

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended **September 30, 2020**

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 001-35312

CHF SOLUTIONS, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware
(State or Other Jurisdiction of Incorporation or Organization)

No. 68-0533453
(I.R.S. Employer Identification No.)

12988 Valley View Road, Eden Prairie, MN 55344
(Address of Principal Executive Offices) (Zip Code)

(952) 345-4200
(Registrant's Telephone Number, Including Area Code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, par value \$0.0001 per share

Trading Symbol(s)
CHFS

Name of each exchange on which registered
Nasdaq Capital Market

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer
Non-accelerated filer
Emerging growth company

Accelerated filer
Smaller reporting company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

The number of outstanding shares of the registrant's common stock, \$0.0001 par value, as of November 9, 2020 was 2,736,060.

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PART I—FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

CHF SOLUTIONS, INC. AND SUBSIDIARIES
Condensed Consolidated Balance Sheets
(In thousands, except share and per share amounts)

	September 30, 2020	December 31, 2019
	<u>(unaudited)</u>	<u></u>
ASSETS		
Current assets		
Cash and cash equivalents	\$ 17,947	\$ 1,279
Accounts receivable	1,048	799
Inventory	2,921	1,797
Other current assets	235	161
Total current assets	22,151	4,036
Property, plant and equipment, net	1,244	991
Operating lease right-of-use asset	303	442
Other assets	21	133
TOTAL ASSETS	\$ 23,719	\$ 5,602
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 929	\$ 1,488
Accrued compensation	2,012	1,592
Current portion of operating lease liability	201	186
Current portion of finance lease liability	24	—
Other current liabilities	57	85
Total current liabilities	3,223	3,351
Operating lease liability	108	261
Finance lease liability	60	—
Total liabilities	3,391	3,612
Commitments and contingencies		
Stockholders' equity		
Series A junior participating preferred stock as of September 30, 2020 and December 31, 2019, par value \$0.0001 per share; authorized 30,000 shares, none outstanding	—	—
Series F convertible preferred stock as of September 30, 2020 and December 31, 2019, par value \$0.0001 per share; authorized 127 and 535 shares, respectively, issued and outstanding 127 and 535, respectively	—	—
Preferred stock as of September 30, 2020 and December 31, 2019, par value \$0.0001 per share; authorized 39,969,873 and 39,969,465 shares, none outstanding	—	—
Common stock as of September 30, 2020 and December 31, 2019, par value \$0.0001 per share; authorized 100,000,000 shares, issued and outstanding 2,736,060 and 155,802, respectively	—	—
Additional paid-in capital	249,378	218,278
Accumulated other comprehensive income:		
Foreign currency translation adjustment	1,202	1,214
Accumulated deficit	(230,252)	(217,502)
Total stockholders' equity	20,328	1,990
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 23,719	\$ 5,602

See notes to the condensed consolidated financial statements.

CHF SOLUTIONS, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

(In thousands, except per share amounts)

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Net sales	\$ 1,904	\$ 1,252	\$ 5,397	\$ 4,144
Costs and expenses:				
Cost of goods sold	1,026	540	2,486	1,987
Selling, general and administrative	4,264	4,107	13,034	12,098
Research and development	871	1,112	2,620	3,719
Total costs and expenses	<u>6,161</u>	<u>5,759</u>	<u>18,140</u>	<u>17,804</u>
Loss from operations	<u>(4,257)</u>	<u>(4,507)</u>	<u>(12,743)</u>	<u>(13,660)</u>
Other income (loss), net	—	(1)	—	(1)
Loss before income taxes	<u>(4,257)</u>	<u>(4,508)</u>	<u>(12,743)</u>	<u>(13,661)</u>
Income tax expense	(3)	(1)	(7)	(5)
Net loss	<u>\$ (4,260)</u>	<u>\$ (4,509)</u>	<u>\$ (12,750)</u>	<u>\$ (13,666)</u>
Basic and diluted loss per share	<u>\$ (2.08)</u>	<u>\$ (51.12)</u>	<u>\$ (11.27)</u>	<u>\$ (284.70)</u>
Weighted average shares outstanding – basic and diluted	2,049	88	1,287	64
Other comprehensive loss:				
Foreign currency translation adjustments	\$ (7)	\$ 1	\$ (12)	\$ (4)
Total comprehensive loss	<u>\$ (4,267)</u>	<u>\$ (4,508)</u>	<u>\$ (12,762)</u>	<u>\$ (13,670)</u>

See notes to the condensed consolidated financial statements.

CHF SOLUTIONS, INC. AND SUBSIDIARIES
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)

(In thousands, except share amounts)

	Outstanding Shares of Common Stock	Common Stock	Additional Paid in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Stockholders' Equity
Balance December 31, 2018	17,114	\$ —	\$ 204,101	\$ 1,223	\$ (199,388)	\$ 5,936
Net loss	—	—	—	—	(4,727)	(4,727)
Foreign currency translation adjustment	—	—	—	(2)	—	(2)
Stock-based compensation and stock awards, net	—	—	362	—	—	362
Issuance of common and preferred stock, net	15,173	—	10,959	—	—	10,959
Conversion of preferred stock into common stock	36,680	—	—	—	—	—
Balance March 31, 2019	68,967	\$ —	\$ 215,422	\$ 1,221	\$ (204,115)	\$ 12,528
Net loss	—	—	—	—	(4,430)	(4,430)
Foreign currency translation adjustment	—	—	—	(3)	—	(3)
Stock-based compensation, net	—	—	339	—	—	339
Conversion of preferred stock into common stock	8,643	—	—	—	—	—
Balance June 30, 2019	77,610	\$ —	\$ 215,761	\$ 1,218	\$ (208,545)	\$ 8,434
Net loss	—	—	—	—	(4,509)	(4,509)
Foreign currency translation adjustment	—	—	—	1	—	1
Stock-based compensation, net	—	—	412	—	—	412
Conversion of preferred stock into common stock	18,360	—	—	—	—	—
Balance September 30, 2019	95,970	\$ —	\$ 216,173	\$ 1,219	\$ (213,054)	\$ 4,338

	Outstanding Shares of Common Stock	Common Stock	Additional Paid in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Stockholders' Equity
Balance December 31, 2019	155,802	\$ —	\$ 218,278	\$ 1,214	\$ (217,502)	\$ 1,990
Net loss	—	—	—	—	(4,568)	(4,568)
Foreign currency translation adjustment	—	—	—	(3)	—	(3)
Stock-based compensation, net	—	—	380	—	—	380
Issuance of common and preferred stock, net	340,261	—	9,616	—	—	9,616
Exercise of warrants	29,933	—	289	—	—	289
Conversion of preferred stock into common stock	378,751	—	—	—	—	—
Balance March 31, 2020	904,747	\$ —	\$ 228,563	\$ 1,211	\$ (222,070)	\$ 7,704
Net loss	—	—	—	—	(3,922)	(3,922)
Foreign currency translation adjustment	—	—	—	(2)	—	(2)
Stock-based compensation, net	—	—	347	—	—	347
Issuance of common stock, net	290,938	—	3,424	—	—	3,424
Exercise of warrants	227,939	—	2,051	—	—	2,051
Conversion of preferred stock into common stock	16,270	—	—	—	—	—
Balance June 30, 2020	1,439,894	\$ —	\$ 234,385	\$ 1,209	\$ (225,992)	\$ 9,602
Net loss	—	—	—	—	(4,260)	(4,260)
Foreign currency translation adjustment	—	—	—	(7)	—	(7)
Stock-based compensation, net	—	—	310	—	—	310
Issuance of common stock, net	1,064,678	—	12,908	—	—	12,908
Exercise of warrants	197,267	—	1,775	—	—	1,775
Conversion of preferred stock into common stock	34,221	—	—	—	—	—
Balance September 30, 2020	2,736,060	\$ —	\$ 249,378	\$ 1,202	\$ (230,252)	\$ 20,328

See notes to the condensed consolidated financial statements

CHF SOLUTIONS, INC. AND SUBSIDIARIES

Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Nine months ended September 30,	
	2020	2019
Operating Activities:		
Net loss	\$ (12,750)	\$ (13,666)
Adjustments to reconcile net loss to cash flows used in operating activities:		
Depreciation and amortization	253	179
Stock-based compensation expense, net	1,036	1,113
Loss on disposal of property and equipment	46	—
Changes in operating assets and liabilities:		
Accounts receivable	(249)	258
Inventory	(1,371)	(158)
Other current assets	(74)	(74)
Other assets	112	(27)
Accounts payable and accrued expenses	(166)	38
Net cash used in operating activities	(13,163)	(12,337)
Investing Activities:		
Purchases of property and equipment	(207)	(464)
Net cash used in investing activities	(207)	(464)
Financing Activities:		
Proceeds from public stock offerings, net	25,949	10,959
Proceeds from warrant exercises	4,115	—
Payments on finance lease liability	(14)	—
Net cash provided by financing activities	30,050	10,959
Effect of exchange rate changes on cash	(12)	(4)
Net increase (decrease) in cash and cash equivalents	16,668	(1,846)
Cash and cash equivalents - beginning of period	1,279	5,480
Cash and cash equivalents - end of period	\$ 17,947	\$ 3,634
Supplemental cash flow information		
Cash paid for income taxes	\$ —	\$ —
Inventory transferred to property, plant and equipment	\$ 247	\$ 204
Equipment acquired through finance lease liability	\$ 98	\$ —

See notes to the condensed consolidated financial statements.

