

PROSPECTUS



CHF SOLUTIONS, INC.

6,726,506 Shares of Common Stock issuable upon exercise of Warrants

This prospectus relates to the resale, from time to time, of (i) an aggregate of 4,161,392 shares of our common stock, par value \$0.0001 per share (the “Common Stock”) issuable upon exercise of common stock purchase warrants issued on March 23, 2020 (the “March Warrants”) and (ii) an aggregate of 2,565,114 shares of our Common Stock issuable upon exercise of common stock purchase warrants issued on April 1, 2020 (“April Warrants” together with the March Warrants, the “Warrants”) by Anson Investments Master Fund LP (“Anson”), Empery Asset Master, LTD (“Empery Asset Master”), Empery Tax Efficient, LP (“Empery Tax Efficient”), Empery Tax Efficient II, LP (“Emery Tax Efficient II” and together with Anson, Empery Asset Master and Empery Tax Efficient, we collectively refer to the “Selling Stockholders”).

We are not selling any securities under this prospectus and we will not receive proceeds from the sale of Common Stock by the Selling Stockholders. However, we may receive proceeds from the cash exercise of the Warrants, which, if exercised in cash at the current applicable exercise price with respect to all of the 6,726,506 shares of Common Stock, would result in gross proceeds of approximately \$2,503,000. We sold the March Warrants to the Selling Shareholders under a purchase agreement, dated March 19, 2020 (the “March Purchase Agreement”), for gross proceeds of approximately \$1,248,000 on March 23, 2020. For a more detailed description of the March Warrants, see the section “Sale of Securities to Selling Stockholders”. Furthermore, we sold the April Warrants to the Selling Stockholders under a purchase agreement, dated March 30, 2020 (“April Purchase Agreement”) for gross proceeds of approximately \$2,226,000 on April 1, 2020. For a more detailed description of the Warrants, see the section “Sale of Securities to Selling Stockholders”.

We will pay the expenses of registering the shares of Common Stock offered by this prospectus, but all selling and other expenses incurred by each Selling Stockholder will be paid by such Selling Stockholder. The Selling Stockholders may sell the shares of our Common Stock offered by this prospectus from time to time on terms to be determined at the time of sale through ordinary brokerage transactions or through any other means described in this prospectus under “Plan of Distribution.” The prices at which the Selling Stockholders may sell shares will be determined by the prevailing market price for shares of our Common Stock or in negotiated transactions.

Our Common Stock trades on The Nasdaq Capital Market under the ticker symbol “CHFS”. On April 27, 2020, the last reported sale price per share of our Common Stock was \$0.42 per share. See “Description of Capital Stock – Common Stock – Listing.”

Investing in our Common Stock involves a high degree of risk. Before making any investment in our Common Stock, you should read and carefully consider the risks described in this prospectus under the section of this prospectus entitled “Risk Factors” on page 7 of this prospectus.

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

The date of this prospectus is May 6, 2020.

TABLE OF CONTENTS

	<u>Page</u>
About This Prospectus	1
Where You Can Find Additional Information	1
Information Incorporated By Reference	1
Prospectus Summary	3
Risk Factors	7
Cautionary Note Regarding Forward-Looking Statements	10
Sale of Securities to Selling Stockholders	11
Use of Proceeds	12
Market Information and Dividend Policy	12
Description of Capital Stock	13
Plan of Distribution	18
Selling Stockholders	20
Legal Matters	22
Experts	22

You should rely only on the information contained in this prospectus or any prospectus supplement or amendment thereto. We have not authorized anyone to provide you with different information.

ABOUT THIS PROSPECTUS

This prospectus relates to the resale by the Selling Stockholders of up to 6,726,506 shares of our Common Stock issuable upon exercise of the March Warrants and April Warrants, in each case as described below under “Sale of Securities to Selling Stockholders” and “Description of Capital Stock.” We are not selling any shares of Common Stock under this prospectus and will not receive any proceeds from the sale of shares of Common Stock by the Selling Stockholders.

This prospectus is part of a registration statement on Form S-1 that we filed with the Securities and Exchange Commission (“SEC”). It omits some of the information contained in the registration statement and reference is made to the registration statement for further information with regard to us and the securities being offered by the Selling Stockholders. You should review the information and exhibits in the registration statement for further information about us and the securities being offered hereby. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to the filings. You should review the complete document to evaluate these statements.

