment containing electromechanical pumps and an LCD screen;
- A one-time disposable blood set (the “Aquadex Blood Set”), an integrated collection of tubing, filter, sensors, and connectors that contain and deliver the blood from and back to the patient; and

<sup>1</sup> SAFE Trial: Jaski BE, et al. J Card Fail. 2003 Jun; 9(3): 227-231; RAPID Trial: Bart BA, et al. J Am Coll Cardiol. 2005 Dec 6; 46(11): 2043-2046

<sup>2</sup> Ali SS, et al. Congest Heart Fail. 2009; 15(1):1-4.

<sup>3</sup> Marenzi G, et al. J Am Coll Cardiol. 2001 Oct; 38(4): 963-968.

<sup>4</sup> Costanzo MR, et al. J Am Coll Cardiol. 2005 Dec 6; 46(11): 2047-2051

<sup>5</sup> Costanzo MR, et al. Ultrafiltration vs. Diuretics for the Treatment of Fluid Overload in Patients with Heart Failure: A Hospital Cost Analysis. Poster presented at the ISPOR Meeting, May 23, 2018, Baltimore, MD, USA

- A disposable catheter (the “Aquadex Catheter”), a small, dual-lumen catheter designed to access the peripheral venous system of the patient and to simultaneously withdraw blood and return filtered blood to the patient.

The Aquadex Blood Set is proprietary and the Aquadex FlexFlow system can only be used with the Aquadex Blood Set. The Aquadex Catheter is often used in conjunction with the Aquadex FlexFlow system, although it is one of many potential catheter options available to the provider.

#### ***Company History and Corporate Information***

CHF Solutions, Inc. was incorporated in Delaware on August 22, 2002. We began operating our business in November 1999 through Sunshine Heart Company Pty Limited, which currently is a wholly owned Australian subsidiary of CHF Solutions, Inc. Prior to July 2016, we were focused on developing the C-Pulse® Heart Assist System for treatment of Class III and ambulatory Class IV heart failure. In August 2016, we acquired the Aquadex FlexFlow® System business (the “Aquadex Business”) from a subsidiary of Baxter International, Inc. (“Baxter”), a global leader in the hospital products and dialysis markets. On September 29, 2016, we announced a strategic refocus of our strategy that included halting all clinical evaluations of our C-Pulse technology to fully focus our resources on our Aquadex Business. On May 23, 2017, we announced that we were changing our name from Sunshine Heart, Inc. to CHF Solutions, Inc. to more appropriately reflect the direction of our business.

Our common stock began trading on the Nasdaq Capital Market on February 16, 2012. Our principal executive offices are located at 12988 Valley View Road, Eden Prairie, Minnesota 55344, and our telephone number is (952) 345-4200. Our website address is [www.chf-solutions.com](http://www.chf-solutions.com). Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Exchange Act will be made available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (“SEC”). The information on, or that may be accessed through, our website is not incorporated by reference into and should not be considered a part of this prospectus supplement.

We are, and will remain, a “smaller reporting company” as long as our public float remains less than \$75 million as of the last business day of our most recently-completed second fiscal quarter. A smaller reporting company may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to U.S. public companies. These provisions include an exemption from the attestation requirement in the assessment of our internal control over financial reporting by our independent auditors pursuant to section 404 (b) of the Sarbanes-Oxley Act of 2002 but do not preclude us from the requirement to make our own internal assessment of the effectiveness of our internal controls over financial reporting. We were an “emerging growth company” as defined in the Jumpstart our Business Startups Act of 2012 until the expiration of that status on December 31, 2017. We do not expect the expiration of our emerging growth company status to have a material impact on our business.

#### ***Nasdaq Compliance and Reverse Stock Splits***

On September 21, 2016, we received notice from the Listing Qualifications Staff (the “Staff”) of The Nasdaq Stock Market LLC (“Nasdaq”) indicating that the Staff had determined to delist our securities from Nasdaq due to our then continued non-compliance with the minimum bid price requirement. We timely requested a hearing before the Nasdaq Hearings Panel (the “Panel”), which occurred on November 10, 2016. On November 11, 2016, we received notice from the Staff that we no longer satisfied Nasdaq Listing Rule 5550(b) insofar as we did not expect to report stockholders’ equity of at least \$2.5 million upon the filing of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 and that the deficiency could serve as an additional basis for the delisting of the Company’s common stock from Nasdaq. On November 21, 2016, Nasdaq informed us that the Panel had granted us continued listing on Nasdaq while we implemented our plan to regain compliance with the minimum bid price and minimum stockholders’ equity requirements. The Panel granted us until January 30, 2017 to evidence a closing bid price of \$1.00 or more for a minimum of ten prior consecutive trading days. After implementing a 1-for-30 reverse split of our outstanding common stock that became effective after trading on January 12, 2017, we received confirmation from Nasdaq on February 9, 2017 that we regained compliance with the minimum bid price rule. The Panel had granted us until March 20, 2017 to evidence compliance with the \$2.5 million stockholder’s equity requirement. On March 28, 2017, we announced that the Panel had granted us an extension through May 10, 2017 to evidence compliance with the minimum

shareholder's equity requirement. On May 4, 2017, we were formally notified by Nasdaq that we had regained compliance with the minimum stockholders' equity requirement and we were in compliance with all other applicable requirements for listing on Nasdaq.

On June 1, 2017, we received a subsequent notification from Nasdaq informing us that we were no longer in compliance with the minimum bid price requirement, as the bid price of our shares of common stock ("Common Stock") closed below the minimum \$1.00 per share for the 30 consecutive business days prior to the date of the notice. Nasdaq also notified us that we were provided 180 calendar days, or until November 28, 2017, to regain compliance with the minimum bid price requirement. We effected a 1-for-20 reverse split of our outstanding common stock that became effective after trading on October 12, 2017. On October 27, 2017, we received formal notice from Nasdaq that we had regained compliance with the minimum \$1.00 bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), and the matter is now closed. We cannot assure you that we will be able continue to meet the Nasdaq listing standards. If we do not continue to meet any of the Nasdaq listing standards, our common stock may be subject to delisting from Nasdaq.

All share and per share amounts in this prospectus supplement and the accompanying prospectus have been retroactively adjusted to reflect the reverse stock splits for all periods presented.

***Warrant Reprice Agreements***

In connection with this offering and to induce certain institutional investors who participated in our November 2017 public offering of Series F Convertible Preferred Stock and warrants to participate in this offering, concurrently with the execution of the underwriting agreement for this offering, we expect to enter into letter agreements (collectively, the "Warrant Reprice Agreements") with such institutional investors pursuant to which, in consideration for participation in this offering, we will agree to (a) reduce the per share exercise price of the warrants issued to such investors in the November 2017 offering (the "Repriced Warrants") to a price equal to the greater of (i) \$2.12 (the net tangible book value per share of our common stock as of June 15, 2018) and (ii) the per share market value of our common stock at the time the Warrant Reprice Agreements are executed and (b) extend the expiration date of the Repriced Warrants that currently expire on November 27, 2018 to November 27, 2019, with such amendments to be effective concurrently with the closing of this offering. We expect warrants exercisable for approximately 7,760,400 shares of common stock in the aggregate to be repriced pursuant to such Warrant Reprice Agreements, of which, following such amendment, half expire on November 27, 2019 and half expire on November 27, 2024. The number of shares underlying the Repriced Warrants will not change.

**THE OFFERING**

<b>Issuer</b>	CHF Solutions, Inc.
<b>Common stock offered by us</b>	shares of common stock. We have also granted the underwriters an option to purchase up to additional shares of common stock solely to cover over-allotments, if any, within 45 days after the date of this prospectus supplement.
<b>Offering price</b>	\$ per share.
<b>Common stock outstanding immediately before this offering</b>	4,505,953 shares.
<b>Common stock outstanding immediately after this offering</b>	shares ( shares if the underwriters exercise their option to purchase additional shares in full).
<b>Exchange listing</b>	Our common stock is listed on the Nasdaq Capital Market under the symbol “CHFS.”
<b>Use of proceeds</b>	We currently intend to use the net proceeds from the sale of shares of our common stock in this offering for general corporate purposes, including the expansion of our field sales force and commercial organization. See “Use of Proceeds.”
<b>Potential insider participation</b>	Our Chief Executive Officer has indicated an interest in purchasing approximately \$50,000 of common stock in this offering on the same terms and at the same price as the shares sold to the public in this offering. The underwriters will receive the same underwriting discount on any shares of common stock purchased by our Chief Executive Officer as they will on any other shares sold to the public in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to our Chief Executive Officer, and our Chief Executive Officer may determine to purchase more, fewer or no shares in this offering.
<b>Risk factors</b>	The shares of common stock offered hereby involve a high degree of risk. See “Risk Factors” beginning on page S-7 of this prospectus supplement and on page 6 of the accompanying prospectus for a discussion of factors you should read and carefully consider before investing in our common stock.

Except as otherwise noted, all information in this prospectus supplement assumes no exercise of the underwriters’ option to purchase additional shares from us. The total number of shares of common stock outstanding after this offering is based on 4,505,953 shares of our common stock outstanding as of June 27, 2018, and excludes the following as of such date:

- 2,128,296 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$4.90 per share and 135 shares of common stock issuable upon the vesting of restricted stock units;
- 8,522,684 shares of our common stock issuable upon the exercise of outstanding warrants, which have a weighted-average exercise price of \$5.76 per share as of June 27, 2018 but which weighted-average

exercise price would be reduced to \$3.59, based on an assumed adjusted exercise price of the Repriced Warrants of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018, pursuant to the terms of the Warrant Reprice Agreements, described above under “—Warrant Reprice Agreements”;

- 136,030 shares of common stock issuable upon the conversion of the 610 outstanding shares of our Series F Convertible Preferred Stock (excluding additional shares of common stock that we may be required to issue upon such conversion due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock as described in the following bullet);
- 151,890 additional shares of common stock that we will be required to issue to the holders of our Series F Convertible Preferred Stock upon conversion thereof if the per share public offering price in this offering is lower than \$4.50, the current conversion price of the Series F Convertible Preferred Stock, as a result of the reduction of such conversion price to the per share public offering price in this offering due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock (assuming a per share public offering price of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018); and
- 403,628 shares of our common stock reserved for future issuance under our equity incentive plans.

To the extent that additional shares of common stock are issued upon the exercise of outstanding options or warrants, the conversion of our outstanding Series F Convertible Preferred Stock or the vesting of restricted stock units or additional grants are made pursuant to our equity incentive plans, there will be further dilution to new investors.



## RISK FACTORS

*You should carefully consider the risk factors set forth below, under the caption “Risk Factors” in the accompanying prospectus and under the caption “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which is incorporated by reference in this prospectus supplement and the accompanying prospectus. See “Where You Can Find More Information” and “Incorporation by Reference.” Before making any investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus supplement and the accompanying prospectus. The risks and uncertainties we describe are not the only ones facing us. Additional risks and uncertainties that we are unaware of or that we believe are not material at the time could also materially adversely affect our business, financial condition or results of operations. In any case, the value of our common stock could decline, and you could lose all or part of your investment. See also the information contained under the heading “Special Note Regarding Forward-Looking Statements” immediately below.*

### **Risks Related to our Common Stock**

***The number of shares of common stock underlying our outstanding warrants and outstanding preferred stock is significant in relation to our currently outstanding common stock and could cause downward pressure on the market price for our common stock and conversion of such outstanding convertible securities will cause dilution to holders of our common stock.***

The number of shares of common stock issuable upon conversion of our outstanding preferred stock and exercise of outstanding warrants is significant in relation to the number of shares of our common stock currently outstanding.

As of June 27, 2018, we have warrants to purchase 8,522,684 shares of common stock outstanding, with exercise prices ranging from \$4.50 to \$383.57 with a weighted-average exercise price of \$5.76. As described under “Prospectus Supplement Summary—Warrant Reprice Agreements,” we expect to agree to (a) reduce the exercise price of the Repriced Warrants to the greater of (i) \$2.12 (the net tangible book value per share of our common stock as of June 15, 2018) and (ii) the per share market value of our common stock at the time the Warrant Reprice Agreements are executed and (b) extend the expiration date of certain Repriced Warrants, with such amendments effective concurrently with the closing of this offering. Based on an assumed adjusted exercise price of the Repriced Warrants of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018, following this offering and the consummation of the transactions contemplated by the Warrant Reprice Agreements, the exercise prices of our outstanding warrants would range from \$2.12 to \$383.57 and the weighted-average exercise price would be \$3.59.