CHF SOLUTIONS, INC. AND SUBSIDIARIES
Notes to Condensed Consolidated Financial Statements
(Unaudited)

Note 1 – Nature of Business and Basis of Presentation

Nature of Business: CHF Solutions, Inc. (the “Company”) is a medical device company focused on developing, manufacturing and commercializing the Aquadex FlexFlow® and Aquadex SmartFlow™ systems (herein referred to as the “Aquadex System”) for ultrafiltration therapy. The Aquadex SmartFlow 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. CHF Solutions, Inc. is a Delaware corporation headquartered in Minneapolis with wholly owned subsidiaries in Australia, Ireland and Delaware. The Company has been listed on Nasdaq since February 2012.

In August 2016, the Company acquired the business associated with the Aquadex FlexFlow system (herein referred to as the “Aquadex Business”) from a subsidiary of Baxter International, Inc. (“Baxter”), and refocused its strategy to fully devote its resources to the Aquadex Business.

On October 6, 2020, the Company’s stockholders approved a reverse split of its outstanding common stock at a ratio in the range of 1-for-5 to 1-for-30 and, on October 9, 2020, the board of directors approved a 1-for-30 reverse split of the Company’s outstanding common stock that became effective after trading on October 16, 2020. This reverse stock split does not change the par value of the Company’s common stock or the number of common or preferred shares authorized by the Company’s Fourth Amended and Restated Certificate of Incorporation. All share and per-share amounts have been retroactively adjusted to reflect the reverse stock splits for all periods presented. After implementing the reverse stock split described above, we received confirmation from Nasdaq on November 2, 2020, that we had regained compliance with the minimum bid price rule and the listing matter was closed.

Principles of Consolidation: The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and with the instructions to Form 10-Q and Article 8 of Regulation S-X. Certain information and note disclosures normally included in the audited annual consolidated financial statements have been condensed or omitted pursuant to those rules and regulations. Accordingly, they do not include all of the information necessary for a fair presentation of results of operations, comprehensive loss, financial condition, and cash flows in conformity with U.S. GAAP. In the opinion of management, the condensed consolidated financial statements reflect all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation of the results of the Company for the periods presented. Operating results for interim periods are not necessarily indicative of results that may be expected for the entire fiscal year. The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses, and the related disclosures at the date of the financial statements and during the reporting period. Actual results could materially differ from these estimates.

For further information, refer to the consolidated financial statements and notes thereto included in the Company’s [Annual Report on Form 10-K](#) for the year ended December 31, 2019.

Going Concern: The Company’s financial statements have been prepared and presented on a basis assuming it continues as a going concern. During the years ended December 31, 2019 and 2018 and through September 30, 2020, the Company incurred losses from operations and net cash outflows from operating activities as disclosed in the consolidated statements of operations and cash flows, respectively. As of September 30, 2020, the Company had an accumulated deficit of \$230.3 million and it expects to incur losses for the immediate future. To date, the Company has been funded by debt and equity financings, and although the Company believes that it will be able to successfully fund its operations, there can be no assurance that it will be able to do so or that it will ever operate profitably. These factors raise substantial doubt about the Company’s ability to continue as a going concern through the next twelve months.

The Company became a revenue generating company after acquiring the Aquadex Business in August 2016. The Company expects to incur additional losses in the near-term as it grows the Aquadex Business, including investments in expanding its sales and marketing capabilities, purchasing inventory, manufacturing components, and complying with the requirements related to being a U.S. public company. To become and remain profitable, the Company must succeed in expanding the adoption and market acceptance of the Aquadex System. This will require the Company to succeed in training personnel at hospitals and in effectively manufacturing, marketing and distributing the Aquadex System and related components. There can be no assurance that the Company will succeed in these activities, and it may never generate revenues sufficient to achieve profitability.

During 2018, 2019 and through August 21, 2020, the Company closed on underwritten public and other equity offerings for aggregate net proceeds of approximately \$43.2 million after deducting the underwriting discounts and commissions or placement agents fees and offering expenses, as applicable, and other costs associated with the offerings. In addition, during 2020, the Company received \$4.1 million in proceeds from the exercise of investor warrants. See Note 3 – Shareholder’s Equity. The Company will require additional funding to grow its business, which may not be available on terms favorable to the Company, or at all. The Company may receive those funds from the proceeds from future warrant exercises, issuances of equity securities, or other financing transactions. Should warrant exercises not materialize or future capital raising be unsuccessful, the Company may not be able to continue as a going concern. No adjustments have been made relating to the recoverability and classification of recorded asset amounts and classification of liabilities that might be necessary should the Company not continue as a going concern.

Revenue Recognition: The Company recognizes revenue in accordance with Accounting Standards Codification (“ASC”), Topic 606, *Revenue from Contracts with Customers*, which the Company adopted effective January 1, 2018. Accordingly, the Company recognizes revenue when its customers obtain control of its products or services, in an amount that reflects the consideration that the Company expects to receive in exchange for those goods and services. See Note 2 – Revenue Recognition, for disclosures. For the three months and nine months ended September 30, 2020, there were no customers that represented in excess of 10% of net sales. For the three months ended September 30, 2019, three customers represented 11%, 12% and 12% of net sales. For the nine months ended September 30, 2019, one customer represented 10% of net sales.

Accounts Receivable: Accounts receivable are unsecured, are recorded at net realizable value, and do not bear interest. The Company makes judgments as to its ability to collect outstanding receivables based upon significant patterns of collectability, historical experience, and managements’ evaluation of specific accounts and will provide an allowance for credit losses when collection becomes doubtful. The Company performs credit evaluations of its customers’ financial condition on an as-needed basis. Payment is generally due 30 days from the invoice date and accounts past 30 days are individually analyzed for collectability. When all collection efforts have been exhausted, the account is written off against the related allowance. To date the Company has not experienced any write-offs or significant deterioration of the aging of its accounts receivable, and therefore, no allowance for doubtful accounts was considered necessary as of September 30, 2020 or December 31, 2019. As of September 30, 2020, one customer represented 13% of the accounts receivable balance. As of December 31, 2019, two customers represented 13% and 12% of the accounts receivable balance.

Inventories: Inventories are recorded as the lower of cost or net realizable value using the first-in-first out method. Overhead is allocated to manufactured finished goods inventory based on the normal capacity of the Company’s production facilities. Abnormal amounts of overhead, if any, are expensed as incurred. Inventories consisted of the following:

<i>(in thousands)</i>	September 30, 2020	December 31, 2019
Finished Goods	\$ 1,072	\$ 750
Work in Process	455	79
Raw Materials	1,394	968
Total	<u>\$ 2,921</u>	<u>\$ 1,797</u>

Loss per share: Basic loss per share is computed based on the net loss for each period divided by the weighted average number of common shares outstanding. The net loss allocable to common stockholders for the nine months ended September 30, 2020, reflects a \$1.8 million increase for the net deemed dividend to preferred stockholders provided in connection with the close of the public offering of Series H Convertible Preferred Stock on January 28, 2020. This net deemed dividend includes \$0.2 million that resulted from the subsequent reduction in the exercise of price of the warrants as a result of the March 2020 offering. The net loss allocable to common stockholders for the nine months ended September 30, 2019, reflects a \$4.5 million increase for the net deemed dividend to preferred stockholders provided in connection with the close of the public offering of Series G Convertible Preferred Stock on March 12, 2019. The deemed dividends represent the intrinsic value of the preferred shares at the time of issuance. See Note 3 – Shareholders’ Equity for additional disclosures.

Diluted earnings per share is computed based on the net loss allocable to common stockholders for each period divided by the weighted average number of common shares outstanding, increased by the number of additional shares that would have been outstanding had the potentially dilutive common shares been issued, and reduced by the number of shares the Company could have repurchased from the proceeds from issuance of the potentially dilutive shares. Potentially dilutive shares of common stock include shares underlying outstanding convertible preferred stock, warrants, stock options and other stock-based awards granted under stock-based compensation plans.