You should read this prospectus, any documents that we incorporate by reference in this prospectus and the additional information described below under “Where You Can Find Additional Information” and “Information Incorporated By Reference” before making an investment decision. You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with additional, different or inconsistent information, you should not rely on it. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

You should not assume that the information in this prospectus or any documents we incorporate by reference herein is accurate as of any date other than the date on the front of such document. Our business, financial condition, results of operations and prospects may have changed since those dates.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file reports, proxy statements and other information with the SEC in accordance with the Securities Exchange Act of 1934, as amended (the “Exchange Act”). 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>. These documents may also be accessed on our website at www.chf-solutions.com. Information contained in, or accessible through, our website is not a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

SEC rules allow us to “incorporate by reference” into this prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference into this prospectus plus consolidated financial statements included in this prospectus is considered to be part of this prospectus. These documents may include Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements. You should read the information incorporated by reference because it is an important part of this prospectus.

This prospectus incorporates by reference the documents listed below, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on [March 5, 2020](#);
- our Current Reports on Form 8-K filed with the SEC on [January 29, 2020](#), [March 20, 2020](#), [March 30, 2020](#), [April 23, 2020](#) and [May 4, 2020](#).
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2019 from our definitive proxy statement for the annual meeting of stockholders to be held on May 20, 2020, filed with the SEC on [April 13, 2020](#).

TABLE OF CONTENTS

- 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; and
- 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](#).

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

We also incorporate by reference any future filings, other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items, made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, in each case, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules, until the offering of the securities under the registration statement of which this prospectus forms a part is terminated or completed. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and later information filed with the SEC may update and supersede some of the information included or incorporated by reference in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded.

These documents may also be accessed on our website at www.chf-solutions.com/investor-relations. 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.
12988 Valley View Road
Eden Prairie, Minnesota 55344
(952) 345-4200
ir@chf-solutions.com
Attention: Claudia Drayton
Chief Financial Officer

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before deciding to invest in our securities, you should read this entire prospectus carefully, including our financial statements and related notes, the information in the section “Risk Factors” and our filings incorporated by reference herein to which we have referred you in the sections “Where You Can Find Additional Information” and “Information Incorporated by Reference.” Unless the context otherwise requires, references in this prospectus to the “Company,” “CHFS,” “we,” “us”, and “our” refer to CHF Solutions, Inc.

Company Overview

We are a medical device company dedicated to changing the lives of patients suffering from fluid overload through science, collaboration, and innovative technology. The company is focused on developing, manufacturing, and commercializing medical devices used in ultrafiltration therapy, including the Aquadex FlexFlow® and the Aquadex SmartFlow™ systems (collectively, the “Aquadex System”). The Aquadex System is indicated for temporary (up to eight hours) or extended (longer than 8 hours in patients who require hospitalization) use in adult and pediatric patients weighing 20kg or more whose fluid overload is unresponsive to medical management, including diuretics.

The Aquadex System

The Aquadex System is designed and clinically proven 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 System, medical practitioners can specify and control the amount of fluid to be extracted at a safe, predictable, and effective rate. The Aquadex System has been shown to have no clinically significant impact on electrolyte balance, blood pressure or heart rate.¹ Unlike other forms of ultrafiltration, which typically require administration specifically by a nephrologist, the Aquadex System may be prescribed by any physician and administered by a healthcare provider, both of whom have received training in extracorporeal therapies.

Benefits of the Aquadex System

The Aquadex 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;
- Can be performed via peripheral or central venous access;
- Removes isotonic fluid (extracts sodium while sparing potassium and magnesium)²;
- Following ultrafiltration, neurohormonal activation is reset toward a more physiological condition and diuretic efficacy is restored³;
- 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 duration⁴ resulting in cost savings at 90 days⁵.

¹ 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

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

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

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

⁵ Costanzo MR, et al. Ultrafiltration vs. Diuretics for the Treatment of Fluid Overload in Patients with Heart Failure: A Hospital Cost Analysis.

Components of the Aquadex System

The Aquadex System consists of:

- A console, a piece of capital equipment containing electromechanical pumps and an LCD screen;
- A one-time disposable 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, a small, dual-lumen extended length 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 circuit set is proprietary and the Aquadex System can only be used with the Aquadex blood circuit set. The dual lumen extended length catheter (dELC) is designed for use with the Aquadex System, although it is one of many potential catheter options available to the healthcare provider.

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. 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. 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 or the registration statement of which it forms a part.

We are a “smaller reporting company” as defined in Rule 405 of the Securities Act. We will remain a smaller reporting company until the last day of the fiscal year in which the aggregate market value of our common stock that is held by non-affiliates is at least \$250 million or the last day of the fiscal year in which we have at least \$100 million in revenue and the aggregate market value of our common stock that is held by non-affiliates is at least \$700 million (in each case, with respect to the aggregate market value of our common stock held by non-affiliates, as measured as of the last business day of the second quarter of such fiscal year). Also, as long as we remain a non-accelerated filer, we are exempt 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 are required to make our own internal assessment of the effectiveness of our internal controls over financial reporting.