Through June 27, 2018, shares of our Series F Convertible Preferred Stock have been converted into 3,877,970 shares of our common stock. As of June 27, 2018, there were 610 shares of Series F Convertible Preferred Stock outstanding, convertible into an aggregate of 136,030 shares of common stock. Each share of our Series F convertible preferred stock is initially convertible into a number of shares of our common stock equal to \$1,000 divided by the conversion price at any time at the option of the holder, subject to certain limitations. Our Series F Convertible Preferred Stock is subject to full-ratchet anti-dilution protection in the event we sell any common stock at a price lower than the then-conversion price of the Series F Convertible Preferred Stock (currently \$4.50). If we sell shares of common stock in this offering at an assumed price of \$2.12 per share (the net tangible book value per share of our common stock as of June 15, 2018), the conversion price of the Series F Convertible Preferred Stock would adjust to \$2.12, and the number of shares of common stock into which the Series F Convertible Preferred Stock is convertible would adjust to 287,920 shares. To the extent the outstanding shares of Series F Convertible Preferred Stock become exercisable for additional shares of common stock, holders of our common stock will experience further dilution. The conversion of substantial amounts of our Series F Convertible Preferred Stock would result in the issuance by us of a substantial number of additional shares of our common stock, which, subject to certain limitations, could be traded publicly. Such conversions, or the perception that such conversions may occur, could cause the market price of our common stock to decline.

If any security holder determines to sell a substantial number of shares into the market at any given time, there may not be sufficient demand in the market to purchase the shares without a decline in the market price for our common stock. Moreover, continuous sales into the market of a number of shares in excess of the typical trading volume for our common stock could depress the trading market for our common stock over an extended period of time.

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In addition, the fact that our stockholders, option holders and warrant holders can sell substantial amounts of our common stock in the public market, whether or not sales have occurred or are occurring, could make it more difficult for us to raise additional financing through the sale of equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate, or at all.

### ***Nasdaq may delist our common stock from its exchange which could limit your ability to make transactions in our securities and subject us to additional trading restrictions.***

On June 1, 2017, we received a notification from Nasdaq informing us that we were no longer in compliance with the minimum bid price requirement, as the bid price of our shares of common stock closed below the minimum \$1.00 per share for the 30 consecutive business days prior to the date of the notice. Nasdaq also notified us that we were provided 180 calendar days, or until November 28, 2017, to regain compliance with the minimum bid price requirement.

At a special meeting of our stockholders on October 10, 2017, our stockholders approved, among other things, a reverse stock split, and following such special meeting, our Board of Directors approved a 1-for-20 reverse split of the Company's issued and outstanding shares of common stock. The reverse stock split became effective as of 5:00 p.m. Eastern Time on October 12, 2017, and the Company's common stock began trading on a split-adjusted basis on Nasdaq on October 13, 2017. On October 27, 2017, we received formal notice from Nasdaq that we had regained compliance with the minimum \$1.00 bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), and the matter is now closed.

If, in the future, it appears to the Nasdaq staff that we will not meet the minimum bid price requirement or any other listing standard, our common stock may be subject to delisting from the Nasdaq market. If our common stock is delisted, Baxter, pursuant to the asset purchase agreement for the Aquadex Business, has the right to require us to repurchase, in cash, all or part of the common stock held by Baxter at a price equal to their fair market value, as determined by a third-party appraiser. In addition, our common stock would likely then trade only in the over-the-counter market. If our common stock were to trade on the over-the-counter market, selling our common stock could be more difficult because smaller quantities of shares would likely be bought and sold and transactions could be delayed, and we could face significant material adverse consequences, including:

- a limited availability of market quotations for our securities;
- reduced liquidity with respect to our securities;
- a determination that our shares are a "penny stock," which will require brokers trading in our securities to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the secondary trading market for our securities;
- a reduced amount of news and analyst coverage for our Company; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

These factors could result in lower prices and larger spreads in the bid and ask prices for our common stock and would substantially impair our ability to raise additional funds and could result in a loss of institutional investor interest and fewer development opportunities for us.

In addition to the foregoing, if our common stock is delisted from Nasdaq and it trades on the over-the-counter market, the application of the "penny stock" rules could adversely affect the market price of our common stock and increase the transaction costs to sell those shares. The Securities and Exchange Commission ("SEC") has adopted regulations which generally define a "penny stock" as an equity security that has a market price of less than \$5.00 per share, subject to specific exemptions. The closing price of our common stock on June 28, 2018 was \$2.10. If our common stock is delisted from Nasdaq and it trades on the over-the-counter market at a price of less than \$5.00 per share, our common stock would be considered a penny stock. The SEC's penny stock rules require a broker-dealer, before a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer must also provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and the salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. In addition, the penny stock rules generally require that before a transaction in a penny stock

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occurs, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's agreement to the transaction. If applicable in the future, these rules may restrict the ability of brokers-dealers to sell our common stock and may affect the ability of investors to sell their shares, until our common stock no longer is considered a penny stock.

***The rights of holders of our common stock will be subject to, and could be adversely affected by, the rights of holders of our outstanding preferred stock and any stock that may be issued in the future.***

Our board of directors has authority, without further stockholder approval, to issue additional shares of preferred stock with such rights, preferences and privileges as our board may determine. These rights, preferences and privileges may include dividend rights, conversion rights, voting rights and liquidation rights that may be greater than the rights of our common stock.

Our board of directors has previously approved, pursuant to this authority, the issuance of preferred stock, and we have 610 shares of Series F Convertible Preferred Stock outstanding as of June 27, 2018. The rights, preferences and privileges of our Series F Convertible Preferred Stock are described in our Prospectus filed with the SEC on November 22, 2017. As described therein, upon liquidation, dissolution or winding-up of the Company, holders of our Series F Convertible Preferred Stock have the right to receive, out of the assets, whether capital or surplus, of the Company an amount equal to the par value, plus any accrued and unpaid dividends thereon, for each share of such preferred stock held by such holder before any distribution or payment shall be made to the holders of our common stock, and, following such payment, such holders are entitled to receive the same amount that a holder of common stock would receive if such preferred stock was fully converted, *pari passu* with all the holders of common stock.

Our board of directors may issue additional series of preferred stock. As a result, the rights of holders of our common stock will be subject to, and could be adversely affected by, the rights of holders of any stock that may be issued in the future.

***We have a large number of authorized but unissued shares of stock, which could negatively affect a potential investor if they purchase our common stock.***

We effected 1-for-20 reverse split of our issued and outstanding shares of common stock as of 5:00 p.m. Eastern Time on October 12, 2017, and our common stock began trading on a split-adjusted basis on The Nasdaq Capital Market on October 13, 2017.

Because the number of authorized shares of our common stock was not reduced proportionately, the reverse stock split increased our board of directors' ability to issue authorized and unissued shares without further stockholder action. As of June 27, 2018, our certificate of incorporation provides for 100,000,000 shares of authorized common stock and 40,000,000 shares of authorized preferred stock, and we have 4,505,953 shares of common stock outstanding, 10,787,145 shares reserved for issuance upon the conversion, exercise or vesting of outstanding preferred stock, warrants, options and restricted stock units, and 403,628 shares of common stock reserved for future grant under the Company's equity incentive plans.

With respect to authorized but unissued and unreserved shares, we could also use such shares to oppose a hostile takeover attempt or delay or prevent changes in control or changes in or removal of management. The issuance of additional shares of common stock or securities convertible into common stock may have a dilutive effect on earnings per share and relative voting power and may cause a decline in the trading price of our common stock. We could use the shares that are available for future issuance in dilutive equity financing transactions, or to oppose a hostile takeover attempt or delay or prevent changes in control or changes in or removal of management, including transactions that are favored by a majority of the stockholders or in which the stockholders might otherwise receive a premium for their shares over then-current market prices or benefit in some other manner.

***The price of our common stock may fluctuate significantly, which may make it difficult for you to resell shares of common stock at prices you find attractive, or at all.***

The price of our common stock constantly changes. The price of our common stock could fluctuate significantly for many reasons, including the following:

- future announcements concerning us, including our clinical and product development strategy, or our competitors;

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- regulatory developments, disclosure regarding completed, ongoing or future clinical studies and enforcement actions bearing on advertising, marketing or sales;
- reports and recommendations of analysts and whether or not we meet the milestones and metrics set forth in such reports;
- introduction of new products;
- acquisition or loss of significant manufacturers, distributors or suppliers or an inability to obtain sufficient quantities of materials needed to manufacture our system;
- quarterly variations in operating results, which we have experienced in the past and expect to experience in the future;
- business acquisitions or divestitures;
- changes in governmental or third-party reimbursement practices;
- fluctuations of investor interest in the medical device sector; and
- fluctuations in the economy, world political events or general market conditions.

In addition, stock markets in general, and the market for shares of health care stocks in particular, have experienced extreme price and volume fluctuations in recent years, fluctuations that frequently have been unrelated to the operating performance of the affected companies. These broad market fluctuations may adversely affect the market price of our common stock. The market price of our common stock could decline below its current price and the market price of our shares may fluctuate significantly in the future. These fluctuations may be unrelated to our performance. We expect that the market price of our common stock will continue to fluctuate.

### ***Our ability to use U.S. net operating loss carryforwards or Australian tax losses might be limited.***

As of December 31, 2017, we had U.S. net operating loss (“NOL”) carryforwards of approximately \$120.2 million for U.S. income tax purposes, which expire from 2024 through 2037. To the extent these NOL carryforwards are available, we intend to use them to reduce any corporate income tax liability associated with our operations that we might have in the future. Section 382 of the U.S. Internal Revenue Code of 1986, as amended, generally imposes an annual limitation on the amount of NOL carryforwards that might be used to offset taxable income when a corporation has undergone significant changes in stock ownership. During 2017, we experienced an ownership change as defined in Section 382 of the Internal Revenue Code which will limit our ability to utilize the our NOLs.

We may have experienced additional ownership changes in earlier years further limiting the NOL carry-forwards that may be utilized. We have not yet completed a formal Section 382 analysis. As a result, prior or future changes in ownership, including due to this offering, could put limitations on the availability of our NOL carryforwards. In addition, our ability to utilize the current NOL carryforwards might be further limited by future issuances of our common stock.

As of December 31, 2017, we had tax losses in the Commonwealth of Australia of approximately AU\$49.0 million. Continuing utilization of carryforward tax losses in Australia may also be affected by the issuance of our common stock. This is because one test for carrying forward tax losses in Australia from year to year requires continuity of ultimate ownership (subject to the relevant tests in Australian tax law) of more than 50% between the loss year and the income year in which the loss is claimed.

To the extent use of our NOL carryforwards or tax losses is limited, our income could be subject to corporate income tax earlier than it would if we were able to use NOL carryforwards and tax losses, which could result in lower profits.

### ***We do not intend to pay cash dividends on our common stock in the foreseeable future.***

We have never declared or paid any cash dividends on our common stock, and we currently do not anticipate paying any cash dividends in the foreseeable future. We intend to retain any earnings to finance the development and expansion of our products and business. Accordingly, our stockholders will not realize a return on their investments unless the trading price of our common stock appreciates.

***We will continue to incur increased costs as a result of being a U.S. reporting company.***

In connection with the effectiveness of our registration statement on Form 10, as of February 14, 2012, we became subject to the periodic reporting requirements of the Exchange Act. Although we were previously listed on the Australian Securities Exchange and had been required to file financial information and make certain other filings with the Australian Securities Exchange, our status as a U.S. reporting company under the Exchange Act has caused us, and will continue to cause us, to incur additional legal, accounting and other expenses that we did not previously incur, including costs related to compliance with the requirements of the Sarbanes-Oxley Act of 2002 (“SOX”) and the listing requirements of Nasdaq. We expect these rules and regulations will continue to increase our legal and financial compliance costs and make some activities more time-consuming and costly, and these activities may increase general and administrative expenses and divert management’s time and attention away from revenue-generating activities. Furthermore, now that we are a revenue-generating company following the acquisition of the Aquadex Business in August 2016, our costs to comply with regulations applicable to U.S. reporting companies may further increase. We also expect these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as executive officers.

***Investors could lose confidence in our financial reports, and the value of our common stock may be adversely affected, if our internal controls over financial reporting are found not to be effective by management or by an independent registered public accounting firm or if we make disclosure of existing or potential material weaknesses in those controls.***

In connection with becoming a company required to file reports with the SEC, we are required to comply with the internal control evaluation and certification requirements of Section 404 of SOX. Our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of SOX until the date we are no longer a “smaller reporting company” as defined by applicable SEC rules. We will remain a “smaller reporting company” as long as our public float remains less than \$75 million as of the last business day of our most recently-completed second fiscal quarter.

We continue to evaluate our existing internal controls over financial reporting. During the course of our ongoing evaluation of the internal controls, we may identify areas requiring improvement and may have to design enhanced processes and controls to address issues identified through this review. Remediating any deficiencies, significant deficiencies or material weaknesses that we or our independent registered public accounting firm may identify may require us to incur significant costs and expend significant time and management resources. We cannot assure you that any of the measures we implement to remedy any such deficiencies will effectively mitigate or remedy such deficiencies. The existence of one or more material weaknesses could affect the accuracy and timing of our financial reporting. It may be more difficult for us to manage our internal control over financial reporting following our acquisition of the Aquadex Business now that we are a revenue generating company. Investors could lose confidence in our financial reports, and the value of our common stock may be harmed, if our internal controls over financial reporting are found not to be effective by management or by our independent registered public accounting firm or if we make disclosure of existing or potential material weaknesses in those controls.

***Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with the Company.***

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, as amended (the “DGCL”), or (iv) any other action asserting a claim governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions described above. This forum selection provision may limit our stockholders’ ability to obtain a judicial forum that they find favorable for disputes with us or our directors, officers or other employees.

***Our certificate of incorporation and bylaws, as well as certain provisions of the DGCL, may delay or deter a change in control transaction.***

Certain provisions of our certificate of incorporation and bylaws may have the effect of deterring takeovers, such as those provisions authorizing our board of directors to issue, from time to time, any series of preferred stock and fix the designation, powers, preferences and rights of the shares of such series of preferred stock; prohibiting stockholders from acting by written consent in lieu of a meeting; requiring advance notice of stockholder intention to put forth director nominees or bring up other business at a stockholders' meeting; prohibiting stockholders from calling a special meeting of stockholders; requiring a 66<sup>2</sup>/<sub>3</sub>% majority stockholder approval in order for stockholders to amend certain provisions of our certificate of incorporation or bylaws or adopt new bylaws; providing that, subject to the rights of preferred shares, the directors will be divided into three classes and the number of directors is to be fixed exclusively by our board of directors; and providing that none of our directors may be removed without cause. Section 203 of the DGCL, from which we did not elect to opt out, provides that if a holder acquires 15% or more of our stock without prior approval of our board of directors, that holder will be subject to certain restrictions on its ability to acquire us within three years. These provisions may delay or deter a change in control of us and could limit the price that investors might be willing to pay in the future for shares of our common stock.

***We are a "smaller reporting company" under federal securities laws and we cannot be certain whether the reduced reporting requirements applicable to such companies will make our common stock less attractive to investors.***

We are a "smaller reporting company" under federal securities laws. For as long as we continue to be a smaller reporting company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies, including not being required to comply with the external auditor attestation requirements of Section 404 of SOX and reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We will remain a smaller reporting company so long as our public float remains less than \$75 million as of the last business day of our most recently-completed second fiscal quarter. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or be more volatile.

***Stockholder litigation could divert the attention of management from the day-to-day operation of our business or result in us incurring substantial costs and liabilities.***

In the past, we have received communications from Mr. Ki Yong Choi, previously our largest shareholder, regarding a potential financing and requesting that our officers and directors conduct an investigation into certain trading activity in our common stock. Although Mr. Choi has made no specific threat to bring a lawsuit against us, and had asserted no potential cause of action against us, we cannot be sure that he will not initiate securities litigation against us in the future. If securities or stockholder derivative litigation were to be commenced against us, our defense of such litigation could divert the attention of management from the day-to-day operation of our business or result in us incurring substantial costs and liabilities, irrespective of the merits of the litigation.

***Our loan agreement subjects us to operating restrictions and financial covenants and may restrict our business and financing activities.***

On August 5, 2016, we entered into a loan agreement with Silicon Valley Bank for proceeds of up to \$5.0 million, including a \$1.0 million revolving line of credit and a \$4.0 million term loan. The term loan expired unused on November 30, 2016 and the term loan is no longer available to be drawn. Under the revolving line, we may borrow the lesser of \$1 million or 80% of our eligible accounts (subject to customary exclusions), minus the outstanding principal balance of any advances under the revolving line. Advances under the revolving line, if any, will accrue interest at a floating per annum rate equal to 1.75% or 1.0% above the prime rate, depending on liquidity factors. The revolving line of credit expires on March 31, 2020. Advances under the revolving line are subject to various conditions precedent, including our compliance with financial covenants relating to net liquidity relative to monthly cash burn. We have not made borrowings under the Silicon Valley Bank facility since its inception.

Our obligations under the loan agreement are secured by a security interest in our assets, excluding intellectual property and certain other exceptions. We are subject to a negative pledge covenant with respect to

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our intellectual property. The loan agreement contains customary representations, as well as customary affirmative and negative covenants. Among other restrictions, the negative covenants, subject to exceptions, prohibit or limit our ability to: declare dividends or redeem or purchase equity interests; incur additional liens; make loans and investments; incur additional indebtedness; engage in mergers, acquisitions, and asset sales; transact with affiliates; undergo a change in control; add or change business locations; and engage in businesses that are not related to its existing business. These covenants may restrict our ability to finance our operations and to pursue our business activities and strategies. Our ability to comply with these covenants may be affected by events beyond our control.

***Our business could be negatively affected as a result of actions of activist stockholders, and such activism could affect the trading value of our securities.***

Stockholders may, from time to time, engage in proxy solicitations or advance stockholder proposals, or otherwise attempt to effect changes and assert influence on our board of directors and management. Activist campaigns that contest or conflict with our strategic direction or seek changes in the composition of our board of directors could have an adverse effect on our operating results and financial condition. A proxy contest would require us to incur significant legal and advisory fees, proxy solicitation expenses and administrative and associated costs and require significant time and attention by our board of directors and management, diverting their attention from the pursuit of our business strategy. Any perceived uncertainties as to our future direction and control, our ability to execute on our strategy, or changes to the composition of our board of directors or senior management team arising from a proxy contest could lead to the perception of a change in the direction of our business or instability which may result in the loss of potential business opportunities, make it more difficult to pursue our strategic initiatives, or limit our ability to attract and retain qualified personnel and business partners, any of which could adversely affect our business and operating results. If individuals are ultimately elected to our board of directors with a specific agenda, it may adversely affect our ability to effectively implement our business strategy and create additional value for our stockholders. We may choose to initiate, or may become subject to, litigation as a result of the proxy contest or matters arising from the proxy contest, which would serve as a further distraction to our board of directors and management and would require us to incur significant additional costs. In addition, actions such as those described above could cause significant fluctuations in our stock price based upon temporary or speculative market perceptions or other factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

### **Risks Related to this Offering**

***Because our management will have broad discretion and flexibility in how the net proceeds from this offering are used, our management may use the net proceeds in ways with which you disagree or which may not prove effective.***

We currently intend to use the net proceeds from this offering as discussed under “Use of Proceeds” in this prospectus supplement. We have not allocated specific amounts of the net proceeds from this offering for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the net proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

***If you purchase our common stock sold in this offering you will experience immediate dilution in your investment.***

Because the price per share of common stock being offered in this offering may be higher than the net tangible book value per share of our common stock, you will experience dilution to the extent of the difference between the public offering price per share of common stock you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of June 15, 2018 was approximately \$9.5 million, or \$2.12 per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding. See “Dilution” on page S-20 for a more detailed discussion of the dilution you will incur in this offering. Furthermore, the reduction of the conversion price of the Series F Convertible Preferred Stock to the public offering price of our common stock in this offering may result in further dilution of your investment.

***If the public offering price per share of common stock in this offering is less than the current conversion price of our Series F Convertible Preferred Stock, we will be required to issue additional shares of common stock to the holders of such preferred stock upon conversion thereof, which will be dilutive to all of our other stockholders, including new investors in this offering.***

The certificate of designation for our Series F Convertible Preferred Stock contains an anti-dilution provision, which provision requires the lowering of the applicable conversion price, as then in effect, to the purchase price per share of common stock or common stock equivalents issued in the future. As a result of this obligation, if the public offering price of our common stock in this offering is less than \$4.50, the current conversion price of our Series F Convertible Preferred Stock, the conversion price shall be reduced to such public offering price of our common stock. This reduction in the conversion price will result in a greater number of shares of common stock being issuable upon conversion of the Series F Convertible Preferred Stock for no additional consideration, causing greater dilution to our stockholders and investors in this offering. In addition, should we issue any securities following this offering at an effective common stock purchase price that is less than the then effective conversion price of our Series F Convertible Preferred Stock, we will be required to further reduce the conversion price of our Series F Convertible Preferred Stock, which will result in a greater dilutive effect on our stockholders.

***Purchasers in this offering may experience additional dilution of their investment in the future.***

Subject to lock-up provisions described under “Underwriting,” we are generally not restricted from issuing additional securities, including shares of common stock, securities that are convertible into or exchangeable for, or that represent the right to receive, common stock or substantially similar securities. In particular, we intend to conduct one or more additional offerings following this offering and may seek waiver of the lock-up provisions described under “Underwriting” to conduct such offerings. The issuance of securities in these or any other offerings may cause further dilution to our stockholders, including investors in this offering. In order to raise additional capital, such securities may be at prices that are not the same as the price per share in this offering. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater 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, including investors who purchase securities in this offering. The price per share at which we sell additional shares of our common stock or securities convertible into common stock in future transactions may be higher or lower than the price per share in this offering. The exercise of outstanding stock options or warrants and the vesting of outstanding restricted stock units may also result in further dilution of your investment.



**SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus supplement and accompanying prospectus, including the documents that we incorporate by reference, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “anticipates,” “estimates,” “plans,” “projects,” “continuing,” “ongoing,” “expects,” “management believes,” “we believe,” “we intend” and similar words or phrases. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus supplement, and in particular those factors included in the section entitled “Risk Factors.”

Because the factors referred to in the preceding paragraph could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements we make, you should not place undue reliance on any such forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

You should carefully read this prospectus supplement and any related free writing prospectus, together with the information incorporated herein or therein by reference as described under the section titled “Incorporation by Reference,” and with the understanding that our actual future results may materially differ from what we expect.

Except as required by law, forward-looking statements speak only as of the date they are made, and we assume no obligation to update any forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available.

## USE OF PROCEEDS

We estimate the net proceeds to us from the sale of our common stock in this offering will be approximately \$        million, or \$        million if the underwriters fully exercise their over-allotment option, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from the sale of shares of our common stock in this offering for general corporate purposes, including for the expansion of our field force and commercial organization. We may use a portion of the net proceeds for the acquisitions of businesses, products, technologies or licenses that are complementary to our business, although we have no present commitments or agreements to do so.

The amounts and timing of the expenditures may vary significantly, depending upon numerous factors, including market conditions, cash generated or used by our operations and business developments and opportunities that may arise. Accordingly, our management will have broad discretion in the application of the net proceeds and investors will be relying upon the judgment of our management regarding the application of these proceeds. We reserve the right to change the use of these proceeds.

Pending the application of the net proceeds as described above, we intend to invest the net proceeds from this offering in short-term, interest-bearing, marketable securities.

**PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY**

Our common stock is currently listed on The Nasdaq Capital Market under the symbol “CHFS.” See “Prospectus Supplement Summary—Nasdaq Compliance and Reverse Stock Splits” in this prospectus supplement for important information about the listing of our common stock on The Nasdaq Capital Market. The following table contains, for the periods indicated, the intraday high and low sale prices per share of our common stock. These prices have been adjusted to reflect the 1-for-30 reverse split of our common stock that was effected after trading on January 12, 2017 and the 1-for-20 reverse split of our common stock that was effected after trading on October 12, 2017.

	<u>High</u>	<u>Low</u>
<b>2016</b>		
First Quarter	\$ 828.08	\$ 336.03
Second Quarter	\$ 584.28	\$ 240.02
Third Quarter	\$ 972.10	\$ 264.03
Fourth Quarter	\$ 576.06	\$ 90.01
<b>2017</b>		
First Quarter	\$ 240.02	\$ 33.00
Second Quarter	\$ 45.00	\$ 10.29
Third Quarter	\$ 22.00	\$ 11.20
Fourth Quarter	\$ 24.45	\$ 2.87
<b>2018</b>		
First Quarter	\$ 4.80	\$ 2.70
Second Quarter (through June 28, 2018)	\$ 3.80	\$ 2.02

As of June 28, 2018, the last reported sale price of our common stock on The Nasdaq Capital Market was \$2.10.

As of June 27, 2018, there were approximately 104 stockholders of record for our common stock. A substantially greater number of stockholders may be “street name” or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

We have not historically paid cash dividends on our capital stock. We intend to retain our future earnings, if any, to finance the expansion and growth of our business, and we do not expect to pay cash dividends on our common stock in the foreseeable future. In addition, pursuant to our loan agreement with Silicon Valley Bank, we are prohibited from paying cash dividends without the prior consent of Silicon Valley Bank. Payment of future cash dividends, if any, will be at the sole discretion of our board of directors after taking into account various factors, including our financial condition, earnings, capital requirements of our operating subsidiaries, covenants associated with any debt obligations, legal requirements, regulatory constraints and other factors deemed relevant by our board of directors. Moreover, if we determine to pay any dividends in the future, there can be no assurance that we will continue to pay such dividends.

Our transfer agent is American Stock Transfer & Trust Company LLC, 6201 15th Avenue, Brooklyn, New York 11219; Telephone: 800-937-5449.

**CAPITALIZATION**

The following table summarizes our cash and cash equivalents and our capitalization as of March 31, 2018, (i) on an actual basis, and (ii) on an as-adjusted basis to give effect to the sale by us of \_\_\_\_\_ shares of our common stock in this offering at a public offering price of \$ \_\_\_\_\_ per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. The information presented below is based on our unaudited financial statements as of March 31, 2018.