The following table sets forth the potential shares of common stock that are not included in the calculation of diluted net loss per share because to do so would be anti-dilutive as of the end of each period presented:

	September 30	
	2020	2019
Warrants to purchase common stock	1,631,948	181,038
Series F convertible preferred stock	14,224	3,745
Stock options	15,741	11,036
Total	<u>1,661,913</u>	<u>195,819</u>

The following table reconciles reported net loss with reported net loss per share for each of the nine months ended September 30:

<i>(in thousands, except per share amounts)</i>	2020	2019
Net loss	\$ (12,750)	\$ (13,666)
Deemed dividend to preferred shareholders (see Note 3)	(1,757)	(4,509)
Net loss after deemed dividend	(14,507)	(18,175)
Weighted average shares outstanding	1,287	64
Basic and diluted loss per share	<u>\$ (11.27)</u>	<u>\$ (284.70)</u>

Subsequent Events: The Company evaluates events through the date the consolidated financial statements are filed for events requiring adjustment to or disclosure in the consolidated financial statements.

Note 2 – Revenue Recognition

Net Sales

The Company sells its products in the United States primarily through a direct sales force. Customers who purchase the Company's products include hospitals and clinics throughout the United States. In countries outside the United States, the Company sells its products through a limited number of specialty healthcare distributors in the United Kingdom, Italy, Spain, Germany, Austria, Switzerland, Southeast Asia, Brazil, India, Greece, the United Arab Emirates, Israel and Palestine. These distributors resell the Company's products to hospitals and clinics in their respective geographies.

Revenue from product sales are recognized when the customer or distributor obtains control of the product, which occurs at a point in time, most frequently upon shipment of the product or receipt of the product, depending on shipment terms. The Company's standard shipping terms are FOB shipping point, unless the customer requests that control and title to the inventory transfer upon delivery.

Revenue is measured as the amount of consideration we expect to receive, adjusted for any applicable estimates of variable consideration and other factors affecting the transaction price, which is based on the invoiced price, in exchange for transferring products. All revenue is recognized when the Company satisfies its performance obligations under the contract. The majority of the Company's contracts have a single performance obligation and are short term in nature. The Company has entered into extended service plans with customers which are recognized over time. This revenue represents less than 1% of net sales for the three and nine months ended September 30, 2020 and 2019. The unfulfilled performance obligations related to these extended service plans is included in deferred revenue, which is included in other current liabilities on the consolidated balance sheets. The majority of the deferred revenue is expected to be recognized within one year.

Sales taxes and value added taxes in foreign jurisdictions that are collected from customers and remitted to governmental authorities are accounted for on a net basis and therefore are excluded from net sales. Revenue includes shipment and handling fees charged to customers. Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as a fulfillment cost and are included in cost of goods sold.

Product Returns: The Company offers customers a limited right of return for its product in case of non-conformity or performance issues. The Company estimates the amount of its product sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related product revenue is recognized. The Company currently estimates product return liabilities using available industry data and its own historical sales and returns information. The Company has not received any returns to date and believes that future returns of its products will be minimal. Therefore, revenue recognized is not currently impacted by variable consideration related to product returns.

Note 3 – Stockholders' Equity

Series F Convertible Preferred Stock: On November 27, 2017, the Company closed on an underwritten public offering of Series F Convertible Preferred Stock and warrants to purchase shares of common stock for gross proceeds of \$18.0 million. Net proceeds totaled approximately \$16.2 million after deducting the underwriting discounts and commissions and other costs associated with the offering.

The offering was comprised of Series F convertible preferred stock, convertible into shares of the Company's common stock at an initial conversion price of \$1,890.00 per share. Each share of Series F convertible preferred stock was accompanied by a Series 1 warrant, which was to expire on the first anniversary of its issuance, to purchase 16 shares of the Company's common stock at an exercise price of \$1,890.00 per share, and a Series 2 warrant, which expires on the seventh anniversary of its issuance, to purchase 16 shares of the Company's common stock at an exercise price of \$1,890.00 per share. The Series F convertible preferred stock has full ratchet price based anti-dilution protection, subject to customary carve outs, in the event of a down-round financing at a price per share below the conversion price of the Series F convertible preferred stock (which protection will expire if, during any 20 of 30 consecutive trading days, the volume weighted average price of the Company's common stock exceeds 300% of the then-effective conversion price of the Series F convertible preferred stock and the daily dollar trading volume for each trading day during such period exceeds \$200,000). The exercise price of the warrants is fixed and does not contain any variable pricing features, nor any price based anti-dilutive features, apart from customary adjustments for stock splits, combinations, reclassifications, stock dividends or fundamental transactions. A total of 18,000 shares of Series F convertible preferred stock initially convertible into 9,557 shares of common stock and warrants to purchase 19,122 shares of common stock were issued in the offering.

Effective July 3, 2018, the conversion price of the Series F convertible preferred stock was reduced from \$1,890.00 to \$890.40, the per share price in the July 2018 Offering described below. Effective March 12, 2019, the conversion price of the Series F convertible preferred stock was reduced from \$890.40 to \$157.50, the per share price to the public of the Series G convertible preferred stock which closed in an underwritten public offering on March 12, 2019, described below. Effective October 25, 2019, the conversion price of the Series F convertible preferred stock was reduced from \$157.50 to \$42.30, and on November 6, 2019 from \$42.30 to \$29.83, the per share price to the public in the October and November 2019 transactions, respectively, described below. Effective January 28, 2020, the conversion price of the Series F convertible preferred stock was reduced from \$29.83 to \$16.50, the per share price to the public of the Series H convertible preferred stock which closed in an underwritten public offering on January 28, 2020, described below. Effective March 23, 2020, the conversion price of the Series F convertible preferred stock was reduced from \$16.50 to \$9.00, the per share price to the public in the March 2020 transaction, described below. As of September 30, 2020, and December 31, 2019, 127 and 535 shares of the Series F convertible preferred stock remained outstanding, respectively.

July 2018 Offering: On July 3, 2018, the Company closed on an underwritten public offering of 6,065 shares of its common stock at a public offering price of \$890.40 per share, for gross proceeds of \$5.4 million, including the full exercise of the underwriters' over-allotment option to purchase additional shares of the Company's common stock (the "July 2018 Offering"). Net proceeds totaled approximately \$4.6 million after deducting underwriting discounts and commissions and offering expenses.

In connection with the July 2018 Offering, and to induce certain institutional investors who hold warrants issued by the Company in November 2017 ("November 2017 Warrants") to participate in the July 2018 Offering, the Company entered into letter agreements with such institutional investors. Pursuant to the terms of these agreements, the Company agreed, effective July 3, 2018, to reduce the per share exercise price of the November 2017 Warrants held by such institutional investors to \$890.40 and to extend the expiration date of the warrants that were to expire on November 27, 2018 to November 27, 2019. The number of common shares underlying the warrants that were repriced did not change. The repriced warrants were exercisable for 18,488 shares of common stock in the aggregate, of which, following such amendment, half expired on November 27, 2019 and half will expire on November 27, 2024. The repricing of the warrants was accounted as an equity financing cost, with no impact to net proceeds from the offering.

Series G Convertible Preferred Stock and March 2019 Offering: On March 12, 2019, the Company closed on an underwritten public offering of common stock, Series G convertible preferred stock and warrants to purchase shares of common stock for gross proceeds of \$12.4 million, which included the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants ("March 2019 Offering"). Net proceeds totaled approximately \$11.0 million after deducting the underwriting discounts and commissions and other costs associated with the offering. The Series G convertible preferred stock included a beneficial conversion amount of \$4.5 million, representing the intrinsic value of the shares at the time of issuance. This amount is reflected as an increase to the loss per share allocable to common stockholders in the nine months ended September 30, 2019.

The March 2019 Offering was comprised of 15,173 shares of common stock priced at \$157.50 per share and 1,910,536 shares of Series G convertible preferred stock, convertible into common stock at \$157.50 per share. Each share of Series G convertible preferred stock and each share of common stock was accompanied by a Series 1 warrant and a Series 2 warrant. The Series 1 warrants are exercisable into 78,863 shares of common stock and the Series 2 warrants are exercisable into 78,863 shares of common stock. Series 1 warrants expire on the fifth anniversary of the date of issuance and are exercisable at \$157.50 to purchase one share of common stock. Series 2 warrants expire on the earlier of: (i) the eighteen-month anniversary of the date of issuance and (ii) the 30th trading day following the public announcement of the receipt from the U.S. Food and Drug Administration (FDA) of clearance or approval of a modification to the product label for the Aquadex System to include pediatric patients. Series 2 warrants are exercisable at \$157.50 per share of common stock. The Company announced it had received FDA clearance for use of its Aquadex System in pediatric patients on February 26, 2020, effectively setting the date of expiration of these warrants for April 8, 2020. The conversion price of the Series G convertible preferred stock as well as the exercise price of the warrants are fixed and do not contain any variable pricing features, nor any price based anti-dilutive features apart from customary adjustments for splits and reverse splits of common stock. The Series G convertible preferred stock included a beneficial ownership limitation of 4.99% but had no dividend preference (except to extent dividends are also paid on the common stock), liquidation preference or other preferences over common stock. The securities comprising the units were immediately separable and were issued separately.