Recent Developments

Nasdaq Notice

On December 17, 2019, we received a letter (the “Notice”) from The Nasdaq Stock Market (“Nasdaq”) advising that for 30 consecutive trading days preceding the date of the Notice, the bid price of our common stock had closed below the \$1.00 per share minimum required for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the “Minimum Bid Price Requirement”). The Notice has no effect on the listing of our common stock at this time, and our common stock continues to trade on the Nasdaq Capital Market under the symbol “CHFS.” Under Nasdaq Listing Rule 5810(c)(3)(A), if during the 180 calendar day period following the date of the Notice (the “Compliance Period”), the closing bid price of our common stock is at or above \$1.00 for a minimum of 10 consecutive business days, we will regain compliance with the Minimum Bid Price Requirement and our common stock will continue to be eligible for listing on the Nasdaq Capital Market, absent noncompliance with any other requirement for continued listing. If we do not regain compliance with the Minimum Bid Price Requirement by the end of the Compliance Period (or the Compliance Period as may be extended) the Company’s common stock will be subject to delisting. We intend to monitor the closing bid price of our common stock and may, if appropriate, consider implementing available options to regain compliance with the Minimum Bid Price Requirement under the Nasdaq Listing Rules.

On April 17, 2020, Nasdaq notified the Company that the 180-day period to regain compliance with the Minimum Bid Price Rule has been extended due to the global market impact caused by COVID-19. More specifically, Nasdaq has stated that the compliance periods for any company previously notified about non-compliance are suspended effective April 16, 2020, until June 30, 2020. On July 1, 2020, companies will receive the balance of any pending compliance period exception to regain compliance with the Minimum Bid Price Rule. As a result of this extension, the Company now has until August 28, 2020 to regain compliance with the Minimum Bid Price Rule.

The Company is asking stockholders at its Annual Meeting on May 20, 2020 to approve an amendment to its Fourth Amended and Restated Certificate of Incorporation, as amended, to give discretion to the Board of Directors to effect a reverse stock split. The Board of Directors intends to effect a reverse stock split if necessary to maintain compliance with the Minimum Bid Price Rule. Therefore, the Board of Directors now has until August 28, 2020 to make this determination.

Pediatrics

In first quarter 2020, the Company received 510(k) clearance and CE Mark for the Aquadex System to include pediatric patients who weigh 20kg or more. The Aquadex System is being prescribed by physicians to treat various conditions in pediatric patients, including heart failure, cardiac surgery, extracorporeal membrane oxygenation (ECMO) therapy, solid organ transplantation, and kidney replacement therapy for neonatal patients.

Public Offering

On January 28, 2020, we closed on an underwritten public offering of 6,046,367 shares of common stock, 11,517,269 shares of Series H Convertible Preferred Stock, and warrants to purchase 17,563,636 shares of common stock, which included the full exercise of the underwriter's over-allotment option, for gross proceeds of \$9.66 million. Net proceeds totaled approximately \$8.6 million after deducting the underwriting discounts and commissions and other costs associated with the offering.

Registered Direct Offerings

On March 23, 2020, we closed on a registered direct offering of 4,161,392 shares of common stock for gross proceeds of approximately \$1,248,000, prior to deduction of commissions and offering expenses. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering, unregistered warrants to purchase up to 4,161,392 shares of our common stock.

On April 1, 2020, we closed on a registered direct offering of 5,130,228 shares of common stock for gross proceeds of approximately \$2,226,000, prior to deduction of commissions and offering expenses. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering, unregistered warrants to purchase up to 2,565,114 shares of our common stock.

The Offering

Securities offered by the Selling Stockholders	6,726,506 shares of our Common Stock
Common stock outstanding	35,071,753 (as of April 24, 2020)
Common stock to be outstanding after this offering, assuming full conversion or exercise of all Warrants	41,798,259 shares
Use of proceeds	We will not receive any proceeds from the sale by the Selling Stockholders of the shares of Common Stock being offered by this prospectus.
NASDAQ Symbol	“CHFS”.
Risk Factors	Investing in our securities involves a high degree of risk. You should carefully review and consider the section of this prospectus entitled “Risk Factors” on page 7 of this prospectus for a discussion of factors to consider before deciding to invest in shares of our Common Stock.

Except as otherwise indicated, all information in this prospectus is based on 35,071,753 shares of Common Stock outstanding as of April 24, 2020 and excludes the shares of Common Stock being offered by this prospectus and issuable upon exercise of the Warrants and also excludes the following:

- 421,062 shares of common stock issuable upon the exercise of outstanding stock options, having a weighted average exercise price of \$20.70 per share;
- 18,449,203 shares of our common stock issuable upon the exercise of outstanding warrants (other than the warrants offered hereby) with a weighted-average exercise price of \$2.21 per share;
- 1,450,290 shares of common stock issuable upon the conversion of the 435 outstanding shares of our Series F 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 Preferred Stock as described in the following bullet);
- 488,090 shares of common stock issuable upon the conversion of the 488,090 outstanding shares of our Series H Convertible Preferred Stock; and
- 148,231 shares of our common stock reserved for future issuance under our equity incentive plans.

