

CHEMBIO DIAGNOSTICS, INC.

Form 424B5

October 22, 2018

TABLE OF CONTENTS

The information in this preliminary prospectus supplement and the accompanying prospectus is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell nor do they solicit an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5)

Registration No. 333-227398

SUBJECT TO COMPLETION, DATED OCTOBER 22, 2018

PRELIMINARY PROSPECTUS SUPPLEMENT

(to Prospectus dated October 3, 2018)

\$25,000,000

Common Stock

We are offering shares of common stock having an aggregate offering price of \$25,000,000.

The common stock is listed on The Nasdaq Capital Market under the symbol CEMI. On October 19, 2018, the last reported sale price of the common stock on The Nasdaq Capital Market was \$9.65 per share.

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

	Per Share	Total Without Exercise of Over- Allotment Option	Total With Exercise of Over- Allotment Option
Public offering price	\$	\$	\$
Underwriting discounts and commissions paid by us ⁽¹⁾			
Proceeds, before expenses, to use			

⁽¹⁾ We have also agreed to reimburse the underwriters for certain expenses. See Underwriting on page S-17 of this prospectus supplement for additional information.

We have granted the underwriters the option to purchase up to an additional \$3,750,000 of shares of common stock from us within 30 days from the date of this prospectus supplement.

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

The underwriters expect to deliver the shares against payment on or about October , 2018.

Joint Book-Running Managers

Canaccord Genuity BTIG

Lead Manager

Craig-Hallum Capital Group

The date of this prospectus supplement is October , 2018.

TABLE OF CONTENTS**TABLE OF CONTENTS**

<u>Prospectus Supplement</u>	Page
<u>Prospectus Supplement Summary</u>	<u>S-1</u>
<u>Risk Factors</u>	<u>S-7</u>
<u>Forward-Looking Statements and Statistical Data</u>	<u>S-8</u>
<u>Use of Proceeds</u>	<u>S-9</u>
<u>Dilution</u>	<u>S-10</u>
<u>Price Range of Common Stock</u>	<u>S-11</u>
<u>Dividend Policy</u>	<u>S-11</u>
<u>Description of Common Stock</u>	<u>S-12</u>
<u>Material U.S. Federal Income Tax Considerations</u>	<u>S-13</u>
<u>Underwriting</u>	<u>S-17</u>
<u>Legal Matters</u>	<u>S-21</u>
<u>Experts</u>	<u>S-21</u>
<u>Where You Can Find More Information</u>	<u>S-21</u>
<u>Prospectus</u>	Page
<u>About this Prospectus</u>	<u>1</u>
<u>Special Note Regarding Forward-Looking Statements</u>	<u>2</u>
<u>About Chembio</u>	<u>4</u>
<u>Risk Factors</u>	<u>4</u>
<u>Use of Proceeds</u>	<u>4</u>
<u>Description of Common Stock</u>	<u>5</u>
<u>Description of Preferred Stock</u>	<u>7</u>
<u>Description of Warrants</u>	<u>9</u>
<u>Description of Units</u>	<u>10</u>
<u>Plan of Distribution</u>	<u>11</u>
<u>Legal Matters</u>	<u>13</u>
<u>Experts</u>	<u>13</u>
<u>Where You Can Find More Information</u>	<u>13</u>

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of common stock and related matters. The second part is the accompanying prospectus, which gives more general information, some of which does not apply to this offering. To the extent the information set forth in this prospectus supplement differs or varies from the information set forth in the accompanying prospectus or any document incorporated by reference, the information in this prospectus supplement shall control.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. Neither we nor the underwriters have authorized anyone to provide you with different information. This prospectus supplement and the accompanying prospectus are not an offer to sell, nor are they soliciting an offer to buy, the offered shares in any state or other jurisdiction where the offer or sale is not permitted. Information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus is only accurate as of the date it is presented.

For investors outside of the United States: Neither we nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus supplement and the accompanying prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus supplement and the accompanying prospectus outside of the United States.

The words we, our, us, and Chembio refer to Chembio Diagnostics, Inc., unless otherwise we indicate.

STAT-PAK, SURE CHECK and DPP are our registered trademarks, and our logo design is our trademark. For convenience, these trademarks appear in this prospectus supplement without ® and ™ symbols, but that practice does not mean that we will not assert, to the fullest extent under applicable law, our rights to the trademarks. This prospectus supplement also includes trademarks and service marks owned by other organizations.

S-i

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights selected information contained or incorporated by reference in this prospectus supplement. Because the following is only a summary, it does not contain all of the information you should consider before investing in common stock. Before making an investment decision, you should carefully read all of the information, including the risks factors and the financial statements and related notes, contained and incorporated by reference in this prospectus supplement and the accompanying prospectus.

Our Company

Chembio Diagnostics, Inc. is a leading provider of point-of-care diagnostic products for the detection and diagnosis of infectious diseases. We have been expanding our product portfolio based upon our proprietary DPP technology platform, which uses a small drop of blood from the fingertip to provide high-quality, cost-effective diagnostic results in approximately 15 minutes. We seek to build additional revenue streams by entering into strategic collaborations with leading global healthcare companies in order to leverage the DPP platform.