As of September 30, 2020, and December 31, 2019, all 63,685 shares of the Series G convertible preferred stock had been converted into common stock and none remained outstanding.

October and November 2019 Offerings: On October 25, 2019, the Company closed on a registered direct offering of 19,195 shares of common stock at a price of \$34.50 per share, for gross proceeds of approximately \$660,000, prior to deducting commissions and expenses related to the transaction. In a concurrent private placement, the Company agreed to issue to the investors in the registered direct offering unregistered warrants to purchase up to 19,196 shares of its common stock at an exercise price of \$42.30 per share, which became exercisable six months from the date of issuance, and will expire five years from the initial exercise date. On November 6, 2019, the Company closed on a registered direct offering of 40,637 shares of common stock, or common equivalents, at a price of \$33.60 per share, for gross proceeds of approximately \$1.36 million prior to deduction of commissions and offering expenses related to the transaction. In a concurrent private placement, the Company agreed to issue to the investors in the registered direct offering warrants to purchase up to 40,638 shares of our common stock at an exercise price of \$29.83 per share, which were exercisable upon the date of issuance, and will expire five years from the initial exercise date.

Series H Convertible Preferred Stock and January 2020 Offering: On January 28, 2020, the Company closed on an underwritten public offering of common stock, Series H convertible preferred stock and warrants to purchase shares of common stock for gross proceeds of \$9.7 million, which included the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants ("January 2020 Offering"). Net proceeds totaled approximately \$8.6 million after deducting the underwriting discounts and commissions and other costs associated with the offering. The Series H convertible preferred stock included a beneficial conversion amount of \$1.6 million, representing the intrinsic value of the shares at the time of issuance, and \$0.2 million of down-round protection in connection with the re-pricing of the warrants following the March 2020 offering described below. This amount is reflected as an increase to the loss per share allocable to common stockholders in the nine months ended September 30, 2020.

The January 2020 Offering was comprised of 201,546 shares of common stock priced at \$16.50 per share and 11,517,269 shares of Series H convertible preferred stock, convertible into common stock at \$16.50 per share, including the full exercise of the over-allotment option. Each share of Series H convertible preferred stock and each share of common stock was accompanied by a warrant to purchase common stock. The warrants are exercisable into 585,460 shares of common stock. The conversion price of the preferred stock issued in the transaction is fixed and does not contain any variable pricing feature or any price based anti-dilutive feature. The preferred stock issued in this transaction includes a beneficial ownership blocker but has no dividend rights (except to the extent that dividends are also paid on the common stock) or liquidation preference, and, subject to limited exceptions, has no voting rights. The securities comprising the units are immediately separable and were issued separately. The warrants were exercisable beginning on the closing date and expire on the fifth anniversary of the closing date and had an initial exercise price per share equal to \$16.50 per share, subject to appropriate adjustment in the event of subsequent equity sales of common stock or securities convertible into common stock for an exercise price per share less than the exercise price per share of the warrants then in effect (but in no event lower than 10% of the applicable Unit offering price), or in the event of recapitalization events, stock dividends, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting our common stock. Effective March 23, 2020, the exercise price of these warrants was reduced from \$16.50 to \$9.00, the per share price to the public in the March 2020 offering, described below.

As of September 30, 2020, all 11,517,269 shares of the Series H convertible preferred stock had been converted into common stock and none remained outstanding. As of September 30, 2020, warrants to purchase 455,162 shares of common stock had been exercised for total cash proceeds of \$4.1 million.

March 2020 Offering: On March 23, 2020, the Company closed on a registered direct offering of 138,715 shares of its common stock at a price to the public of \$9.00 per share, for gross proceeds of approximately \$1.2 million, or \$1.0 million net after deducting commissions and offering expenses payable by CHF Solutions. In a concurrent private placement, the Company agreed to issue to the investors in the registered direct offering warrants to purchase up to 138,715 shares of the Company's common stock. The warrants to purchase up to 138,715 shares of common stock have an exercise price of \$11.18 per share, were exercisable six months from the date of issuance, and will expire five and a half years from the date of issuance.

April 2020 Offering: On April 1, 2020 the Company closed on a registered direct offering of 171,008 shares of its common stock at a price to the public of \$13.02 per share, for gross proceeds of approximately \$2.2 million, prior to deduction of commissions and offering expenses related to the transaction. In a concurrent private placement, the Company agreed to issue to the investors in the registered direct offering warrants to purchase up to 85,506 shares of the Company's common stock. The warrants have an exercise price of \$11.15 per share, were exercisable immediately, and will expire five and a half years from the date of issuance.

May 2020 Offering: On May 5, 2020 the Company closed on a registered direct offering of 119,930 shares of its common stock at a price to the public of \$14.18 per share, for gross proceeds of approximately \$1.7 million, prior to deduction of commissions and offering expenses related to the transaction. In a concurrent private placement, the Company agreed to issue to the investors in the registered direct offering warrants to purchase up to 59,966 shares of the Company's common stock. The warrants have an exercise price of \$12.30 per share, were exercisable immediately, and will expire five and a half years from the date of issuance.

August 2020 Offering: On August 21, 2020, the Company closed on an underwritten public offering of common stock and warrants to purchase shares of common stock for gross proceeds of approximately \$14.4 million, which included the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants ("August 2020 Offering"). Net proceeds totaled approximately \$13.0 million after deducting the underwriting discounts and commissions and other costs associated with the offering. The August 2020 Offering was comprised of 1,064,678 shares of common stock priced at \$13.50 per share. Each share of common stock was accompanied by a warrant to purchase common stock. The warrants are exercisable into 1,064,678 shares of common stock. The securities comprising the units are immediately separable and were issued separately. The warrants were exercisable beginning on the effective date of our stockholders' approval of a reverse stock split in an amount sufficient to permit the exercise in full of the warrants, which occurred on October 6, 2020, and will expire on the five year anniversary of the closing date.

Placement Agent Fees: In connection with the offerings described above, the Company paid the placement agents an aggregate cash placement fee equal to 8% of the aggregate gross proceeds raised in each of the offerings.

Market-Based Warrants: On May 30, 2019, the Company granted a market-based warrant to a consultant in exchange for investor relations services. The warrant represents the right to acquire up to 3,334 shares of the Company's common stock at an exercise price of \$95.40 per share, the closing stock price of the Company's common shares on May 30, 2019. The warrant is subject to a vesting schedule based on the Company achieving certain market stock prices within a specified period of time. The warrant expires on May 30, 2024. The warrant was valued at \$57.90 per share using the Monte Carlo valuation methodology and was expensed over the term of the consulting engagement which was twelve months. Significant inputs used for the Monte Carlo valuation were the expected stock price volatility of 136.21%, and management's expectations regarding the timing of regulatory clearance for an expanded label in pediatrics. None of these warrants had vested as of September 30, 2020.

Note 4 - Stock-Based Compensation

Under the fair value recognition provisions of U.S. GAAP for accounting for stock-based compensation, the Company measures stock-based compensation expense at the grant date based on the fair value of the award and recognizes the compensation expense over the requisite service period, which is generally the vesting period.

The following table presents the classification of stock-based compensation expense recognized for the periods below:

(in thousands)	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Selling, general and administrative expense	\$ 288	\$ 383	\$ 963	\$ 1,018
Research and development expense	21	29	73	95
Total stock-based compensation expense	\$ 309	\$ 412	\$ 1,036	\$ 1,113

Note 5 - Fair Value of Financial Instruments

The Company's financial instruments consist of cash and cash equivalents and warrants.

The Company's financial assets and liabilities are measured at fair value on a recurring basis and are classified and disclosed in one of the following three categories:

- *Level 1* - Financial instruments with unadjusted quoted prices listed on active market exchanges.
- *Level 2* - Financial instruments lacking unadjusted, quoted prices from active market exchanges, including over the counter traded financial instruments. The prices for the financial instruments are determined using prices for recently traded financial instruments with similar underlying terms as well as directly or indirectly observable inputs, such as interest rates and yield curves that are observable at commonly quoted intervals.
- *Level 3* - Financial instruments that are not actively traded on a market exchange. This category includes situations where there is little, if any, market activity for the financial instrument. The prices are determined using significant unobservable inputs or valuation techniques.