All share and per share amounts for all periods presented in this prospectus and the registration statement of which it forms a part have been retroactively adjusted to reflect the reverse stock splits we previously effected on January 12, 2017, October 12, 2017 and January 2, 2019.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding to invest in our securities, you should consider carefully the risks and uncertainties described under Item 1A. “Risk Factors” in our Annual Report on Form 10-K, filed with the SEC on March 5, 2020, which is incorporated by reference in this prospectus, together with all of the other information contained in this prospectus and documents incorporated by reference herein. If any of the matters discussed in the risk factors were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected, the market price of our common stock could decline and you could lose all or part of your investment in our securities. Additional risks and uncertainties not presently known or which we consider immaterial as of the date hereof may also have an adverse effect on our business. Except for the addition of the following risk factors there have been no other material changes to the Risk Factors described under Item 1A. “Risk Factors” in our Annual Report on Form 10-K, filed with the SEC on March 5, 2020.

Risk Related to our Common Stock

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 December 17, 2019, we received a letter (the “Notice”) from Nasdaq advising that for 30 consecutive trading days preceding the date of the Notice, the bid price of our common stock had closed below the \$1.00 per share minimum required for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the “Minimum Bid Price Requirement”). The Notice has no effect on the listing of our common stock at this time, and our common stock continues to trade on the Nasdaq Capital Market under the symbol “CHFS.” Under Nasdaq Listing Rule 5810(c)(3)(A), if during the 180 calendar day period following the date of the Notice (the “Compliance Period”), the closing bid price of our common stock is at or above \$1.00 for a minimum of 10 consecutive business days, we will regain compliance with the Minimum Bid Price Requirement and our common stock will continue to be eligible for listing on the Nasdaq Capital Market, absent noncompliance with any other requirement for continued listing. If we do not regain compliance with the Minimum Bid Price Requirement by the end of the Compliance Period (or the Compliance Period as may be extended) the Company’s common stock will be subject to delisting. We intend to monitor the closing bid price of our common stock and may, if appropriate, consider implementing available options to regain compliance with the Minimum Bid Price Requirement under the Nasdaq Listing Rules.

On April 17, 2020, Nasdaq notified us that the 180-day period to regain compliance with the Minimum Bid Price Rule has been extended due to the global market impact caused by COVID-19. More specifically, Nasdaq has stated that the compliance periods for any company previously notified about non-compliance are suspended effective April 16, 2020, until June 30, 2020. On July 1, 2020, companies will receive the balance of any pending compliance period exception to regain compliance with the Minimum Bid Price Rule. As a result of this extension, we now have until August 28, 2020 to regain compliance with the Minimum Bid Price Requirement.

Additionally, Nasdaq has the authority, pursuant to Nasdaq Listing Rule 5550(b)(1), to delist our common stock if our stockholders’ equity falls below \$2.5 million. As of December 31, 2019, our stockholders’ equity was \$2.0 million, which is below Nasdaq’s stockholders’ equity requirement. Subsequent to year end, on January 28, 2020, we closed on an underwritten public offering for net proceeds of approximately \$8.6 million, which effectively allows us to regain compliance with Nasdaq’s minimum equity requirements. It is possible that our stockholders’ equity could be reduced again below \$2.5 million as a result of operating losses or other reasons. If that occurs, or if we are unable to demonstrate to Nasdaq’s satisfaction that we will be able to sustain compliance with this requirement, Nasdaq may delist our common stock. In addition, even if we regain technical compliance with the stockholders’ equity requirement, we will have to continue to meet other objective and subjective listing requirements to continue to be listed on the Nasdaq Capital Market. We are actively monitoring our stockholders’ equity and will consider any and all options available to us to maintain compliance. There can be no assurance, however, that we will be able to maintain compliance and meet Nasdaq’s minimum stockholders’ equity requirements.

TABLE OF CONTENTS

If our common stock is delisted, 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, 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 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. 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 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.

Risk Related to Our Business

The COVID-19 outbreak and other public health threats or outbreaks of communicable diseases could have a material adverse effect on our operations and overall financial performance.

We may face risks related to public health threats or outbreaks of communicable diseases. A global health crisis, such as the current outbreak of coronavirus or COVID-19, could adversely affect the United States and global economies and limit the ability of enterprises to conduct business for an indefinite period of time. The current outbreak of COVID-19 has negatively impacted the global economy, disrupted financial markets and international trade, resulted in increased unemployment levels and significantly impacted global supply chains, all of which have the potential to impact our business.