This table should be read with our consolidated financial statements, related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our annual and quarterly reports filed with the SEC and incorporated by reference in this prospectus supplement and the accompanying prospectus.

	As of March 31, 2018	
	Actual	As Adjusted (unaudited)
	(in thousands except share data)	
Cash and cash equivalents	\$ 10,504	\$ _____
Stockholders’ equity:		
Series A junior participating preferred stock, par value \$0.0001 per share; authorized 30,000 shares; none outstanding	—	—
Series F convertible preferred stock, par value \$0.0001 per share; authorized 1,748 shares; issued and outstanding 1,748 shares	—	—
Preferred stock, par value \$0.0001 per share; authorized 39,968,252 shares; none outstanding	—	—
Common stock, \$0.0001 par value, authorized 100,000,000 shares; issued and outstanding, actual, 4,252,134 shares; issued and outstanding, as adjusted for this offering, _____ shares	—	—
Additional paid-in capital	197,868	_____
Accumulated other comprehensive income: Foreign currency translation adjustment	1,228	1,228
Accumulated deficit	(186,710)	(186,710)
Total stockholders’ equity	12,386	_____
Total capitalization	\$ 14,411	\$ _____

As described under “Prospectus Supplement Summary—Warrant Reprice Agreements”, concurrently with the execution of the underwriting agreement for this offering, we expect to agree to (a) reduce the per share exercise price of the Repriced Warrants to a price equal to the greater of (i) \$2.12 (the net tangible book value per share of our common stock as of June 15, 2018) and (ii) the per share market value of our common stock at the time the Warrant Reprice Agreements are executed and (b) extend the expiration date of certain Repriced Warrants, with such amendments to be effective concurrently with the closing of this offering. We have not reflected the impact of such amendments in the as-adjusted capitalization provided above as we have not yet finalized the accounting treatment of such amendments; however, we believe that such amendments will have no impact on total stockholders’ equity due to non-cash nature of the repricing.

The table and calculations above are based on the number of shares of common stock outstanding as of March 31, 2018, assume no exercise of the underwriters’ over-allotment option and exclude the following as of such date:

- 1,996,304 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$5.04 per share and 180 shares of common stock issuable upon the vesting of restricted stock units;
- 8,522,684 shares of our common stock issuable upon the exercise of outstanding warrants, which have a weighted-average exercise price of \$5.76 per share as of March 31, 2018 but which weighted-average exercise price would be reduced to \$3.59, based on an assumed adjusted exercise price of the Repriced

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Warrants of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018, pursuant to the terms of the Warrant Reprice Agreements, described above under “Prospectus Supplement Summary—Warrant Reprice Agreements”;

- 389,804 shares of common stock issuable upon the conversion of the 1,748 shares of our Series F Convertible Preferred Stock outstanding as of March 31, 2018 (excluding additional shares of common stock that we may be required to issue upon such conversion due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock as described in the following bullet);
- 435,252 additional shares of common stock that we would be required to issue to the holders of our Series F Convertible Preferred Stock outstanding as of March 31, 2018 upon conversion thereof if the per share public offering price in this offering is lower than \$4.50, the current conversion price of the Series F Convertible Preferred Stock, as a result of the reduction of such conversion price to the per share public offering price in this offering due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock (assuming a per share public offering price of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018); and
- 535,620 shares of our common stock reserved for future issuance under our equity incentive plans.

**DILUTION**

As of June 15, 2018, our unaudited net tangible book value was approximately \$9.5 million, or \$2.12 per share of common stock based on 4,501,448 shares of common stock outstanding as of June 15, 2018. Our historical net tangible book value per share is calculated by subtracting our total liabilities from our total assets and dividing this amount by the number of shares of our common stock outstanding. If you purchase shares of common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share and the net tangible book value per share after this offering.

After giving effect to the sale of      shares of our common stock in this offering at a public offering price of \$      per share and deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma net tangible book value as of June 15, 2018 would have been approximately \$      million or \$      per share of our common stock. This amount represents an immediate increase in net tangible book value of \$      per share to our existing stockholders and an immediate dilution in net tangible book value of \$      per share to purchasers of common stock in this offering without giving effect to the over-allotment option granted to the underwriters. Dilution per share to new investors is determined by subtracting pro forma net tangible book value per share after this offering from the public offering price per share paid by a new investor. The following table illustrates this per share dilution:

Public offering price per share of common stock	\$
Historical net tangible book value per share as of June 15, 2018	\$ 2.12
Increase in net tangible book value per share attributable to new investors in this offering	
Pro forma net tangible book value per share as of June 15, 2018, after giving effect to this offering	
Dilution per share to new investors in this offering	\$

If the underwriters exercise in full their option to purchase an additional      shares of common stock at the public offering price of \$      per share, less underwriting discounts and commissions, our pro forma net tangible book value as of June 15, 2018 would have been approximately \$      or \$      per share of common stock. This amount represents an immediate increase in net tangible book value of \$      per share to our existing stockholders and an immediate dilution in net tangible book value of \$      per share to purchasers of common stock in this offering.

The above discussion and table are based on 4,501,448 shares of common stock outstanding as of June 15, 2018 and excludes the following as of that date:

- 2,128,296 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$4.90 per share and 180 shares of common stock issuable upon the vesting of restricted stock units;
- 8,522,684 shares of our common stock issuable upon the exercise of outstanding warrants, which have a weighted-average exercise price of \$5.76 per share as of June 15, 2018 but which weighted-average exercise price would be reduced to \$3.59, based on an assumed adjusted exercise price of the Repriced Warrants of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018, pursuant to the terms of the Warrant Reprice Agreements, described above under “Prospectus Supplement Summary—Warrant Reprice Agreements”;
- 140,490 shares of common stock issuable upon the conversion of the 630 shares of our Series F Convertible Preferred Stock outstanding as of June 15, 2018 (excluding additional shares of common stock that we may be required to issue upon such conversion due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock as described in the following bullet);
- 156,870 additional shares of common stock that we would be required to issue to the holders of our Series F Convertible Preferred Stock outstanding as of June 15, 2018 upon conversion thereof if the per share public offering price in this offering is lower than \$4.50, the current conversion price of the Series F Convertible Preferred Stock, as a result of the reduction of such conversion price to the per

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share public offering price in this offering due to the full ratchet anti-dilution price protection in the certificate of designation for the Series F Convertible Preferred Stock (assuming a per share public offering price of \$2.12, the net tangible book value per share of our common stock as of June 15, 2018); and

- 403,628 shares of our common stock reserved for future issuance under our equity incentive plans.

To the extent that additional shares of common stock are issued upon the exercise of outstanding options or warrants, the conversion of our outstanding Series F Convertible Preferred Stock or the vesting of restricted stock units or additional grants are made pursuant to our equity incentive plans, there will be further dilution to new investors.

**UNDERWRITING**

We are offering the shares of common stock described in this prospectus supplement through the underwriters named below. Ladenburg Thalmann & Co. Inc. is acting as representative of the underwriters and book-running manager of the offering and Dawson James Securities, Inc. is acting as a co-manager of the offering. We entered into an underwriting agreement with the underwriters on \_\_\_\_\_, 2018. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase from us on a firm commitment basis, at the public offering price less the underwriting discount set forth on the cover page of this prospectus supplement, the number of shares of common stock listed next to its name in the following table:

<u>Underwriters</u>	<u>Number of Shares</u>
Ladenburg Thalmann & Co., Inc.	
Dawson James Securities, Inc.	
<b>Total</b>	

A copy of the underwriting agreement will be filed as an exhibit to a Current Report on Form 8-K filed by us with the SEC in connection with this offering.

We have been advised by the underwriters that they propose to offer shares of our common stock directly to the public at the public offering price set forth on the cover page of this prospectus supplement. Any shares sold by the underwriters to securities dealers will be sold at the public offering price less a selling concession not in excess of \$ \_\_\_\_\_ per share.

The underwriting agreement provides that the underwriters' obligation to purchase shares of our common stock is subject to conditions contained in the underwriting agreement. The underwriters are obligated to purchase and pay for all of the shares offered by this prospectus supplement other than those covered by the over-allotment option, if any of these shares are purchased.

No action has been taken by us or the underwriters that would permit a public offering of the shares of common stock included in this offering in any jurisdiction where action for that purpose is required. None of the shares of our common stock included in this offering may be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sales of any shares of our common stock be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons who receive this prospectus supplement are advised to inform themselves about and to observe any restrictions relating to this offering and the distribution of this prospectus supplement. This prospectus supplement is neither an offer to sell nor a solicitation of any offer to buy shares of our common stock in any jurisdiction where that would not be permitted or legal.

The underwriters have advised us that they do not intend to confirm sales to any accounts over which they exercise discretionary authority.

**Underwriting Discount and Expenses**

The following table summarizes the underwriting discount we will pay to the underwriters.

	<u>Per Share</u>	<u>Total without over-allotment</u>	<u>Total with over-allotment</u>
Public offering price	\$ _____	\$ _____	\$ _____
Underwriting discount to be paid to the underwriters by us for the shares (8.0% of gross proceeds)			
Proceeds, before expenses, to us <sup>(1)</sup>	\$ _____	\$ _____	\$ _____

(1) We have also agreed to reimburse the reasonable, out-of-pocket expenses of the representative, including legal fees, in this offering up to a maximum of \$85,000.

We expect the total expenses payable by us in this offering, excluding underwriting discounts and commissions, to be approximately \$193,000.



### **Over-Allotment Option**

We have granted the underwriters an option, exercisable not later than 45 days after the date of this prospectus supplement, to purchase up to \_\_\_\_\_ shares at the public offering price, less the underwriting discounts and commissions, set forth on the cover page of this prospectus supplement. The underwriters may exercise the option solely to cover over-allotments, if any, made in connection with this offering. If any additional shares are purchased pursuant to the over-allotment option, the underwriters will offer these additional shares on the same terms as those on which the other shares are being offered hereby.

### **Other Relationships**

Upon completion of this offering, we have granted Ladenburg Thalmann & Co. Inc. a right of first refusal to act as bookrunner and/or placement agent in connection with any subsequent public or private offering of equity securities or other capital markets financing by us. This right of first refusal extends for 12 months from the closing date of this offering. The terms of any such engagement will be determined by separate agreement.

Ladenburg Thalmann & Co. Inc. has performed investment banking services for us in the past, for which it has received customary fees and expenses. The underwriters and their respective affiliates may, from time to time, engage in transactions with or perform services for us in the ordinary course of their business.

### **Determination of Offering Price**

The public offering price of the shares was negotiated between us and the underwriters, based on the trading of our common stock prior to the offering, among other things. Other factors considered in determining the public offering price of the shares include our history and prospects, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

### **Lock-up Agreements**

Our officers, directors and a principal stockholder have agreed with the underwriters to be subject to a lock-up period of 90 days following the date of this prospectus supplement. This means that, during the applicable lock-up period, such persons may not offer for sale, contract to sell, sell, distribute, grant any option, right or warrant to purchase, pledge, hypothecate or otherwise dispose of, directly or indirectly, any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, shares of our common stock. Certain limited transfers are permitted during the lock-up period if the transferee agrees to these lock-up restrictions. We have also agreed, in the underwriting agreement, to similar lock-up restrictions on the issuance and sale of our securities for 90 days following the date of this prospectus supplement, although we will be permitted to issue stock options to directors, officers, employees and consultants under our existing plans and to holders of our outstanding convertible securities upon exercise or conversion thereof, including upon exercise of the Repriced Warrants. See “Prospectus Supplement Summary—Warrant Reprice Agreements”. The representative may, in its sole discretion and without notice, waive the terms of any of these lock-up agreements.

### **Transfer Agent and Registrar**

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

### **Stabilization, Short Positions and Penalty Bids**

To facilitate the offering, the underwriters may engage in over-allotment, syndicate covering transactions, stabilizing transactions and penalty bids or purchases for the purpose of pegging, fixing or maintaining the price of our common stock:

- Over-allotment involves sales by the underwriters of shares in excess of the number of shares the underwriters are obligated to purchase from us in the offering, which creates a syndicate short position. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters is not greater than the number of

shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. The underwriters may close out any short position by exercising their over-allotment option, in whole or in part, or purchasing shares in the open market.

- Syndicate covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of securities needed to close out the short position, the underwriters will consider, among other things, the price of the securities available for purchase in the open market as compared to the price at which they may purchase the securities through the over-allotment option. If the underwriters sell more securities than could be covered by the over-allotment option known as, a naked short position, the position can only be closed out by buying securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.
- Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specific maximum.
- Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member or other broker-dealer participating in the offering when the securities originally sold by that syndicate member or other broker-dealer are purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These syndicate covering transactions, stabilizing transactions and penalty bids may have the effect of raising or maintaining the market prices of our securities or preventing or retarding a decline in the market prices of our securities. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on the Nasdaq Capital Market, in the over-the-counter market or on any other trading market and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriters also may engage in passive market making transactions in our common stock on the Nasdaq Capital Market in accordance with Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of the distribution. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specific purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the prices of our securities. In addition, neither we nor the underwriters make any representation that the underwriters will engage in these transactions or that any transactions, once commenced, will not be discontinued without notice.