The fair value of the market-based warrants described in Note 3 was calculated using a Monte Carlo valuation model and was classified as Level 3 in the fair value hierarchy. These warrants were classified as permanent equity and as a result, were measured at the grant date and are not required to be remeasured to fair value at each reporting period end.

All cash equivalents are considered Level 1 measurements for all periods presented. The Company does not have any financial instruments classified as Level 2 or Level 3 and there were no movements between these categories as of September 30, 2020 and December 31, 2019. The Company believes that the carrying amounts of all remaining financial instruments approximate their fair value due to their relatively short maturities.

Note 6 – Income Taxes

The Company provides for a valuation allowance when it is more likely than not that it will not realize a portion of the deferred tax assets. The Company has established a full valuation allowance for U.S. and foreign deferred tax assets due to the uncertainty that enough taxable income will be generated in those taxing jurisdictions to utilize the assets. Therefore, the Company has not reflected any benefit of such deferred tax assets in the accompanying condensed consolidated financial statements.

As of September 30, 2020, there were no material changes to what the Company disclosed regarding tax uncertainties or penalties in its [Annual Report on Form 10-K](#) for the year ended December 31, 2019.

Note 7—Finance Lease Liability

In June 2020, the Company entered into a lease agreement to finance equipment valued at \$67,000. The equipment consisted of computer hardware and is included in Property, Plant and Equipment in the accompanying condensed consolidated financial statements. The principal amount under the lease agreement was \$64,000 at the date the lease commenced, the implied interest rate is 7.5%, and the term of the lease is 39 months.

In July 2020, the Company entered into a lease agreement to finance equipment valued at \$30,000. The equipment consisted of audio-visual equipment and is included in Property, Plant and Equipment in the accompanying condensed consolidated financial statements. The principal amount under the lease agreement was \$29,000 at the date the lease commenced, the implied interest rate is 7.5%, and the term of the lease is 39 months.

Note 8—Commitments and Contingencies

Paycheck Protection Program: On April 21, 2020, the Company announced it had received of \$1.66 million under the Paycheck Protection Program (PPP) under the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act. Subsequent to the Company applying and receiving the funds under the PPP, the United States Treasury Department and the U.S. Small Business Administration issued new guidance regarding eligibility for these loans. As a result, on May 12, 2020, the Company announced it had elected to return all funds it had received under the PPP, so that these funds could be used to help another small business in greater need during the COVID-19 pandemic.

Employee Retirement Plan: The Company has a 401(k)-profit sharing plan that provides retirement benefit to substantially all full-time U.S. employees. Eligible employees may contribute a percentage of their annual compensation, subject to Internal Revenue Service ("IRS") limitations, with the Company matching a portion of the employee's contributions at the discretion of the Company.

ITEM 2. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our interim condensed consolidated financial statements and related notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q and the audited consolidated financial statements and related notes and Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in our [Annual Report on Form 10-K](#) for the year ended December 31, 2019. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a variety of factors, including those discussed in Part I, Item 1A “Risk Factors,” in our [Annual Report on Form 10-K for the year ended December 31, 2019](#), in our [Quarterly Report on Form 10-Q for the period ended March 31, 2020](#), and in our subsequent filings with the Securities and Exchange Commission (SEC).

Unless otherwise specified or indicated by the context, the terms “CHF Solutions,” the “Company,” “we,” “us,” and “our,” refer to CHF Solutions, Inc. and its subsidiaries.

OVERVIEW

About CHF Solutions

We are a medical device company focused on developing, manufacturing and commercializing the Aquadex FlexFlow® and Aquadex SmartFlow™ systems (herein referred to as the “Aquadex System”) for ultrafiltration therapy. The Aquadex SmartFlow system delivers clinically proven therapy using a simple, flexible and smart method of removing excess fluid from patients suffering from hypervolemia (fluid overload). The Aquadex SmartFlow system is indicated for temporary (up to 8 hours) or extended (longer than 8 hours in patients who require hospitalization) use in adult and pediatric patients weighing 20 kg or more whose fluid overload is unresponsive to medical management, including diuretics.

Previously, the Company was focused on developing the C-Pulse® Heart Assist System for treatment of Class III and ambulatory Class IV heart failure. In August 2016, the Company acquired the business associated with the Aquadex FlexFlow system (herein referred to as the “Aquadex Business”) from a subsidiary of Baxter International, Inc. (“Baxter”) and refocused its strategy to fully devote its resources to the Aquadex Business.

Impact of COVID-19 Pandemic

During the first nine months of 2020, we were subject to challenging social and economic conditions created as a result of the outbreak of the novel strain of coronavirus, SARS-CoV-2 (“COVID-19”). The resulting impact of the COVID-19 pandemic created disruptions in our operations resulting from rapid and evolving changes implemented to keep our customers, their patients, and our employees safe. These changes included restrictions on hospital access imposed on our field employees by customers dealing in the front lines of COVID-19 and managing the spread of the virus, changes to employees work practices by requiring employees to work remotely and increased protocols to ensure the safety of those employees that remained on site. The extent of the impact of the COVID-19 outbreak on our operational and financial performance will depend on certain developments, including the duration and spread of the outbreak, impact on our customers and our sales cycles, employee or industry events, and effect on our vendors, all of which are uncertain and cannot be predicted.

We may experience constrained supply or curtailed customer demand that could materially adversely impact our business, results of operations and overall financial performance in future periods. Specifically, we may experience negative impacts from changes in how we conduct business due to the COVID-19 pandemic, including but not limited to restrictions on travel and in-person meetings, production delays, warehouses and staffing disruptions and shortages, decreases or delays in customer demand and spending, difficulties or changes to our sales process and customer support.

Several hospitals in the U.S. have included the Aquadex System into their treatment protocol for fluid management of COVID-19, especially when dialysis equipment and staff are limited. In March 2020, we increased production of the Aquadex System to meet anticipated demand due to its use in treatment protocols for COVID-19. We estimate that approximately 8.0% and 19.5% of our U.S. revenue for the third quarter and first nine months of 2020, respectively, was driven by hospitals treating patients with COVID-19. However, we have also seen changes to our sales practices due to restrictions on hospital access and believe that revenue in other areas was negatively impacted by these restrictions. In addition, the disruption created by COVID-19 has created significant uncertainty about our ability to access the capital markets in future periods. As of the filing date of this Form 10-Q, the extent to which COVID-19 may continue to impact our financial condition or results of operations or guidance is uncertain and cannot be reasonably estimated but could be material and last for an extended period of time. The effect of the COVID-19 pandemic may not be fully reflected in our results of operations and overall financial performance until future periods. See Part 1, Item 1-A “Risk Factors” in our [Annual Report on Form 10-K for the year ended December 31, 2019](#) and in our [Quarterly Report on Form 10-Q for the period ended March 31, 2020](#) for further discussion of the possible impact of the COVID-19 pandemic on our business.

Recent Developments

Pediatrics

In February 2020, we received 510(k) clearance of the Aquadex SmartFlow 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.

Reverse Stock Split: On October 6, 2020, our stockholders approved a reverse split of our outstanding common stock at a ratio in the range of 1-for-5 to 1-for-30 and, on October 9, 2020, our board of directors approved a 1-for-30 reverse split of our outstanding common stock that became effective after trading on October 16, 2020. This reverse stock split did not change the par value of our common stock or the number of common or preferred shares authorized by the Company’s Fourth Amended and Restated Certificate of Incorporation. All share and per-share amounts have been retroactively adjusted to reflect the reverse stock splits for all periods presented. After implementing the reverse stock split described above, we received confirmation from Nasdaq on November 2, 2020, that we had regained compliance with the minimum bid price rule and the listing matter was closed.

Public Offerings

On August 21, 2020 we closed on an underwritten public offering of 1,064,678 shares of common stock and warrants to purchase 1,064,678 shares of common stock, which includes the full exercise of the underwriter’s over-allotment option, for gross proceeds of approximately \$14.4 million. Net proceeds totaled approximately \$13.0 million after deducting the underwriting discounts and commissions and other costs associated with the offering and after giving effect to the underwriters’ full exercise of their over-allotment option.