In addition, government authorities have implemented various mitigation measures, including travel restrictions, limitations on business operations, stay-at-home orders and social distancing protocols. While we have been deemed an essential critical infrastructure by the United States, the economic impact of the aforementioned actions may impair our ability to sustain sufficient financial liquidity and impact our financial results. Specifically, the continued spread of COVID-19 and efforts to contain the virus could: (i) result in an increase in costs related to delayed payments from customers and uncollectable accounts, (ii) cause a reduction in revenue related to late fees and other charges related to governmental regulations, (iii) cause delays and disruptions in the supply chain related to obtaining necessary materials for our network infrastructure or customer premise equipment, (iv) cause workforce disruptions, including the availability of qualified personnel; and (v) cause other unpredictable events.

Currently, some of our suppliers of certain components and materials included in the Aquadex System are located in China. It is possible that we could obtain these components or materials from suppliers outside of China. However, such alternative components or materials and/or suppliers would need to be qualified under our supplier quality procedures, which may take significant time and resources. In addition, due to port closures, import delays and other restrictions resulting from the coronavirus outbreak in China and throughout the world, suppliers, located both inside and outside of China, may have limited supply of the components or materials, which could cause the price of such materials to increase. These and other disruptions would likely impact our

TABLE OF CONTENTS

sales and operating results. If we are unable to obtain the necessary components and materials to manufacture the Aquadex System within our standard lead times, it may delay the production and shipment of the Aquadex System, thereby shifting the timing of recognizing the resulting sale to our customers.

As we cannot predict the duration or scope of the global health crisis, the anticipated negative financial impact to our operating results cannot be reasonably estimated, but could be material and last for an extended period of time.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains 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, 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 and any related free writing prospectus 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.

SALE OF SECURITIES TO SELLING STOCKHOLDERS

General

On March 19, 2020, we entered into the March Purchase Agreement with the Selling Stockholders under which we agreed to issue and sell warrants to purchase an aggregate of 4,161,392 shares of Common Stock, pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) thereof and/or Rule 506 of Regulation D promulgated thereunder. We received gross proceeds of \$1,248,000 at the closing on March 23, 2020, before deducting fees owed to the placement agent and other fees applicable to the offering. The March Purchase Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company, other obligations of the parties and termination provisions.

On March 30, 2020, we entered into the April Purchase Agreement with the Selling Stockholders under which we agreed to issue and sell warrants to purchase an aggregate of 2,565,114 shares of Common Stock, pursuant to an exemption from the registration requirements of the Securities Act provided in Section 4(a)(2) thereof and/or Rule 506 of Regulation D promulgated thereunder. We received gross proceeds of \$2,226,000 at the closing on April 1, 2020, before deducting fees owed to the placement agent and other fees applicable to the offering. The April Purchase Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company, other obligations of the parties and termination provisions.

Placement Agent

In connection with each of the March Purchase Agreements and April Purchase Agreement, we separately entered into a placement agent engagement letter with Ladenburg Thalmann & Co. Inc. (the "Placement Agent") pursuant to which we agreed to pay the Placement Agent an aggregate cash placement fee equal to 8% of the aggregate purchase price raised in the transactions consummated in each of March and April. Subject to certain conditions, we also have agreed to reimburse certain out-of-pocket expenses of the Placement Agent, including but not limited to legal fees. The engagement letter contains customary representations, warranties and agreements by us and customary conditions to closing. We have further agreed to indemnify the Placement Agent against certain liabilities arising out of or in connection with the transactions.

The March Warrants

Each March Warrant is exercisable beginning on September 23, 2020 (the "March Warrant Initial Exercise Date") at an exercise price of \$0.3726 per share, subject to adjustment as provided therein, and terminates five years after the March Warrant Initial Exercise Date. A holder of March Warrants will not have the right to exercise any portion of its March Warrants if the holder, together with its affiliates, would beneficially own over 4.99%; provided, however, that upon prior notice to us, the holder may increase its ownership, provided that in no event will the ownership exceed 9.99%. The exercise price and number of the shares of our Common Stock issuable upon exercising the March Warrants will be subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described therein.

The April Warrants

Each April Warrant is exercisable beginning on April 1, 2020 (the "April Warrant Initial Exercise Date") at an exercise price of \$0.3715 per share, subject to adjustment as provided therein, and terminates five and a half years after the April Warrant Initial Exercise Date. A holder of April Warrants will not have the right to exercise any portion of its April Warrants if the holder, together with its affiliates, would beneficially own over 4.99%; provided, however, that upon prior notice to us, the holder may increase its ownership, provided that in no event will the ownership exceed 9.99%. The exercise price and number of the shares of our Common Stock issuable upon exercising the April Warrants will be subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described therein.