#### **Electronic Offer, Sale and Distribution of Shares**

A prospectus in electronic format may be made available on the web sites maintained by the underwriters, or selling group members, if any, participating in this offering and one or more of the underwriters participating in this offering may distribute prospectuses electronically. The representative may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters and selling group members that will make internet distributions on the same basis as other allocations.

#### **Indemnification**

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, or to contribute to payments the underwriters may be required to make with respect to any of these liabilities.

**MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF OUR COMMON STOCK**

The following is a general discussion of material U.S. federal income considerations for Non-U.S. holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects.. This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended, (the "Internal Revenue Code"), existing and proposed U.S. Treasury Regulations promulgated or proposed thereunder and current administrative and judicial interpretations thereof, all as in effect as of the date of this prospectus supplement and all of which are subject to change or to differing interpretation, possibly with retroactive effect. We have not sought and will not seek any rulings from the Internal Revenue Service (the "IRS") regarding the matters discussed below. There can be no assurance that the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. holders who hold our common stock as capital assets within the meaning of Section 1221 of the Internal Revenue Code (generally, as property held for investment). This discussion does not address all aspects of U.S. federal income taxation, such as the U.S. alternative minimum income tax and the additional tax on net investment income, nor does it address any aspect of state, local or non-U.S. taxes, or U.S. federal taxes other than income taxes, such as federal estate taxes. This discussion does not consider any specific facts or circumstances that may apply to a holder and does not address the special tax considerations that may be applicable to particular holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- controlled foreign corporations;
- passive foreign investment companies;
- corporations that accumulate earnings to avoid U.S. federal income tax;
- U.S. expatriates and former citizens or long-term residents of the U.S.;
- persons that own, or are deemed to own, more than 5% of our common stock (except to the extent specifically set forth below);
- persons that acquire our common stock as compensation for services;
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;
- entities that are treated as disregarded entities for U.S. federal income tax purposes (regardless of their places of organization or formation) and their investors; and
- partnerships or other entities treated as partnerships for U.S. federal income tax purposes and their investors.

If any entity taxable as a partnership for U.S. federal income tax purposes holds our common stock, the U.S. federal income tax treatment of a partner in the partnership generally will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. An investor in a partnership or entity treated as disregarded for U.S. federal income tax purposes should consult his, her or its own tax advisor regarding the applicable tax consequences relating to the purchase, ownership and disposition of our common stock.

## Definition of a Non-U.S. Holder

For purposes of this discussion, the term “Non-U.S. holder” means a beneficial owner of our common stock that is neither a “U.S. person” nor an entity (or arrangement) treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation (or entity that is classified as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or of any political subdivision of the United States;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if (i) a U.S. court is able to exercise primary supervision over the administration of the trust and one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Internal Revenue Code) have authority to control all substantial decisions of the trust or (ii) the trust has a valid election to be treated as a United States person under applicable U.S. Treasury Regulations.

**Prospective investors should consult their own tax advisors regarding the U.S. federal, state, local and non-U.S. income and other tax considerations of purchasing, holding and disposing of our common stock.**

## Non-U.S. Holders

### *Distributions on Common Stock*

If we pay distributions of cash or property with respect to our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder’s investment, up to such holder’s tax basis in its shares of our common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading “—Gain on Sale, Exchange or Other Taxable Disposition.”

Except as described below with respect to effectively connected dividends and subject to the discussions below of backup withholding and Sections 1471 to 1474 of the Internal Revenue Code (such Sections and related Treasury Regulations commonly referred to as the Foreign Account Tax Compliance Act, or FATCA), dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence. In the case of any constructive distribution, it is possible that this tax would be withheld from any amount owed to the non-U.S. holder, including, but not limited to, distributions of cash, common stock or sales proceeds subsequently paid or credited to that holder. If we are unable to determine, at the time of payment of a distribution, whether the distribution will constitute a dividend, we may nonetheless choose to withhold any U.S. federal income tax on the distribution as permitted by U.S. Treasury Regulations.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States are generally not subject to the 30% withholding tax if the non-U.S. holder provides a properly executed IRS Form W-8ECI stating that the dividends are not subject to withholding because they are effectively connected with the non-U.S. holder’s conduct of a trade or business in the United States. If a non-U.S. holder is engaged in a trade or business in the United States and the dividend is effectively connected with the conduct of that trade or business, the dividend will generally be subject to U.S. federal income tax generally in the same manner as if the Non-U.S. holder were a U.S. person and be subject to U.S. federal income tax on a net income basis at the regular graduated U.S. federal income tax rates (subject to any modification provided under an applicable income tax treaty). Any U.S. effectively connected income received by a non-U.S. holder that is treated as a corporation for U.S. federal income tax purposes may also, under certain circumstances, be subject to an additional “branch profits tax” at a 30% rate (or such lower rate as may be specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items.

A non-U.S. holder who claims the benefit of an applicable income tax treaty between the United States and such holder’s country of residence generally will be required to provide a properly executed IRS Form W-8BEN

or W-8BEN-E, as applicable, and satisfy applicable certification and other requirements. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty generally may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS. Non-U.S. holders should consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

### ***Gain on Sale, Exchange or Other Taxable Disposition***

Subject to the discussion below in “—Information Reporting and Backup Withholding” and “—Foreign Account Tax Compliance Act,” a non-U.S. holder generally will not be subject to U.S. federal income tax on gain recognized on a sale, exchange or other taxable disposition of our common stock unless:

- the gain is effectively connected with the non-U.S. holder’s conduct of a trade or business in the United States and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to a U.S. holder, and, if the non-U.S. holder is a corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;
- the non-U.S. holder is an individual present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the amount by which such non-U.S. holder’s capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of the disposition; or
- we are or were a “U.S. real property holding corporation”, orUSRPHC, during the shorter of the five-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. Generally, a corporation is a USRPHC if the fair market value of its “U.S. real property interests” (within the meaning of the Internal Revenue Code) equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. We believe that we are not currently, and we do not anticipate becoming, a “U.S. real property holding corporation” for U.S. federal income tax purposes. Even if we are or were to become a USRPHC, our common stock will not be treated as a U.S. real property interest if our common stock is “regularly traded,” as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. holder owned, actually or constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition of, or the Non-U.S. holder’s holding period for, our common stock.

### **Information Reporting and Backup Withholding**

Distributions on, and the payment of the proceeds of a disposition of, our common stock generally will be subject to information reporting if made within the United States or through certain U.S.-related financial intermediaries. Information returns are required to be filed with the IRS and copies of information returns may be made available to the tax authorities of the country in which a holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding may also apply if the holder fails to provide certification of exempt status or a correct U.S. taxpayer identification number and otherwise comply with the applicable backup withholding requirements. Generally, a holder will not be subject to backup withholding if it provides a properly completed and executed IRS Form W-9 or appropriate IRS Form W-8, as applicable. Backup withholding is not an additional tax. Amounts withheld under the backup withholding rules may be refunded or credited against the holder’s U.S. federal income tax liability, if any, provided certain information is timely filed with the IRS.

### **Foreign Account Tax Compliance Act**

FATCA generally imposes a U.S. federal withholding tax of 30% on payments to certain non-U.S. entities (including certain intermediaries) unless such persons comply with FATCA’s information reporting and withholding regime. This regime and its requirements are different from, and in addition to, the certification requirements described elsewhere in this discussion. The FATCA withholding rules apply to dividend payments and, in the case of certain sales or other dispositions occurring after December 31, 2018 (including a distribution to the extent it is treated as a return of capital or capital gain), the gross proceeds of such disposition.

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The United States has entered into, and continues to negotiate, intergovernmental agreements (each, an “IGA”) with a number of other jurisdictions to facilitate the implementation of FATCA. An IGA may significantly alter the application of FATCA and its information reporting and withholding requirements with respect to any particular investor. FATCA is particularly complex and its application remains uncertain. Prospective investors should consult their own tax advisors regarding how these rules may apply in their particular circumstances.

### **LEGAL MATTERS**

Honigman Miller Schwartz and Cohn LLP, Kalamazoo, Michigan, will issue a legal opinion as to the validity of the securities offered by this prospectus. Ellenoff Grossman & Schole LLP, New York, New York, is acting as counsel for the underwriters in connection with this offering.

### **EXPERTS**

Baker Tilly Virchow Krause, LLP, our independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2017 included in our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference into this prospectus supplement and elsewhere in the registration statement. The consolidated financial statements audited by Baker Tilly Virchow Krause, LLP have been incorporated by reference in reliance on their report given on their authority as experts in accounting and auditing.

The consolidated financial statements of Sunshine Heart, Inc. (now known as CHF Solutions, Inc.) and Subsidiaries for the year ended December 31, 2016 appearing in Sunshine Heart, Inc.’s (now known as CHF Solutions, Inc.) Annual Report (Form 10-K) for the year ended December 31, 2017, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

### **WHERE YOU CAN FIND MORE INFORMATION**

We have filed with the SEC a registration statement on Form S-3 (File No. 333-224881), of which this prospectus supplement and the accompanying prospectus are a part, under the Securities Act, to register the shares of common stock offered by this prospectus supplement. However, this prospectus supplement and the accompanying prospectus do not contain all of the information contained in the registration statement and the exhibits and schedules to the registration statement. We encourage you to carefully read the registration statement and the exhibits and schedules to the registration statement.

Whenever a reference is made in this prospectus supplement to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus supplement for a copy of such contract, agreement or other document. We file reports, proxy statements and other information with the SEC in accordance with the Exchange Act. You may read and copy our reports, proxy statements and other information filed by us at the public reference room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC’s website at <http://www.sec.gov>.

## INCORPORATION BY REFERENCE

We “incorporate by reference” certain documents that we have filed with the SEC into this prospectus supplement, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is deemed to be part of this prospectus supplement, except for any information superseded by information contained directly in this prospectus supplement. This prospectus supplement incorporates by reference:

- our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 22, 2018;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2017 from our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 16, 2018, filed with the SEC on April 6, 2018;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 filed with the SEC on May 10, 2018;
- our Current Reports on Form 8-K filed with the SEC on January 18, 2018 and May 18, 2018;
- the description of our common stock in our registration statement on Form 10 filed with the SEC on September 30, 2011, including any amendment or report filed for the purpose of updating such description;
- the description of our Series A Junior Participating Preferred Stock, par value \$0.0001 per share, in our registration statement on Form 8-A filed with the SEC on June 14, 2013; and
- the description of our Series F Convertible Preferred Stock in our Prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on November 22, 2017.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or document that is not deemed filed under such provisions, (i) on or after the date of filing of the registration statement containing this prospectus supplement and prior to the effectiveness of the registration statement and (ii) on or after the date of this prospectus supplement until the earlier of the date on which all of the securities registered hereunder have been sold or this prospectus has been withdrawn, shall be deemed incorporated by reference in this prospectus supplement and to be a part of this prospectus supplement from the date of filing of those documents. The information in documents that we file in the future will update and supersede the information currently included and incorporated by reference in this prospectus supplement. Nothing in this prospectus supplement shall be deemed to incorporate information furnished but not filed with the SEC pursuant to Item 2.02 or 7.01 of Form 8-K.

These documents may also be accessed on our website at [www.chf-solutions.com](http://www.chf-solutions.com). Information contained in, or accessible through, our website is not a part of this prospectus supplement.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus supplement is delivered, upon his or her written or oral request, a copy of any or all reports or documents referred to above which have been or may be incorporated by reference into this prospectus supplement but not delivered with this prospectus supplement, excluding exhibits to those reports or documents unless they are specifically incorporated by reference into those documents. You may request a copy of these documents by writing or telephoning us at the following address:

**CHF Solutions, Inc.**  
**Attention: John L. Erb, Chief Executive Officer**  
**12988 Valley View Road**  
**Eden Prairie, MN 55344**  
**Tel: (952) 345-4200**

PROSPECTUS

**\$30,000,000**



**Common Stock  
Preferred Stock  
Debt Securities  
Warrants  
Subscription Rights**

From time to time, we may offer and sell up to an aggregate amount of \$30,000,000 of any combination of the securities described in this prospectus, either individually or in combination, in one or more offerings. We may also offer securities as may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable antidilution provisions.

This prospectus describes some of the general terms that may apply to an offering of our securities. Each time we offer securities, we will provide the specific terms of these offerings and securities in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before buying any of the securities being offered.

**This prospectus may not be used to consummate a sale of securities unless accompanied by a prospectus supplement.**

The securities may be offered and sold by us from time to time at fixed prices, at market prices or at negotiated prices, and may be offered and sold to or through one or more underwriters, dealers or agents or directly to purchasers on a continuous or delayed basis. See "Plan of Distribution."

Our common stock is currently listed on the Nasdaq Capital Market under the symbol "CHFS." On May 10, 2018, the last reported sale price of our common stock on the Nasdaq Capital Market was \$2.91 per share. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the Nasdaq Capital Market or other securities exchange of the securities covered by the applicable prospectus supplement.