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”). 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 was at or above \$1.00 for a minimum of 10 consecutive business days, we would regain compliance with the Minimum Bid Price Requirement and our common stock would continue to be eligible for listing on the Nasdaq Capital Market, absent noncompliance with any other requirement for continued listing. The Nasdaq letter further stated that if compliance with the Minimum Bid Price Rule cannot be demonstrated by the end of the 180-day period, we may be eligible for a second 180-day period to regain compliance. To be eligible for the second 180 day compliance period, (i) we had to meet the market value of publicly held shares requirement for continued listing and all other applicable standards for initial listing on The Nasdaq Capital Market set forth in Marketplace Rule 5505 (except the bid price requirement), (ii) we had to provide Nasdaq with written notice of our intention to cure the deficiency, through a reverse stock split, if necessary, and (iii) Nasdaq had to determine that the Company will be able to cure the deficiency. If we did 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. At such time, we could appeal Nasdaq’s delisting determination.

On April 17, 2020, Nasdaq notified us that the 180-day period to regain compliance with the Minimum Bid Price Rule had been extended due to the global market impact caused by COVID-19. More specifically, Nasdaq 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 received the balance of any pending compliance period exception to regain compliance with the Minimum Bid Price Rule. As a result of this extension, we had until August 28, 2020 to regain compliance with the Minimum Bid Price Rule. On September 1, 2020 we announced the receipt of written notification from the Nasdaq Stock Market that it had granted the Company’s request for a 180-day extension to regain compliance with Nasdaq’s minimum bid price requirement under Nasdaq Listing Rule 5550(a)(2), effectively providing us until February 24, 2021 to meet the requirement. We effected a 1-for-30 reverse split of our outstanding common stock that became effective after trading on October 16, 2020. After implementing the

reverse stock split described above, we received confirmation from Nasdaq on November 2, 2020, that we had regained compliance with the minimum bid price rule and the listing matter was closed.

Promotion of Nestor Jaramillo, Jr.

On June 25, 2020, we announced that Nestor Jaramillo, Jr., our Chief Commercial Officer, was promoted to President and Chief Operating Officer effective July 1, 2020.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We have adopted various accounting policies to prepare the condensed consolidated financial statements in accordance with accounting principles generally accepted in the United States. (“U.S. GAAP”). Our most significant accounting policies are disclosed in Note 1 to the consolidated financial statements included in our [Annual Report on Form 10-K](#) for the year ended December 31, 2019.

The preparation of the condensed consolidated financial statements, in conformity with U.S. GAAP, requires us to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Our estimates and assumptions, including those related to stock-based compensation, valuation of equity and debt securities, and income tax reserves are updated as appropriate, which in most cases is quarterly. We base our estimates on historical experience, valuations, or various assumptions that are believed to be reasonable under the circumstances. There have been no material changes to our critical accounting policies and estimates from the information provided in Part II, Item 7, *Management’s Discussion and Analysis of Financial Condition and Results of Operations* included in our [Annual Report on Form 10-K](#) for the year ended December 31, 2019.

Revenue Recognition: We recognize revenue in accordance with Accounting Standards Codification (“ASC”), Topic 606, Revenue from Contracts with Customers, which we adopted effective January 1, 2018. Accordingly, we recognize revenue when our customers obtain control of its products or services, in an amount that reflects the consideration that we expect to receive in exchange for those goods and services. See Note 2 – Revenue Recognition, included in Part I, Item 1 of this Quarterly Report on Form 10-Q, for additional disclosures.

Accounts Receivable: Our accounts receivable have terms that require payment in 30 days. We did not establish an allowance for doubtful accounts as of September 30, 2020 as we have not had any write offs or experienced a deterioration in the aging of our receivables, and do not expect to experience in the future.

Inventories: Inventories consist of finished goods, raw materials and subassemblies and are recorded as the lower of cost or net realizable value using the first, in-first out method.

Stock-Based Compensation: We recognize all share-based payments to employees and directors, including grants of stock options, warrants and common stock awards in the consolidated statement of operations and comprehensive loss as an operating expense based on their fair values as established at the grant date. Equity instruments issued to non-employees consist of warrants to purchase shares of our common stock. These warrants are either fully-vested and exercisable at the date of grant or vest over a certain period during which services are provided. We expense the fair market value of fully vested awards at the time of grant, and of unvested awards over the period in which the related services are received. In accordance with Accounting Standards Update 2018-07, unvested awards are no longer remeasured to fair value until vesting and rather the fair value is established at the grant date consistent with the treatment of employee director awards.

We compute the estimated fair values of stock options and warrants using the Black-Scholes option pricing model and market-based warrants using a Monte Carlo valuation model. Market price at the date of grant is used to calculate the fair value of restricted stock units and common stock awards.

Stock-based compensation expense is based on awards ultimately expected to vest and is reduced for estimated forfeitures except for market-based warrants which are expensed based on the grant date fair value regardless of whether the award vests. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Loss per share: We compute basic loss per share based on the net loss allocable to common stockholders for each period divided by the weighted average number of common shares outstanding. The net loss allocable to common stockholders for the nine months ended September 30, 2020, reflects a \$1.8 million increase for the net deemed dividend to preferred stockholders provided in connection with the close of the public offering of Series H Convertible Preferred Stock on January 28, 2020. This net deemed dividend includes \$0.2 million that resulted from the subsequent reduction in the exercise of price of the warrants as a result of the March 2020 offering. The net loss allocable to common stockholders for the nine months ended September 30, 2019, reflects a \$4.5 million increase for the net deemed dividend to preferred stockholders provided in connection with the close of the March 2019 public offering, representing the intrinsic value of the preferred shares at the time of issuance.

Diluted earnings per share is computed based on the net loss allocable to common stockholders for each period divided by the weighted average number of common shares outstanding, increased by the number of additional shares that would have been outstanding had the potentially dilutive common shares been issued, and reduced by the number of shares the Company could have repurchased from the proceeds from issuance of the potentially dilutive shares. Potentially dilutive shares of common stock include warrants, stock options and other stock-based awards granted under stock-based compensation plans. These potentially dilutive shares were excluded from the computation of loss per share as their effect was antidilutive due to our net loss in each of those periods.

Going Concern: Our consolidated financial statements have been prepared and presented on a basis assuming we continue as a going concern. During the years ended December 31, 2019 and 2018, and through September 30, 2020, we incurred losses from operations and net cash outflows from operating activities as disclosed in the condensed consolidated statements of operations and cash flows, respectively. As of September 30, 2020, we had an accumulated deficit of \$230.3 million and we expect to incur losses for the immediate future. To date, we have been funded primarily by various debt and equity financings, and although we believe that we will be able to successfully fund our operations, there can be no assurance that we will be able to do so or that we will ever operate profitably. These factors raise substantial doubt about our ability to continue as a going concern through the next twelve months.

We became a revenue generating company only after acquiring the Aquadex Business in August 2016. We expect to incur additional losses in the near-term as we grow the Aquadex Business, including investments in expanding our sales and marketing capabilities, purchasing inventory, manufacturing components, and complying with the requirements related to being a U.S. public company. To become and remain profitable, we must succeed in expanding the adoption and market acceptance of the Aquadex SmartFlow system. This will require us to succeed in training personnel at hospitals and in effectively and efficiently manufacturing, marketing and distributing the Aquadex SmartFlow system and related components. There can be no assurance that we will succeed in these activities, and we may never generate revenues sufficient to achieve profitability.

During 2018, 2019 and through August 21, 2020, we closed on registered direct and underwritten public equity offerings for net proceeds of approximately \$43.2 million after deducting the underwriting discounts and commissions and other costs associated with the offering. In addition, during 2020, we received \$4.1 million in proceeds from the exercise of investor warrants. We will be required to seek additional funding to grow our business, which may not be available on terms favorable to us, or at all. We may receive those funds from the proceeds from future warrant exercises, issuances of equity securities, or other financing transactions. Should warrant exercises not materialize or future capital raising be unsuccessful, we may not be able to continue as a going concern. We have made no adjustments relating to the recoverability and classification of recorded asset amounts and classification of liabilities that might be necessary should we not continue as a going concern.

NEW ACCOUNTING PRONOUNCEMENTS

Information regarding new accounting pronouncements, when applicable, is included in Note 1 to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q. There are no new accounting pronouncements not yet adopted that the Company believes will have a material impact on the financial statements of the Company.

FINANCIAL OVERVIEW

We are a medical device company focused on commercializing the Aquadex System for ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy. Activities since inception have consisted principally of raising capital, performing research and development and conducting preclinical and clinical studies. During 2016, we acquired the Aquadex Business and announced that we were halting all clinical evaluations of our prior technology, the C-Pulse System. Since then, our activities have consisted mainly of expanding our sales and marketing capabilities and transferring manufacturing capabilities from Baxter to our facilities in Eden Prairie, Minnesota. As of September 30, 2020, we had an accumulated deficit of \$230.3 million and we expect to incur losses for the foreseeable future. To date, we have been funded by public and private equity financings, cash from warrant exercises, and debt. Although we believe that we will be able to successfully fund our operations, there can be no assurance that we will be able to do so or that we will ever operate profitably.