USE OF PROCEEDS

We are not selling any securities under this prospectus and will not receive any proceeds from the sale of shares of Common Stock offered by this prospectus by the Selling Stockholders. However, we may receive proceeds from the cash exercise of the Warrants, which, if exercised in cash at the current exercise price with respect to all 6,726,506 shares of Common Stock, would result in gross proceeds of \$2,503,474 to us.

MARKET INFORMATION AND DIVIDEND POLICY

Our common stock is currently listed on The Nasdaq Capital Market under the symbol “CHFS.” See “Prospectus Summary— Recent Developments” in this prospectus for important information about the listing of our common stock on The Nasdaq Capital Market. The Warrants will not be traded on a national securities exchange.

As of April 24, 2020, the last reported sale price of our common stock on The Nasdaq Capital Market was \$0.425.

As of April 24, 2020, there were approximately 21 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 capital stock in the foreseeable future. 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.

DESCRIPTION OF CAPITAL 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

Our authorized capital stock consists of 100,000,000 shares of common stock, par value \$0.0001 per share, and 40,000,000 shares of preferred stock, par value \$0.0001 per share, (i) 30,000 of which are designated as Series A Junior Participating Preferred Stock (ii) 435 of which are designated Series F Convertible Preferred Stock (the "Series F Preferred Stock") and (iii) 488,090 of which are designated Series H Convertible Preferred Stock (the "Series H Preferred Stock") as of April 24, 2020. Once shares of Series F Preferred Stock or Series H Preferred Stock are converted, redeemed or reacquired by us, such shares shall resume the status of authorized but unissued shares of undesignated preferred stock.

As of April 24, 2020, we had (i) 35,071,753 outstanding shares of common stock, (ii) 435 outstanding shares of Series F Preferred Stock, which, at the currently applicable conversion price, would convert into 1,450,290 shares of common stock, subject to future adjustment, (iii) 488,090 outstanding shares of Series H Preferred Stock, which, at the currently applicable conversion price, would convert into 488,090 shares of common stock, (iv) outstanding options to acquire 421,062 shares of our common stock, and (v) outstanding warrants to purchase 25,175,709 shares of our common stock (which includes the warrants offered hereby). In December 2018, the Company's stockholders approved a reverse split of its outstanding common stock at a ratio in the range of 1-for-2 to 1-for 14 and, in January 2019, the board of directors approved a 1-for-14 reverse split of the Company's outstanding common stock that became effective after trading on January 2, 2019. All share and per share amounts presented herein have been retroactively adjusted to reflect the reverse stock split.

The following description summarizes the most important terms of our capital stock. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description you should refer to our certificate of incorporation, bylaws and certificate of designation of preferences, rights and limitations of Series F Preferred Stock and Series H Preferred Stock, copies of which have been incorporated by reference as exhibits to the registration statement of which this prospectus forms a part, and to the applicable provisions of the Delaware General Corporation Law.

Common Stock

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 $\frac{2}{3}$ % 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;

TABLE OF CONTENTS

- 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, including our outstanding Series F Preferred Stock and the Series H Preferred Stock being offered hereby.

Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol “CHFS.” See “Prospectus Summary—Recent Developments” in this prospectus for important information about the listing of our common stock on The Nasdaq Capital Market.

Preferred Stock

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.

Description of Outstanding Warrants

As of April 24, 2020, there were warrants outstanding to purchase a total of 25,175,709 shares of our common stock (which includes the warrants offered hereby), which expire between 2021 and 2025. Each of these warrants entitles the holder to purchase one share of common stock at prices ranging from \$0.30 to \$43,848 per common

TABLE OF CONTENTS

share, with a weighted average exercise price of \$1.72 per share. Certain of these warrants have a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares based on the fair market value of our common stock at the time of exercise of the warrant after deduction of the aggregate exercise price. Certain of these warrants have price protection in the event we sell any common stock or securities convertible into common stock for a price less than the exercise price per share of the warrants then in effect (but in no event lower than \$0.055). Each of these warrants also contains provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of dividends, share splits, reorganizations and reclassifications and consolidations. Certain of these warrants provide that, subject to limited exceptions, a holder will not have the right to exercise any portion of its warrants if the holder, together with its affiliates, would beneficially own over 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, the warrant holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.

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

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 (“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
- 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 $\frac{2}{3}$ % 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 Fourth Amended and Restated Certificate of Incorporation, as amended, 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 exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law; or any action asserting a claim against us that is governed by the internal affairs doctrine. These provisions would not apply to suits brought to enforce a duty or liability created by the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction. Our Fourth Amended and Restated Certificate of Incorporation, as amended, will further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, subject to applicable law. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these provisions. Our exclusive forum provision will not relieve us of our duties to comply with the federal securities laws and the rules and regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations.