As of May 10, 2018, the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately \$13.0 million based on 4.5 million shares of outstanding common stock, at a price of \$2.91 per share, which was the last reported sale price of our common stock on the Nasdaq Capital Market on May 10, 2018. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the prior 12 calendar month period that ends on and includes the date of this prospectus. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on this registration statement in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75.0 million.

**Investing in our securities involves certain risks. See "Risk Factors" beginning on page 6 of this prospectus and in the applicable prospectus supplement for certain risks you should consider.**

**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 May 23, 2018**

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration statement, we may, from time to time, offer and sell, either individually or in combination, in one or more offerings, up to a total dollar amount of \$30,000,000 of any combination of the securities described in this prospectus.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to read carefully this prospectus, any applicable prospectus supplement and any free writing prospectuses we may authorize for use in connection with a specific offering, together with the information incorporated herein by reference as described under the heading “Incorporation by Reference,” before buying any of the securities being offered.

**This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.**

You should rely only on the information contained in, or incorporated by reference into, this prospectus and any applicable prospectus supplement, along with the information contained in any free writing prospectuses we may authorize for use in connection with a specific offering. We have not authorized anyone to provide you with different or additional information. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus, the accompanying prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so.

The information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus contains and incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information.”

This prospectus contains references to trademarks belonging to us and other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or ™ 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 and trade names. We do not intend our use or display of other companies’ trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

## SUMMARY

*This summary highlights selected information contained elsewhere in this prospectus or incorporated by reference in this prospectus, and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.*

As used in this prospectus, unless otherwise indicated, the terms “we,” “us,” “our Company,” “the Company” and “CHF Solutions” refer to CHF Solutions, Inc., a Delaware corporation, and its subsidiaries.

### Our Company

We are a medical device company focused on commercializing the Aquadex FlexFlow® System for Aquapheresis therapy. The Aquadex FlexFlow System, is indicated for temporary (up to eight hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy and extended (longer than 8 hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy and require hospitalization.

### The Aquadex FlexFlow System

The Aquadex FlexFlow system is designed to simply, safely, and precisely remove excess fluid (primarily excess salt and water) from patients suffering from fluid overload who have failed diuretic therapy. With the Aquadex FlexFlow system, medical practitioners can specify and control the amount of fluid to be extracted at a safe, predictable, and effective rate, in a process we refer to as Aquapheresis® therapy. All Aquapheresis treatments must be administered by a healthcare provider, under physician prescription, both of whom have received training in extracorporeal therapies. The Aquadex FlexFlow system has been shown to have no clinically significant impact on electrolyte balance, blood pressure or heart rate.<sup>1</sup>

### Benefits of the Aquadex FlexFlow System

The Aquadex FlexFlow ultrafiltration system offers a safe approach to treating fluid overload and:

- Provides complete control over rate and total volume of fluid removed by allowing a medical practitioner to specify the amount of fluid to be removed from each individual patient;
- Aquapheresis therapy can be performed via peripheral or central venous access;
- Removes isotonic fluid (extracts sodium while sparing potassium and magnesium)<sup>2</sup>;
- Following ultrafiltration, neurohormonal activation is reset toward a more physiological condition and diuretic efficacy is restored<sup>3</sup>;
- Provides highly automated operation with only one setting required to begin;
- Utilizes a single-use, disposable auto-loading blood filter circuit that facilitates easy set-up;
- The console guides medical practitioner through the setup and operational process; and
- Decreased hospital readmissions and duration<sup>4</sup>.

The Aquadex FlexFlow system consists of:

- A console, a piece of capital equipment containing electromechanical pumps and an LCD screen;

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<sup>1</sup> SAFE Trial: Jaski BE, et al. J Card Fail. 2003 Jun; 9(3): 227-231; RAPID Trial: Bart BA, et al. J Am Coll Cardiol. 2005 Dec 6; 46(11): 2043-2046

<sup>2</sup> Ali SS, et al. Congest Heart Fail. 2009; 15(1):1-4.

<sup>3</sup> Marenzi G, et al. J Am Coll Cardiol. 2001 Oct; 38(4): 963-968.

<sup>4</sup> Costanzo MR, et al. J Am Coll Cardiol. 2005 Dec 6; 46(11): 2047-2051

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- A one-time disposable blood set (the “**Aquadex Blood Set**”), an integrated collection of tubing, filter, sensors, and connectors that contain and deliver the blood from and back to the patient; and
- A disposable catheter (the “**Aquadex Catheter**”), a small, dual-lumen catheter designed to access the peripheral venous system of the patient and to simultaneously withdraw blood and return filtered blood to the patient.

The Aquadex Blood Set is proprietary and the Aquadex FlexFlow system can only be used with the Aquadex Blood Set. The Aquadex Catheter is often used in conjunction with the Aquadex FlexFlow system, although it is one of many potential catheter options available to the provider.

### ***Company History and Corporate Information***

CHF Solutions, Inc. was incorporated in Delaware on August 22, 2002. We began operating our business in November 1999 through Sunshine Heart Company Pty Limited, which currently is a wholly owned Australian subsidiary of CHF Solutions, Inc. Prior to July 2016, we were focused on developing the C-Pulse® Heart Assist System for treatment of Class III and ambulatory Class IV heart failure. In August 2016, we acquired the Aquadex FlexFlow® System business (the “Aquadex Business”) from a subsidiary of Baxter International, Inc. (“Baxter”), a global leader in the hospital products and dialysis markets. On September 29, 2016, we announced a strategic refocus of our strategy that included halting all clinical evaluations of our C-Pulse technology to fully focus our resources on our Aquadex Business. On May 23, 2017, we announced that we were changing our name from Sunshine Heart, Inc. to CHF Solutions, Inc. to more appropriately reflect the direction of our business.

Our common stock began trading on the Nasdaq Capital Market on February 16, 2012. Our principal executive offices are located at 12988 Valley View Road, Eden Prairie, Minnesota 55344, and our telephone number is (952) 345-4200. Our website address is [www.chf-solutions.com](http://www.chf-solutions.com). Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Exchange Act will be made available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (“SEC”). The information on, or that may be accessed through, our website is not incorporated by reference into and should not be considered a part of this prospectus.

We are, and will remain, a “smaller reporting company” as long as our public float remains less than \$75 million as of the last business day of our most recently-completed second fiscal quarter. A smaller reporting company may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to U.S. public companies. These provisions include an exemption from the attestation requirement in the assessment of our internal control over financial reporting by our independent auditors pursuant to section 404 (b) of the Sarbanes-Oxley Act of 2002 but do not preclude us from the requirement to make our own internal assessment of the effectiveness of our internal controls over financial reporting. We were an “emerging growth company” as defined in the Jumpstart our Business Startups Act of 2012 until the expiration of that status on December 31, 2017. We do not expect the expiration of our emerging growth company status to have a material impact on our business.

### ***Nasdaq Compliance and Reverse Stock Splits***

On September 21, 2016, we received notice from the Listing Qualifications Staff (the “Staff”) of The Nasdaq Stock Market LLC (“Nasdaq”) indicating that the Staff had determined to delist our securities from Nasdaq due to our then continued non-compliance with the minimum bid price requirement. We timely requested a hearing before the Nasdaq Hearings Panel (the “Panel”), which occurred on November 10, 2016. On November 11, 2016, we received notice from the Staff that we no longer satisfied Nasdaq Listing Rule 5550(b) insofar as we did not expect to report stockholders’ equity of at least \$2.5 million upon the filing of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 and that the deficiency could serve as an additional basis for the delisting of the Company’s common stock from Nasdaq. On November 21, 2016, Nasdaq informed us that the Panel had granted us continued listing on Nasdaq while we implemented our plan to regain compliance with the minimum bid price and minimum stockholders’ equity requirements. The Panel granted us until January 30, 2017 to evidence a closing bid price of \$1.00 or more for a minimum of ten prior consecutive trading days. After implementing a 1-for-30 reverse split of our outstanding common stock that became effective after trading on January 12, 2017, we received confirmation from Nasdaq on February 9, 2017 that we regained compliance with the minimum bid price rule. The Panel had granted us until March 20, 2017 to

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evidence compliance with the \$2.5 million stockholder's equity requirement. On March 28, 2017, we announced that the Panel had granted us an extension through May 10, 2017 to evidence compliance with the minimum shareholder's equity requirement. On May 4, 2017, we were formally notified by Nasdaq that we had regained compliance with the minimum stockholders' equity requirement and we were in compliance with all other applicable requirements for listing on Nasdaq.

On June 1, 2017, we received a subsequent notification from Nasdaq informing us that we were no longer in compliance with the minimum bid price requirement, as the bid price of our shares of common stock ("Common Stock") closed below the minimum \$1.00 per share for the 30 consecutive business days prior to the date of the notice. Nasdaq also notified us that we were provided 180 calendar days, or until November 28, 2017, to regain compliance with the minimum bid price requirement. We effected a 1-for-20 reverse split of our outstanding common stock that became effective after trading on October 12, 2017. On October 27, 2017, we received formal notice from Nasdaq that we had regained compliance with the minimum \$1.00 bid price requirement, as set forth in Nasdaq Listing Rule 5550(a)(2), and the matter is now closed. We cannot assure you that we will be able continue to meet the Nasdaq listing standards. If we do not continue to meet any of the Nasdaq listing standards, our common stock may be subject to delisting from Nasdaq.

All share and per share amounts in this prospectus have been retroactively adjusted to reflect the reverse stock splits for all periods presented.

### **The Securities We May Offer**

We may offer shares of our common stock and preferred stock, various series of debt securities, warrants to purchase any of such securities and/or subscription rights to purchase any of such securities, either individually or in combination, up to a total dollar amount of \$30,000,000, from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of any offering. We may also offer common stock, preferred stock and/or debt securities upon the exercise of warrants or subscription rights. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- original issue discount, if any;
- rates and times of payment of interest, dividends or other payments, if any;
- redemption, conversion, exercise, exchange, settlement or sinking fund terms, if any;
- conversion, exchange or settlement prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion, exchange or settlement prices or rates and in the securities or other property receivable upon conversion, exchange or settlement;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- certain federal income tax considerations.

A prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. However, no prospectus supplement or free writing prospectus shall offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

**This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.**

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We may sell the securities directly or through underwriters, dealers or agents. We and such underwriters, dealers or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

### ***Common Stock***

Holders of our common stock are entitled to one vote per share for the election of directors and on all other matters that require stockholder approval, as further set forth herein under the heading “Description of Common Stock.” Subject to any preferential rights of any then outstanding preferred stock, in the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the assets remaining after payment of liabilities and the liquidation preferences of any then outstanding preferred stock. Our common stock does not carry any preemptive rights enabling a holder to subscribe for, or receive shares of, any class of our common stock or any other securities convertible into shares of any class of our common stock, or any redemption rights. We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus) related to any common stock being offered.

### ***Preferred Stock***

Our board of directors will determine the designations, voting powers, preferences and rights of the preferred stock, as well as the qualifications, limitations or restrictions thereof, including dividend rights, conversion rights, preemptive rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into our common stock or exchangeable for other securities. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

We will fix the rights, preferences, privileges, qualifications and restrictions of the preferred stock of each series that we sell under this prospectus and applicable prospectus supplements in a certificate of designation relating to that series. We will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. We urge you to read the prospectus supplement (and any related free writing prospectus) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.

### ***Debt Securities***

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. The senior debt securities will rank equally with any other unsubordinated debt that we may have and may be secured or unsecured. The subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner described in the instrument governing the debt, to all or some portion of our indebtedness. Any convertible debt securities that we issue will be convertible into or exchangeable for our common stock, preferred stock or other securities of ours. Conversion may be mandatory or at your option and would be at prescribed conversion rates.

The debt securities will be issued under one or more documents called indentures, which are contracts between us and a trustee for the holders of the debt securities. In this prospectus, we have summarized certain general features of the debt securities. We urge you, however, to read the prospectus supplement (and any related free writing prospectus) related to the series of debt securities being offered, as well as the complete indentures that contain the terms of the debt securities. Indentures have been filed as exhibits to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports we file with the SEC.

### **Warrants**

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series, from time to time. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from those securities.

The warrants will be evidenced by warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. In this prospectus, we have summarized certain general features of the warrants. Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered. We urge you, however, to read the prospectus supplement (and any related free writing prospectus) related to the series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Complete warrant agreements and warrant certificates containing the terms of the warrants being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports we file with the SEC. Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

### **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. In this prospectus, we have summarized certain general features of the subscription rights under “Description of Subscription Rights.” We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus) related to the particular subscription rights being offered, as well as any subscription rights certificates that contain the terms thereof. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of subscription rights certificate containing the terms of the particular rights we are offering, and any supplemental agreements, before the issuance of such rights.

## **RISK FACTORS**

Before making an investment decision, you should carefully consider the risks described under “Risk Factors” in the applicable prospectus supplement, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned elsewhere in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading “Risk Factors” included in our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, which are on file with the SEC and incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future.