Results of Operations

Comparison of Three Months Ended September 30, 2020 to Three Months Ended September 30, 2019

Net Sales

(in thousands)

Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Increase (Decrease)	% Change
\$ 1,904	\$ 1,252	\$ 652	52.1%

Revenue is generated mainly from the sale of disposable blood filters and catheters used in conjunction with the Aquadex system consoles. We sell primarily in the United States to hospitals and clinics through our direct salesforce. We sell outside of the United States to independent specialty distributors who in turn sell to hospitals and clinics in their geographic regions. The increase in sales is driven by execution of our commercialization strategy which includes continued expansion of our commercial footprint by the hiring of new sales representatives, clinical education specialists, marketing personnel, and expansion into new geographies outside the United States.

Costs and Expenses

Our costs and expenses were as follows:

(in thousands)

	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Increase (Decrease)	% Change
Cost of goods sold	\$ 1,026	\$ 540	\$ 486	90.0%
Selling, general and administrative	\$ 4,264	\$ 4,107	\$ 157	3.8%
Research and development	\$ 871	\$ 1,112	\$ (241)	(21.7)%

Cost of Goods Sold

In the first quarter of 2019, we began selling our internally manufactured inventory, after successfully transitioning all manufacturing activities from Baxter during 2018. In the third quarter of 2020, we experienced a higher mix of capital equipment sales and international distributor sales, where margins are traditionally lower than the US. Additionally, we provided additional incentives to international distributors and U.S. hospitals to purchase our capital equipment, causing our gross margins to decline. While we may continue to experience quarterly variations in gross margin performance, we expect that our yearly gross margins will continue to improve as volumes increase and we achieve larger efficiencies of scale.

Selling, General and Administrative

The increase in selling, general and administrative expense reflect primarily on-going investment in our commercial organization as we continue to expand our outreach in the field with incremental clinical specialists and marketing support. Our general and administrative costs have remained consistent with the prior year. We expect that our selling expenses will increase modestly in future quarters as we annualize the impact of recent hires, and that general and administrative expenses will remain consistent to the current quarter.

Research and Development

The decrease in research and development expenses relate to investments we made to improve the functionality of our Aquadex system, and to support our 510(k) submission for pediatric label modification, which were completed during 2019. We expect that future research and development expenditures will increase modestly as we invest in a pediatric registry and other pediatric product development activities.

Comparison of Nine Months Ended September 30, 2020 to Nine Months Ended September 30, 2019

Net Sales

(in thousands)

Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019	Increase (Decrease)	% Change
\$ 5,397	\$ 4,144	\$ 1,253	30.2%

Revenue is generated mainly from the sale of disposable blood filters and catheters used in conjunction with the Aquadex system consoles. We sell primarily in the United States to hospitals and clinics through our direct salesforce. We sell outside of the United States to independent specialty distributors who in turn sell to hospitals and clinics in their geographic regions. The increase in sales is driven by execution of our commercialization strategy which includes continued expansion of our commercial footprint by the hiring of new sales representatives, clinical education specialists, marketing personnel, and expansion into new geographies outside the United States.

Costs and Expenses

Our costs and expenses were as follows:

(in thousands)

	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019	Increase (Decrease)	% Change
Cost of goods sold	\$ 2,486	\$ 1,987	\$ 499	25.1%
Selling, general and administrative	\$ 13,034	\$ 12,098	\$ 936	7.7%
Research and development	\$ 2,620	\$ 3,719	\$ (1,099)	(29.6)%

Cost of Goods Sold

In the first quarter of 2019, we began selling our internally manufactured inventory, after successfully transitioning all manufacturing activities from Baxter during 2018. The slight improvement in gross margins in the first nine months of 2020, reflects the favorable impact of increasing volumes and efficiencies as we leverage our existing manufacturing infrastructure, partly offset by incentives offered in the third quarter of 2020 to international distributors and U.S. hospitals to purchase our capital equipment. While we may continue to experience quarterly variations in gross margin performance, we expect that our yearly gross margins will continue to improve as volumes increase and we achieve larger efficiencies of scale.

Selling, General and Administrative

The increase in selling, general and administrative expense reflect primarily on-going investment in our commercial organization as we continue to expand our outreach in the field with incremental clinical specialists and marketing support. Our general and administrative costs have remained consistent with the prior year. We expect that our selling expenses will increase modestly in future quarters as we annualize the impact of recent hires, and that general and administrative expenses will remain consistent to the current quarter.

Research and Development

The decrease in research and development expenses relate to investments we made to improve the functionality of our Aquadex system, and to support our 510(k) submission for pediatric label modification, which were completed during 2019. We expect that future research and development expenditures will increase modestly as we invest in a pediatric registry and other pediatric product development activities.

Liquidity and Capital Resources

Sources of Liquidity

We have funded our operations primarily through cash on hand and a series of equity and debt issuances.

On July 3, 2018, we closed on an underwritten public offering of 6,065 shares of common stock, for gross proceeds of \$5.4 million. Net proceeds totaled approximately \$4.6 million after deducting the underwriting discounts and commissions and other costs associated with the offering. See Note 3 – Stockholders' Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On March 12, 2019, we closed on an underwritten public offering for net proceeds totaling approximately \$11.0 million after deducting the underwriting discounts and commissions and other costs associated with the offering, which included the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants. In connection with this offering, we issued a total of 15,173 shares of common stock, approximately 1.9 million shares of Series G convertible preferred stock and warrants to purchase approximately 157,726 shares of common stock. See Note 3 – Stockholders' Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On October 25, 2019, we closed on a registered direct offering of common stock, for gross proceeds of approximately \$660,000, prior to deducting commissions and expenses related to the transaction. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering warrants to purchase up to 19,196 shares of our common stock. See Note 3 – Stockholders' Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On November 6, 2019, we closed on a registered direct offering of common stock, for gross proceeds of approximately \$1.36 million, prior to deducting commissions and expenses related to the transaction. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering warrants to purchase up to 40,637 shares of our common stock. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On January 28, 2020, we closed on an underwritten public offering of 201,546 shares of common stock, 383,909 shares of Series H Preferred Stock and warrants to purchase 585,460 shares of common stock, which included the full exercise of the underwriter’s over-allotment option, for gross proceeds of approximately \$9.7 million. Net proceeds totaled approximately \$8.6 million after deducting the underwriting discounts and commissions and other costs associated with the offering. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On March 23, 2020, we closed on a registered direct offering of 138,715 shares of common stock at a price to the public of \$9.00 per share, for gross proceeds of approximately \$1.2 million, prior to deduction of commissions and offering expenses related to the transaction. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering warrants to purchase up to 138,715 shares of the Company’s common stock. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On April 1, 2020 we closed on a registered direct offering of 171,008 shares of common stock at a price to the public of \$13.02 per share, for gross proceeds of approximately \$2.2 million, prior to deduction of commissions and offering expenses payable related to the transaction. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering warrants to purchase up to 85,506 shares of the Company’s common stock. The warrants have an exercise price of \$11.15 per share, are exercisable immediately, and expire five and a half years from the date of issuance. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On May 5, 2020, we closed on a registered direct offering of 119,930 shares of common stock at a price to the public of \$14.18 per share, for gross proceeds of approximately \$1.7 million, prior to deduction of commissions and offering related to the transaction. In a concurrent private placement, we agreed to issue to the investors in the registered direct offering warrants to purchase up to 59,966 shares of the Company’s common stock. The warrants have an exercise price of \$12.30 per share, are exercisable immediately, and will expire five and a half years from the date of issuance. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

On August 21, 2020 we closed on an underwritten public offering of 1,064,678 shares of common stock and warrants to purchase 1,064,678 shares of common stock, which included the full exercise of the underwriter’s over-allotment option, for gross proceeds of approximately \$14.4 million. Net proceeds totaled approximately \$13.0 million after deducting the underwriting discounts and commissions and other costs associated with the offering. See Note 3 – Stockholders’ Equity, to the condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

As of September 30, 2020, and December 31, 2019, cash and cash equivalents were \$17.9 million and \$1.3 million, respectively. Prior to our acquisition of the Aquadex Business in August 2016, we did not have a product approved for commercial sale and focused our resources on developing, manufacturing, and commercializing our C-Pulse System. Our business strategy and ability to fund our operations in the future depends in part on our ability to grow our Aquadex Business by establishing a sales force, selling our products to hospitals and other healthcare facilities and controlling costs. While we expect to continue to receive proceeds from the exercise of warrants, we will likely need to seek additional financing in the future, which, to date, has been through offerings of our equity. The disruption created by COVID-19 in our operations, our sales outlook, and the capital markets where we would seek such financing, have created uncertainty about our ability to access the capital markets in future periods.