The provisions of the Delaware General Corporation Law, our Fourth Amended and Restated Certificate of Incorporation, as amended, and our Second Amended and Restated Bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

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.

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

With the closing of each of the March Purchase Agreement and the April Purchase Agreement, we agreed to prepare and file a registration statement to register for resale the shares of common stock underlying certain warrants issued in each private placement transaction. We agreed to use our commercially reasonable efforts to cause such registration to become effective within 181 days following March 30, 2020. We have filed the registration statement of which this prospectus forms a part pursuant to the requirements in each of the March Purchase Agreement and April Purchase Agreement to register for resale the shares of Common Stock issuable upon conversion of the Warrants that were issued at each closing.

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.

PLAN OF DISTRIBUTION

Each Selling Stockholder of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the principal trading market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or at prices then prevailing or related to the then current market price or at negotiated prices. The offering price of the shares from time to time will be determined by the Selling Stockholders and, at the time of the determination, may be higher or lower than the market price of our Common Stock. A Selling Stockholder may use any one or more of the following methods when selling securities:

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

The Selling Stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

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

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

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

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

TABLE OF CONTENTS

We agreed to use our commercially reasonable efforts to keep the registration statement of which this prospectus forms a part effective until no purchaser owns any Warrants or Warrant shares issuable upon exercise of the Warrants. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

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

We will not receive any proceeds from the sale of the shares by the Selling Stockholders.

SELLING STOCKHOLDERS

The shares of Common Stock being offered by the Selling Stockholders are those issuable to the Selling Stockholders upon exercise of the Warrants. For additional information regarding the issuances of those Warrants, see “Sale of Securities to Selling Stockholders”. We are registering the shares of Common Stock in order to permit the Selling Stockholders to offer the shares for resale from time to time. Except for the ownership of shares of Common Stock, preferred stock and warrants, the Selling Stockholders have not had any material relationship with us within the past three years.

The percentage of each Selling Shareholder’s ownership is based on 35,071,753 shares of common stock outstanding as of April 24, 2020. In computing the number of shares beneficially owned by a Selling Stockholder and the percentage ownership of that Selling Stockholder, shares of Common Stock underlying the Warrants held by that Selling Stockholder that are exercisable as of April 24, 2020, or exercisable within 60 days after April 24, 2020, are deemed outstanding. Such shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. The percentage of beneficial ownership after this offering is based on shares outstanding on April 24, 2020 and also includes the shares of our Common Stock registered in this offering.

The registration of the shares of Common Stock issuable to the Selling Stockholders upon exercise of the Warrants does not mean that the Selling Stockholders will sell or otherwise dispose of all or any of those securities. The Selling Stockholders may sell or otherwise dispose of all, a portion or none of such shares from time to time. We do not know the number of shares, if any, that will be offered for sale or other disposition by any of the Selling Stockholders under this prospectus. Furthermore, the Selling Stockholders may have sold, transferred or disposed of the shares of Common Stock covered hereby in transactions exempt from the registration requirements of the Securities Act since the date on which we filed this prospectus.

To our knowledge and except as noted below, none of the Selling Stockholders has, or within the past three years has had, any position, office or other material relationship with us or any of our predecessors or affiliates. None of the Selling Stockholders is a broker-dealer or an affiliate of a broker-dealer, except as noted below. The Selling Stockholders may sell all, some or none of the shares of Common Stock subject to this prospectus. See “Plan of Distribution.”

Selling Stockholder ⁽¹⁾	Beneficial Ownership Before This Offering			Beneficial Ownership After This Offering	
	Number of Shares Owned	Percentage of Outstanding Shares ⁽²⁾	Shares Offered Hereby	Number of Shares Owned	Percentage of Outstanding Shares
Anson Investments Master Fund LP ⁽³⁾	6,268,123	17.24%	3,363,253	4,985,566	12.97%
Empery Asset Master, LTD ⁽⁴⁾	3,421,935	9.58%	1,648,117	2,116,835	5.66%
Empery Tax Efficient, LP ⁽⁵⁾	560,579	1.54%	315,177	315,177	*
Empery Tax Efficient II, LP ⁽⁶⁾	<u>2,414,571</u>	6.79%	<u>1,399,959</u>	<u>1,399,959</u>	4.38%
Total:	<u>12,665,208</u>	35.15%	<u>6,726,506</u>	<u>8,817,537</u>	23.01%

* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of our common stock.