## **FORWARD-LOOKING STATEMENTS**

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “*Securities Act*”), and Section 21E of the Exchange Act of 1934, as amended (the “*Exchange Act*”). Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “anticipates,” “estimates,” “plans,” “projects,” “continuing,” “ongoing,” “expects,”

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“management believes,” “we believe,” “we intend” and similar words or phrases. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus, and in particular those factors included in the section entitled “Risk Factors.”

Because the factors referred to in the preceding paragraph could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements we make, you should not place undue reliance on any such forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

You should carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein or therein by reference as described under the section titled “Incorporation by Reference,” and with the understanding that our actual future results may materially differ from what we expect.

Except as required by law, forward-looking statements speak only as of the date they are made, and we assume no obligation to update any forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available.

### **RATIO OF EARNINGS TO FIXED CHARGES**

If we offer debt securities and/or preference equity securities under this prospectus, then we will, if required at that time, provide a ratio of earnings to fixed charges and/or ratio of combined fixed charges and preference dividends to earnings, respectively, in the applicable prospectus supplement for such offering.

### **USE OF PROCEEDS**

We will retain broad discretion over the use of the net proceeds from our sale of securities offered hereby. Except as described in any prospectus supplement or free-writing prospectus, we currently anticipate using the net proceeds from our sale of securities offered hereby primarily for general corporate purposes, including the further development, manufacture and commercialization of the Aquadex FlexFlow® System and for other working capital expenditures.

### **DESCRIPTION OF COMMON STOCK**

*The following description of our common stock is a summary only and is qualified in its entirety by reference to our certificate of incorporation and bylaws, both of which are exhibits to the registration statement of which this prospectus is a part.*

#### **General Terms**

We have authority to issue up to 100,000,000 shares of common stock, par value \$0.0001 per share. As of March 31, 2018, we had 4,252,134 shares of our common stock outstanding and 10,659,658 shares of our common stock issuable upon exercise or conversion of outstanding convertible securities. All outstanding shares of our common stock are fully paid and non-assessable.

The transfer agent and registrar for transfers of shares of our common stock is American Stock Transfer & Trust Company LLC.

The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of our Series F Convertible Preferred Stock any other series of preferred stock that we may designate and issue in the future.



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Subject in all cases to the foregoing limitations, the holders of our common stock have the rights, preferences and privileges below.

### **Dividends**

Holders of our common stock are entitled to receive dividends when and as declared by our board of directors out of funds legally available.

### **Voting**

Holders of our common stock are entitled to one vote for each share on each matter properly submitted to our stockholders for their vote; provided however, that except as otherwise required by law, holders of our common stock will not be entitled to vote on any amendment to our certificate of incorporation (including any certificate of designation filed with respect to any series of preferred stock) that relates solely to the terms of a series of outstanding preferred stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon by law or pursuant to our certificate of incorporation (including any certificate of designation filed with respect to any series of preferred stock).

Subject to the voting restrictions described above, holders of our common stock may adopt, amend or repeal our bylaws and/or alter certain provisions of our certificate of incorporation with the affirmative vote of the holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of our capital stock entitled to vote generally in the election of directors, voting together as a single class, in addition to any vote of the holders of a class or series of our stock required by law or our certificate of incorporation. Those provisions of our certificate of incorporation that may be altered only by the super-majority vote described above relate to:

- the number of directors on our board of directors, the classification of our board of directors and the terms of the members of our board of directors;
- the limitations on removal of any of our directors described below under “—Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws and Delaware Law;”
- the ability of our directors to fill any vacancy on our board of directors by the affirmative vote of a majority of the directors then in office under certain circumstances;
- the ability of our board of directors to adopt, amend or repeal our bylaws and the super-majority vote of our stockholders required to adopt, amend or repeal our bylaws described above;
- the limitation on action of our stockholders by written action described below under “—Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws and Delaware Law;”
- the choice of forum provision described below under “—Choice of Forum;”
- the limitations on director liability and indemnification described below under the heading “—Limitation on Liability of Directors and Indemnification;” and
- the super-majority voting requirement to amend our certificate of incorporation described above.

### **Conversion, Redemption and Preemptive Rights**

Holders of our common stock do not have any conversion, redemption or preemptive rights pursuant to our organizational documents.

### **Liquidation, Dissolution and Winding-up**

In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in any assets remaining after the satisfaction in full of the prior rights of creditors and the aggregate of any liquidation preference pursuant to the terms of any certificate of designation filed with respect to any series of preferred stock.

### **Listing**

Our common stock is listed on the Nasdaq Capital Market under the symbol “CHFS.” See “Summary—Our Company—Nasdaq Compliance and Reverse Stock Splits” for important information about the listing of our common stock on the Nasdaq Capital Market.

## **Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws and Delaware Law**

### ***Certificate of Incorporation and Bylaws***

Certain provisions of our certificate of incorporation and bylaws may be considered to have an anti-takeover effect, such as those provisions:

- providing for our board of directors to be divided into three classes with staggered three-year terms, with only one class of directors being elected at each annual meeting of our stockholders and the other classes continuing for the remainder of their respective three-year terms;
- authorizing our board of directors to issue from time to time any series of preferred stock and fix the voting powers, designation, powers, preferences and rights of the shares of such series of preferred stock;
- prohibiting stockholders from acting by written consent in lieu of a meeting;
- requiring advance notice of stockholder intention to put forth director nominees or bring up other business at a stockholders' meeting;
- prohibiting stockholders from calling a special meeting of stockholders;
- requiring a 66 2/3% super-majority stockholder approval in order for stockholders to alter, amend or repeal certain provisions of our certificate of incorporation;
- requiring a 66 2/3% super-majority stockholder approval in order for stockholders to adopt, amend or repeal our bylaws;
- providing that, subject to the rights of the holders of any series of preferred stock to elect additional directors under specified circumstances, neither the board of directors nor any individual director may be removed without cause;
- creating the possibility that our board of directors could prevent a coercive takeover of our Company due to the significant amount of authorized, but unissued shares of our common stock and preferred stock;
- providing that, subject to the rights of the holders of any series of preferred stock, the number of directors shall be fixed from time to time exclusively by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- providing that any vacancies on our board of directors under certain circumstances will be filled only by a majority of our board of directors then in office, even if less than a quorum, and not by the stockholders.

### ***Delaware Law***

We are also subject to Section 203 of the Delaware General Corporation Law, as amended (the "DGCL"), which generally prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

- prior to that date, our board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by (i) persons who are directors and also officers and (ii) 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

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- on or subsequent to that date, the business combination is approved by our board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 of the DGCL defines an interested stockholder as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by any of these entities or persons.

The above-summarized provisions of our certificate of incorporation and bylaws, and the above-summarized provisions of the DGCL could make it more difficult to acquire us by means of a tender offer, a proxy contest or otherwise, or to remove incumbent officers and directors. These provisions are expected to discourage certain types of coercive takeover practices and takeover bids that our board of directors may consider inadequate and to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because, among other things, negotiation of these proposals could result in an improvement of their terms.

### **Choice of Forum**

Our certificate of incorporation provides that, unless we consent in writing otherwise, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any (i) derivative action or proceeding brought on our behalf; (ii) action asserting a breach of fiduciary duty owed by any of our directors, officers or other employees to us or any of our stockholders; (iii) action asserting a claim pursuant to the DGCL; or (iv) action asserting a claim that is governed by the internal affairs doctrine.

### **Limitation on Liability of Directors and Indemnification**

Our certificate of incorporation limits the liability of our directors to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except for liability for any:

- breach of their duty of loyalty to us or our stockholders;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares as provided in Section 174 of the DGCL; or
- transaction from which the directors derived an improper personal benefit.

These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or rescission.

Our bylaws provide that we will indemnify and advance expenses to our directors and officers to the fullest extent permitted by law or, if applicable, pursuant to indemnification agreements. They further provide that we may choose to indemnify our other employees or agents from time to time. Subject to certain exceptions and procedures, our bylaws also require us to advance to any person who was or is a party, or is threatened to be made a party, to any proceeding by reason of the person's service as one of our directors or officers all expenses incurred by the person in connection with such proceeding.

Section 145(g) of the DGCL and our bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our bylaws permit indemnification. We maintain a directors' and officers' liability insurance policy.

We entered into indemnification agreements with each of our directors and executive officers that provide, in general, that we will indemnify them to the fullest extent permitted by law in connection with their service to us or on our behalf and, subject to certain exceptions and procedures, that we will advance to them all expenses that they incur in connection with any proceeding to which they are, or are threatened to be made, a party.

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At present, there is no pending litigation or proceeding involving any of our directors or officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

### **Registration Rights**

#### ***Outstanding Warrants***

We intend to register for resale the shares of common stock underlying certain replacement warrants issued to investors under a letter agreement dated February 15, 2017 that was entered into between us and such investors to encourage such investors to exercise their then-outstanding warrants for cash on or before March 31, 2017.

#### ***Aquadex Acquisition***

On August 5, 2016, upon closing of the acquisition of the Aquadex Business, we entered into a registration rights agreement with Baxter, pursuant to which Baxter or its affiliates has the right to request that we file a registration statement with the SEC to register all or part of the 1,666 shares of common stock that Baxter received in connection with the acquisition. Upon receipt of any such request, we have agreed to use reasonable best efforts to prepare and file a registration statement as expeditiously as possible but in any event within 30 days of such request, to cause the registration statement to become effective in accordance with Baxter's intended method of distribution, and to pay the expenses incurred in connection with any such registration.

### **DESCRIPTION OF PREFERRED STOCK**

We have authority to issue up to 40,000,000 shares of preferred stock, par value \$0.0001 per share, 30,000 shares of which were designated as Series A Junior Participating Preferred Stock in connection with the stockholder rights plan adopted by the Company on June 14, 2013 that is no longer in effect and none of which were outstanding as of May 10, 2018 and 630 shares of which are designated as Series F Convertible Preferred Stock and outstanding as of May 10, 2018.

We may issue any class of preferred stock in any series. Our board of directors has the authority to establish and designate series, and to fix the number of shares included in each such series and to determine or alter for each such series, such voting powers, designation, preferences, and relative participating, optional, or other rights and such qualifications, limitations or restrictions thereof. Our board of directors is not restricted in repurchasing or redeeming such stock while there is any arrearage in the payment of dividends or sinking fund installments. Our board of directors is authorized to increase or decrease the number of shares of any series subsequent to the issuance of shares of that series, but not below the number of shares of such series then outstanding. The number of authorized shares of preferred stock may be increased or decreased, but not below the number of shares thereof then outstanding, by the affirmative vote of the holders of a majority of the common stock, without a vote of the holders of the preferred stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any certificate of designation filed with respect to any series of preferred stock.

Prior to issuance of shares of any series of preferred stock, our board of directors is required by Delaware law to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the terms, preferences, conversion or other rights, voting powers, restrictions, limitations as to dividends or other distributions, qualifications and terms or conditions of redemption for each class or series. Any shares of preferred stock will, when issued, be fully paid and non-assessable.

For any series of preferred stock that we may issue, our board of directors will determine and the prospectus supplement relating to such series will describe:

- the purchase price, 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) or payment date(s) or method(s) of calculation applicable to the preferred stock;

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- whether dividends are cumulative or non-cumulative and, if cumulative, the date from which dividends on the preferred stock will accumulate;
- our right, if any, to defer payment of dividends and the maximum length of any such deferral period;
- the procedures for 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;
- voting rights, if any, of the preferred stock;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material or special U.S. 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 the liquidation, dissolution or winding up of our affairs; and
- any other specific terms, preferences, rights, limitations or restrictions of the preferred stock.

Delaware law provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value or, unless the certificate of incorporation then in effect provides otherwise, the number of authorized shares of such class or change the powers, preferences or special rights of such class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

### **DESCRIPTION OF DEBT SECURITIES**

The following is a general description of the terms of debt securities we may issue from time to time unless we provide otherwise in the prospectus supplement. Particular terms of any debt securities we offer will be described in the prospectus supplement relating to such debt securities. Unless the context requires otherwise, whenever we refer to the indentures, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue the subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. The indentures will be qualified under the Trust Indenture Act of 1939 (the “*Trust Indenture Act*”). We use the term “*debenture trustee*” to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable. We have filed forms of indentures to the registration statement of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete indentures that contain the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

## General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. Except for the limitations on consolidation, merger and sale of all or substantially all of our assets contained in the indenture, the terms of the indenture 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.

We may issue the debt securities issued under the indenture as “discount securities,” which means they may be sold at a discount below their stated principal amount. These debt securities, as well as other debt securities that are not issued at a discount, may be issued with “original issue discount,” or OID, for U.S. federal income tax purposes because of interest payment and other characteristics or terms of the debt securities. Material U.S. federal income tax considerations applicable to debt securities issued with OID will be described in more detail in any applicable prospectus supplement.