Cash Flows from Operating Activities

Net cash used in operating activities was \$13.2 and \$12.3 million for the nine months ended September 30, 2020 and 2019, respectively. The net cash used in each of these periods primarily reflects the net loss for those periods, offset in part by stock-based compensation, depreciation and amortization, and the effects of changes in operating assets and liabilities, mainly the reduction in outstanding payables and accrued expenses, as well as increases in raw materials and finished goods inventory.

Cash Flows from Investing Activities

Net cash used in investing activities was \$207,000 and \$464,000 for the nine months ended September 30, 2020 and 2019, respectively. The cash used in investing activities was primarily for the purchase of manufacturing, laboratory and office equipment.

Cash Flows from Financing Activities

As described above, net cash provided by financing activities was \$30.1 and \$11.0 million for the nine months ended September 30, 2020 and 2019, respectively.

Capital Resource Requirements

As of September 30, 2020, we did not have any material commitments for capital expenditures.

Off-Balance Sheet Arrangements

We have no off-balance sheet transactions, arrangements, obligations (including contingent obligations), or other relationships with unconsolidated entities or other persons that have, or may have, a material effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources

Forward-Looking Statements and Risk Factors

Certain statements in this Quarterly Report on Form 10-Q are forward-looking statements within the meaning of the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (“Exchange Act”), that are based on management’s beliefs, assumptions and expectations and information currently available to management. All statements that address future operating performance, events or developments that we expect or anticipate will occur in the future are forward-looking statements, including without limitation, our expectations regarding the potential impacts of the COVID-19 pandemic on our business operations, cash flow, business development, and employees, our ability to execute on our strategic realignments, our post-market clinical data collection activities, benefits of our products to patients, our expectations with respect to product development and commercialization efforts, our ability to increase market and physician acceptance of our products, potentially competitive product offerings, the possibility that we may be unable to raise sufficient funds necessary for our anticipated operations, intellectual property protection, our ability to integrate acquired businesses, our expectations regarding anticipated synergies with and benefits from acquired businesses and other risks and uncertainties described in our filings with the SEC. In some cases, you can identify forward-looking statements by the following words: “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. Management believes that these forward-looking statements are reasonable as and when made. However, you should not place undue reliance on forward-looking statements because they speak only as of the date when made. We undertake no obligation to revise any forward-looking statements in order to reflect events or circumstances that might subsequently arise. Forward-looking statements are subject to a number of risks and uncertainties that could cause actual events to adversely differ from the expectations indicated in these forward-looking statements, including without limitation, the risks and uncertainties described in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2019](#), our [Quarterly Report on Form 10-Q for the period ended March 31, 2020](#), and in other reports filed thereafter with the SEC, which risk factors may be updated from time to time, and in this Quarterly Report on Form 10-Q for the quarter ended September 30, 2020. We operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for us to predict all risk factors and uncertainties. CHF Solutions may not actually achieve the plans, projections or expectations disclosed in forward-looking statements, and actual results, developments or events could differ materially from those disclosed in the forward-looking statements. Forward-looking statements are subject to a number of risks and uncertainties, including without limitation, the possibility that regulatory authorities do not accept our application or approve the marketing of our products, the possibility we may be unable to raise the funds necessary for the development and commercialization of our products, and those described in our filings with the SEC.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer (together, the “Certifying Officers”), as appropriate, to allow for timely decisions regarding required disclosure.

In designing and evaluating disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired objectives. Also, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. The design of any system of controls is based, in part, upon certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

As of September 30, 2020, the end of the period covered by this report, we conducted an evaluation, under the supervision and with the participation of management, including the Certifying Officers, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their stated objectives. Based on their evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at a reasonable assurance level as of September 30, 2020.

Changes in Internal Controls over Financial Reporting

There was no change in our internal control over financial reporting during our most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not currently subject to any material legal proceedings, nor, to our knowledge, is any other material litigation threatened against us.

ITEM 1A. RISK FACTORS

You should carefully consider the risks and uncertainties we describe in our [Annual Report on Form 10-K for the fiscal year ended December 31, 2019](#), our [Quarterly Report on Form 10-Q for the period ended March 31, 2020](#), and in other reports filed thereafter with the SEC, before deciding to invest in or retain shares of our common stock.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Not applicable.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

The exhibits filed as part of this Quarterly Report on Form 10-Q are listed in the Exhibit Index below

Exhibit Index
CHF Solutions, Inc.
Form 10-Q for the Quarterly Period Ended September 30, 2020

Exhibit Number	Exhibit Description	Incorporated By Reference			Exhibit Number	Filed Herewith	Furnished Herewith
		Form	File Number	Date of First Filing			
3.1	Fourth Amended and Restated Certificate of Incorporation	10	001-35312	February 1, 2012	3.1		
3.2	Certificate of Amendment to the Fourth Amended and Restated Certificate of Incorporation	8-K	001-35312	January 13, 2017	3.1		
3.3	Certificate of Amendment to the Fourth Amended and Restated Certificate of Incorporation	8-K	001-35312	May 23, 2017	3.1		
3.4	Certificate of Amendment to the Fourth Amended and Restated Certificate of Incorporation	8-K	001-35312	October 12, 2017	3.1		
3.5	Certificate of Amendment to the Fourth Amended and Restated Certificate of Incorporation	8-K/A	001-35312	October 16, 2020	3.1		
3.6	Form of Certificate of Designation of Series A Junior Participating Preferred Stock	8-K	001-35312	June 14, 2013	3.1		
3.7	Form of Certificate of Designation of Preferences, Rights and Limitations of Series F Convertible Preferred Stock	S-1/A	333-221010	November 17, 2017	3.7		
3.8	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation, as amended, of CHF Solutions, Inc	8-K	001-35312	January 2, 2019	3.1		
3.9	Certificate of Designation of Preferences, Rights and Limitations of Series G Convertible Preferred Stock	8-K	001-35312	March 13, 2019	3.1		
3.10	Certificate of Designation of Preferences, Rights and Limitations of Series H Convertible Preferred Stock	8-K	001-35312	January 29, 2020	3.1		
3.11	Second Amended and Restated Bylaws	8-K	001-35312	May 23, 2017	3.2		
4.1	Form of Warrant to Purchase Shares of Common Stock	S-1/A	333-24145	August 17, 2020	4.19		
10.1	Lock-Up and Voting Agreement	S-1/A	333-24145	August 17, 2020	4.20		

Exhibit Number	Exhibit Description	Incorporated By Reference			Exhibit Number	Filed Herewith	Furnished Herewith	
		Form	File Number	Date of First Filing				
10.2	Underwriting Agreement, dated as of August 19, 2020, by and between the Company and Ladenburg Thalman & Co. Inc.	8-K	001-35312	August 21, 2020	1.1			
10.3	Warrant Agency Agreement, dated as of August 21, 2020, between the Company and American Stock Transfer & Trust Company, LLC	8-K	001-35312	August 21, 2020	4.2			
10.4	First Amendment to the CHF Solution's, Inc. 2017 Equity Incentive Plan†	14A	001-35312	September 11, 2020	App. A			
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002						X	
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002						X	
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002							X
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002							X
101.INS	XBRL Instance Document							X
101.SCH	XBRL Taxonomy Extension Schema Document							X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document							X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document							X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document							X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document							X

† Indicates management compensatory plan, contract or arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CHF Solutions, Inc

Date: November 12, 2020

By: /s/ John L. Erb
John L. Erb
Chief Executive Officer and
Chairman of the Board
(principal executive officer)

Date: November 12, 2020

By: /s/ Claudia Drayton
Claudia Drayton
Chief Financial Officer
(principal financial officer)

CHIEF EXECUTIVE OFFICER'S 302 CERTIFICATION

I, John L. Erb, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of CHF Solutions, Inc. for the quarterly period ended September 30, 2020;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 12, 2020

/s/ John L. Erb

John L. Erb
Chief Executive Officer

CHIEF FINANCIAL OFFICER'S 302 CERTIFICATION

I, Claudia Drayton, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of CHF Solutions, Inc. for the quarterly period ended September 30, 2020.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 12, 2020

/s/ Claudia Drayton

Claudia Drayton
Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of CHF Solutions, Inc. (the "**Company**") on Form 10-Q for the quarterly period ended September 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "**Report**"), I, John L. Erb, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2020

/s/ John L. Erb
John L. Erb
Chief Executive Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of CHF Solutions, Inc. (the “**Company**”) on Form 10-Q for the quarterly period ended September 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the “**Report**”), I, Claudia Drayton, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2020

/s/ Claudia Drayton
Claudia Drayton
Chief Financial Officer