- (1) This table and the information in the notes below are based upon information supplied by the Selling Stockholders and are based on shares of common stock outstanding as of April 24, 2020. Only those shares issuable upon exercise of the Warrants are being registered for resale pursuant to this registration statement, and not any other securities held by the Selling Stockholders. Beneficial ownership is determined in accordance with Rule 13d-3 under the Securities Act, and includes any shares as to which the Selling Stockholder has sole or shared voting power or investment power, and also any shares which the Selling Stockholder has the right to acquire within 60 days of the date hereof, whether through the exercise or conversion of any stock option, convertible security, warrant or other right. The indication herein that shares are beneficially owned is not an admission on the part of the Selling Stockholder that he, she or it is a direct or indirect beneficial owner of those shares.
- (2) All convertible securities of the Company held by the Selling Stockholders are subject to beneficial ownership limitations such that the shares of warrants may not be converted or exercised, respectively, if it would result in the holder exceeding the beneficial ownership limitation. The beneficial ownership limitation is either 4.99% or 9.99% for each Selling Stockholder.
- (3) Includes 339,756 shares of common stock disclosed on a 13G filed by Anson Funds Management LP on February 14, 2020 with the Securities and Exchange Commission and excludes 432,398 of warrants that are not currently exercisable due to a beneficial ownership limitation of 4.99%. Represents (i) 2,080,696 shares of common stock purchased in the Company’s registered direct offering on March 23, 2020, (ii) 2,080,696 warrants to purchase common stock purchased pursuant to the Company’s private placement of shares on March 23, 2020, (iii) 2,565,114 shares of common stock purchased in the Company’s registered direct offering on April 1, 2020 and (iv) 1,282,557 warrants to purchase common stock purchased to the Company’s private placement of shares on April 1, 2020.

TABLE OF CONTENTS

The percentage in this table reflects that the reporting persons may not exercise the warrants to the extent such exercise would cause the reporting persons to beneficially own a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, such holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.

- (4) Includes 468,718 shares of common stock disclosed on a 13G filed by Empery Asset Management, LP on February 3, 2020 with the Securities and Exchange Commission and excludes 1,302,511 shares of common stock issued upon conversion of preferred stock of the Company and 1,771,229 shares of common stock issuable upon exercise of certain warrants issued by the Company, each of which are subject to beneficial ownership limitations and are disclosed on the 13G filed on February 3, 2020. Represents (i) 995,567 shares of common stock purchased in the Company's registered direct offering on March 23, 2020, (ii) 995,567 warrants to purchase common stock purchased pursuant to the Company's private placement of shares on March 23, 2020, (iii) 1,305,100 shares of common stock purchased in the Company's registered direct offering on April 1, 2020 and (iv) 652,550 warrants to purchase common stock purchased to the Company's private placement of shares on April 1, 2020. The percentage in this table reflects that the reporting persons may not exercise the warrants to the extent such exercise would cause the reporting persons to beneficially own a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, such holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.
- (5) Represents (i) 192,476 shares of common stock purchased in the Company's registered direct offering on March 23, 2020, (ii) 192,476 warrants to purchase common stock purchased pursuant to the Company's private placement of shares on March 23, 2020, (iii) 245,402 shares of common stock purchased in the Company's registered direct offering on April 1, 2020 and (iv) 122,701 warrants to purchase common stock purchased to the Company's private placement of shares on April 1, 2020. The percentage in this table reflects that the reporting persons may not exercise the warrants to the extent such exercise would cause the reporting persons to beneficially own a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, such holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.
- (6) Represents (i) 892,653 shares of common stock purchased in the Company's registered direct offering on March 23, 2020, (ii) 892,653 warrants to purchase common stock purchased pursuant to the Company's private placement of shares on March 23, 2020, (iii) 1,014,612 shares of common stock purchased in the Company's registered direct offering on April 1, 2020 and (iv) 507,306 warrants to purchase common stock purchased to the Company's private placement of shares on April 1, 2020. The percentage in this table reflects that the reporting persons may not exercise the warrants to the extent such exercise would cause the reporting persons to beneficially own a number of shares of common stock that would exceed 4.99% of our then outstanding common stock following such exercise; provided, however, that upon prior notice to us, such holder may increase its ownership, provided that in no event will the ownership exceed 9.99%.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Honigman LLP, Kalamazoo, Michigan.

EXPERTS

The consolidated financial statements of CHF Solutions, Inc. and subsidiaries as of and for the years ended December 31, 2019 and 2018 from the Company's Annual Report on Form 10-K have been audited by Baker Tilly Virchow Krause, LLP, our independent registered public accounting firm, as stated in their report, which is incorporated herein by reference (which report expresses an unqualified opinion on the consolidated financial statements and includes an explanatory paragraph related to the substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements). Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given their authority as experts in accounting and auditing.