We will describe in the applicable prospectus supplement the terms of the series of debt securities being offered, including:

- the title of the series of debt securities;
- any limit upon the aggregate principal amount that may be issued;
- the maturity date or dates;
- the form of the debt securities of the series;
- the applicability of any guarantees;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- if the price (expressed as a percentage of the aggregate principal amount thereof) at which such debt securities will be issued is a price other than the principal amount thereof, the portion of the principal amount thereof payable upon declaration of acceleration of the maturity thereof, or if applicable, the portion of the principal amount of such debt securities that is convertible into another security or the method by which any such portion shall be determined;
- the interest rate or rates, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- if applicable, the date or dates after which, or the period or periods during which, and the price or prices at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date or dates, if any, on which, and the price or prices at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder’s option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- any and all terms, if applicable, relating to any auction or remarketing of the debt securities of that series and any security for our obligations with respect to such debt securities and any other terms which may be advisable in connection with the marketing of debt securities of that series;
- whether the debt securities of the series shall be issued in whole or in part in the form of a global security or securities;

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- the terms and conditions, if any, upon which such global security or securities may be exchanged in whole or in part for other individual securities, and the depositary for such global security or securities;
- if applicable, the provisions relating to conversion or exchange of any debt securities of the series and the terms and conditions upon which such debt securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at our option or the holders' option) conversion or exchange features, the applicable conversion or exchange period and the manner of settlement for any conversion or exchange;
- if other than the full principal amount thereof, the portion of the principal amount of debt securities of the series which shall be payable upon declaration of acceleration of the maturity thereof;
- additions to or changes in the covenants applicable to the particular debt securities being issued, including, among others, the consolidation, merger or sale covenant;
- additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium, if any, and interest, if any, with respect to such securities to be due and payable;
- additions to or changes in or deletions of the provisions relating to covenant defeasance and legal defeasance;
- additions to or changes in the provisions relating to satisfaction and discharge of the indenture;
- additions to or changes in the provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars;
- whether interest will be payable in cash or additional debt securities at our or the holders' option and the terms and conditions upon which the election may be made;
- the terms and conditions, if any, upon which we will pay amounts in addition to the stated interest, premium, if any and principal amounts of the debt securities of the series to any holder that is not a "United States person" for federal tax purposes;
- any restrictions on transfer, sale or assignment of the debt securities of the series; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, any other additions or changes in the provisions of the indenture, and any terms that may be required by us or advisable under applicable laws or regulations.

### **Conversion or Exchange Rights**

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities, if applicable. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder, or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

### **Consolidation, Merger or Sale**

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for our other securities or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

## Events of Default Under the Indenture

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay any installment of interest on any series of debt securities, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by us in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of interest for this purpose;
- if we fail to pay the principal of, or premium, if any, on any series of debt securities as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to such series; provided, however, that a valid extension of the maturity of such debt securities in accordance with the terms of any indenture supplemental thereto shall not constitute a default in the payment of principal or premium, if any;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the debenture trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the debenture trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the debenture trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the debenture trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies only if:

- the holder has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee;



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- such holders have offered to the trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred by the trustee in compliance with the request; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the debenture trustee regarding our compliance with specified covenants in the indentures.

### **Modification of Indenture; Waiver**

Unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the trustee may change an indenture without the consent of any holders with respect to specific matters:

- to cure any ambiguity, defect or inconsistency in the indenture or in the debt securities of any series;
- to comply with the provisions described above under “Description of Debt Securities—Consolidation, Merger or Sale;”
- to provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- to add to our covenants, restrictions, conditions or provisions such new covenants, restrictions, conditions or provisions for the benefit of the holders of all or any series of debt securities, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred upon us in the indenture;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to make any change that does not adversely affect the interests of any holder of debt securities of any series in any material respect;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided above under “Description of Debt Securities—General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment under any indenture by a successor trustee; or
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, unless we provide otherwise in the prospectus supplement applicable to a particular series of debt securities, we and the debenture trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

## Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- provide for payment;
- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- pay principal of and premium and interest on any debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the debenture trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

## Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we provide otherwise in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company (“*DTC*”) or another depository named by us and identified in a prospectus supplement with respect to that series. See “Legal Ownership of Securities” for a further description of the terms relating to any book-entry securities.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will impose no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

### **Information Concerning the Debenture Trustee**

The debenture trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

### **Payment and Paying Agents**

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

### **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, except to the extent that the Trust Indenture Act is applicable.

### **Subordination of Subordinated Debt Securities**

The subordinated debt securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue, nor does it limit us from issuing any other secured or unsecured debt.

## **DESCRIPTION OF WARRANTS**

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Warrants may be issued independently or together with common stock, preferred stock or debt securities offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, if any, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the

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particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

A prospectus supplement will describe the particular terms of any series of warrants we may issue, including the following:

- the title of such securities;
- the offering price or prices and aggregate number of warrants offered;
- the currency or currencies for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at which, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which, and the currency in which, these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- the terms of any rights to force the exercise of the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special U.S. federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Each warrant will entitle the holder to purchase for cash such common stock or preferred stock at the exercise price or such principal amount of debt securities as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the warrants offered thereby. Warrants may be exercised as set forth in the prospectus supplement beginning on the date specified therein and continuing until the close of business on the expiration date set forth in the prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

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Prior to exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights or, in the case of warrants to purchase debt securities, the right to receive principal, premium, if any, or interest payments, on the debt securities purchasable upon exercise or to enforce covenants in the applicable indenture.

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

### **DESCRIPTION OF SUBSCRIPTION RIGHTS**

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the subscription rights that we may offer under this prospectus, which may consist of rights to purchase common stock, preferred stock or debt securities and may be issued in one or more series. Subscription rights may be issued independently or together with common stock, preferred stock, debt securities or warrants offered by any prospectus supplement, may be attached to or separate from those securities and may or may not be transferrable by the stockholder receiving the subscription rights in such offering. While the terms we have summarized below will apply generally to any subscription rights that we may offer under this prospectus, we will describe the particular terms of any subscription rights that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any subscription rights offered under a prospectus supplement may differ from the terms described below. 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.

We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of subscription rights certificate. The following summaries of material provisions of the subscription rights are subject to, and qualified in their entirety by reference to, all the provisions of the subscription rights certificate applicable to the particular subscription rights that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular subscription rights that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete subscription rights certificates that contain the terms thereof.

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;

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- 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.

### **LEGAL OWNERSHIP OF SECURITIES**

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee or depository maintain for this purpose as the “holders” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “indirect holders” of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

#### **Book-Entry Holders**

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement or free writing prospectus. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depository on behalf of other financial institutions that participate in the depository’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Global securities will be registered in the name of the depository or its participants. Consequently, for global securities, we will recognize only the depository as the holder of the securities, and we will make all payments on the securities to the depository. The depository passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depository and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depository’s book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not legal holders, of the securities.

#### **Street Name Holders**

We may terminate a global security or issue securities that are not issued in global form. In these cases, investors may choose to hold their securities in their own names or in “street name.” Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depository will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any such trustee or depository will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

#### **Legal Holders**

Our obligations, as well as the obligations of any applicable trustee or third party employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

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For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depository participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of an indenture, or for other purposes. In such an event, we would seek approval only from the legal holders, and not the indirect holders, of the securities. Whether and how the holders contact the indirect holders is up to the legal holders.

### **Special Considerations for Indirect Holders**

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depository's rules and procedures will affect these matters.

### **Global Securities**

A global security is a security which represents one or any other number of individual securities held by a depository. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depository. Unless we specify otherwise in the applicable prospectus supplement or a free writing prospectus, The Depository Trust Company, New York, New York, or DTC, will be the depository for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depository, its nominee or a successor depository, unless special termination situations arise. We describe those situations below under "—Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depository, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depository or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement or a free writing prospectus for a particular security indicates that the security will be issued as a global security, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

### **Special Considerations for Global Securities**

As an indirect holder, an investor's rights relating to a global security will be governed by the account rules of the investor's financial institution and of the depository, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a legal holder of securities and instead deal only with the depository that holds the global security.

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If securities are issued only as a global security, an investor should be aware of the following:

- An investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below.
- An investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above.
- An investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form.
- An investor may not be able to pledge his or her interest in the global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective.
- The depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in the global security. We and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in the global security. We and the trustee also do not supervise the depositary in any way.
- The depositary may, and we understand that DTC will, require that those who purchase and sell interests in the global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well.
- Financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in the global security, may also have their own policies affecting payments, notices and other matters relating to the securities. There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

### **Special Situations When a Global Security Will Be Terminated**

In a few special situations described below, a global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

A global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The prospectus supplement or a free writing prospectus may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement or a free writing prospectus. When a global security terminates, the depositary, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

### **PLAN OF DISTRIBUTION**

We may sell the securities from time to time pursuant to underwritten public offerings, direct sales to the public, negotiated transactions, block trades or a combination of these methods. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute 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;



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- at prices related to such prevailing market prices; or
- at negotiated prices.

We may also sell equity securities covered by this registration statement in an “at the market offering” as defined in Rule 415 under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price on or through the facilities of the Nasdaq Capital Market or any other existing trading market on which such securities may be listed, quoted or traded at the time of sale.

Such at-the-market offerings, if any, may be conducted by underwriters acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any underwriters, dealers or agents, if any;
- the purchase price of the securities, and the proceeds, if any, we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents’ or underwriters’ compensation;
- 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 public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by such prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents and underwriters with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

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All securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in overallotment, stabilizing transactions, short-covering transactions and penalty bids. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short-covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on any exchange or over-the-counter market or otherwise.

Any underwriters who are qualified market makers on the Nasdaq Capital Market may engage in passive market making transactions in the securities on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

## **LEGAL MATTERS**

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered by this prospectus, and any supplement thereto, will be passed upon for us by Honigman Miller Schwartz and Cohn LLP, Kalamazoo, Michigan. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

## **EXPERTS**

Baker Tilly Virchow Krause, LLP, our independent registered public accounting firm, has audited our consolidated financial statements as of and for the year ended December 31, 2017 included in our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference into this prospectus and elsewhere in the registration statement. The consolidated financial statements audited by Baker Tilly Virchow Krause, LLP have been incorporated by reference in reliance on their report given on their authority as experts in accounting and auditing.

The consolidated financial statements of Sunshine Heart, Inc. (now known as CHF Solutions, Inc.) and Subsidiaries for the year ended December 31, 2016 appearing in Sunshine Heart, Inc.'s (now known as CHF Solutions, Inc.) Annual Report (Form 10-K) for the year ended December 31, 2017, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

## **INCORPORATION BY REFERENCE**

We "incorporate by reference" certain documents that we have filed with the SEC into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is deemed to be part of this prospectus, except for any information superseded by information contained directly in this prospectus. This prospectus incorporates by reference:

- our Annual Report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 22, 2018;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2017 from our definitive Proxy Statement for the Annual Meeting of Stockholders to be held on May 16, 2018, filed with the SEC on April 6, 2018;

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- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 filed with the SEC on May 10, 2018;
- our Current Report on Form 8-K filed with the SEC on January 18, 2018;
- the description of our common stock in our registration statement on Form 10 filed with the SEC on September 30, 2011, including any amendment or report filed for the purpose of updating such description;
- the description of our Series A Junior Participating Preferred Stock, par value \$0.0001 per share, in our registration statement on Form 8-A filed with the SEC on June 14, 2013; and
- The description of our Series F Convertible Preferred Stock in our Prospectus filed with the SEC pursuant to Rule 424(b)(4) under the Securities Act on November 22, 2017.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or document that is not deemed filed under such provisions, (i) on or after the date of filing of the registration statement containing this prospectus and prior to the effectiveness of the registration statement and (ii) on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents. Nothing in this prospectus shall be deemed to incorporate information furnished but not filed with the SEC pursuant to Item 2.02 or 7.01 of Form 8-K.

These documents may also be accessed on our website at [www.chf-solutions.com](http://www.chf-solutions.com). Information contained in, or accessible through, our website is not a part of this prospectus.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus is delivered, upon his or her written or oral request, a copy of any or all reports or documents referred to above which have been or may be incorporated by reference into this prospectus but not delivered with this prospectus, excluding exhibits to those reports or documents unless they are specifically incorporated by reference into those documents. You may request a copy of these documents by writing or telephoning us at the following address:

**CHF Solutions, Inc.**  
**Attention: John L. Erb, Chief Executive Officer**  
**12988 Valley View Road**  
**Eden Prairie, MN 55344**  
**Tel: (952) 345-4200**

Any statements contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus (or in any other subsequently filed document which also is incorporated by reference in this prospectus) modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed to constitute a part of this prospectus except as so modified or superseded.

### **WHERE YOU CAN FIND MORE INFORMATION**

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. We file reports, proxy statements and other information with the SEC in accordance with the Exchange Act. You may read and copy our reports, proxy statements and other information filed by us at the public reference room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available free of charge to the public over the Internet at the SEC's website at <http://www.sec.gov>.