Compared with traditional lateral flow technology, the DPP technology platform provides enhanced sensitivity and specificity, advanced multiplexing capabilities, and, when used with the DPP Micro Reader, quantitative results. Our DPP HIV test provides sensitivity of 99.8% and specificity of 100%, and has been approved by the U.S. Food and Drug Administration, or FDA, and approved as a waived test under the Clinical Laboratory Improvement Amendments of 1988.

We are pursuing four corporate priorities, aimed at executing on our key building blocks to drive growth and operating efficiency:

- expand our core point-of-care infectious disease business;
- leverage our patented DPP technology and scientific expertise through collaborations;
- broaden our sales channels worldwide; and
- automate our U.S. manufacturing operations to increase capacity and margin.

Recent Developments

Proposed Acquisition

On October 17, 2018, we entered into a share purchase agreement pursuant to which we agreed to acquire all of the outstanding shares of opTricon GmbH, or opTricon, for a purchase price of \$5.5 million in cash. We refer to the share purchase agreement as the Purchase Agreement and to the transaction as the Proposed Acquisition. The Proposed Acquisition is scheduled to close on October 31, 2018, subject to standard closing conditions. The Purchase Agreement contains customary representations and warranties from us and from opTricon. Of the purchase price to be paid at closing, \$100,000 will be held in escrow for a purchase price adjustment based on the working capital of opTricon and \$750,000 will be held in escrow to satisfy certain claims that we may make against the sellers in accordance with the terms of the Purchase Agreement. We intend to fund the purchase price of the opTricon shares with a portion of our net proceeds from this offering, as described under [Use of Proceeds](#).

opTricon, based in Berlin, Germany, is a developer and manufacturer of handheld analyzers for rapid diagnostic tests. Since 2015 we and opTricon have been parties to an agreement under which we have collaborated in developing our DPP Micro Reader, a handheld, battery-operated analyzer that uses an innovative image sensor to provide, when combined with our DPP tests, a quantitative interpretation of diagnostic results. We intend that opTricon will become a Chembio Center-of-Excellence for optical technology and will serve as our European headquarters. As part of its ongoing business, opTricon will continue to develop and manufacture hand-held analyzers for original equipment

manufacturers that do not compete with us. The DPP Micro Reader is included in most of our new product development initiatives and regulatory approvals and submissions. If we complete the Proposed Acquisition, we will secure global commercial rights to opTricon's offerings and technology and we will be able to produce DPP Micro Readers at a reduced cost, thereby enabling us to promote DPP tests and DPP Micro Readers more actively across global markets.

S-1

TABLE OF CONTENTS

We cannot assure you that the Proposed Acquisition will close on the scheduled date or at all, or that we will achieve the intended benefits from the Proposed Acquisition. See Risk Factors—We may not generate the expected benefits of the Proposed Acquisition, and the Proposed Acquisition could disrupt our ongoing business, distract our management and increase our expenses.

Third Quarter 2018 Revenue

We preliminarily estimate that revenue for the third quarter of 2018 will be in the range of \$9.2 million to \$9.4 million, an increase of 21.3% to 23.9% from revenue of \$7.6 million in the third quarter of 2017.

The range for revenue for the third quarter of 2018 represents a preliminary estimate because our financial closing procedures for the quarter remain to be performed and other developments may arise by the time the financial results for the quarter are completed. As a result, there is a possibility that revenue will not be within the range we currently estimate. This information is provided by and is the responsibility of management. Our independent registered public accounting firm has not audited, reviewed, compiled or performed any procedures with respect to this information and, accordingly, does not express an opinion or any other form of assurance on it.

Purchase Commitment from Bio-Manguinhos

On September 4, 2018, we received a \$10.5 million commitment from Bio-Manguinhos to purchase test components and intermediate product for the production of DPP HIV and DPP Leishmania assays in Brazil and their subsequent supply to Brazil's Ministry of Health. We expect to supply these items during 2019. Bio-Manguinhos, a subsidiary of the Oswaldo Cruz Foundation (also known as Fiocruz), is responsible for the development and production of vaccines, diagnostics and biopharmaceuticals, primarily to meet the demands of Brazil's national public health system. We have a long-standing relationship with Bio-Manguinhos, supplying multiple products for point-of-care detection of HIV and other infectious diseases.

Industry

The DPP technology platform addresses the lateral flow test market, which includes infectious diseases, cardiac markers, cholesterol and lipids, pregnancy and fertility, and drugs of abuse. Based on our review of third-party reports and other information, we estimate that the market for lateral flow tests will increase from \$5.5 billion in 2017 to \$8.2 billion in 2022, representing a compound annual growth rate of 8.2%.

Infectious disease tests constitute the largest, and fastest growing, segment of the lateral flow test market. We currently are targeting lateral flow test solutions for three areas of infectious diseases: sexually transmitted disease, mosquito-borne disease and hepatitis. The market for lateral flow infectious disease tests is being driven by the high prevalence of infectious diseases globally, an increase in the geriatric population, growing demand for rapid test results, and advancements in multiplexing. Based on our review of third-party reports and other information, we estimate that the market for lateral flow infectious disease tests will increase from \$1.4 billion in 2017 to \$2.3 billion in 2022, representing a compound annual growth rate of 10.7%.

Products

Our point-of-care infectious disease portfolio is comprised of multiple commercial products, each serving unique customer requirements. The key advantages of our products include:

- only a tiny drop of blood from the fingertip is required;
- reliable test results are provided in approximately 15 minutes; and

based on our advanced multiplexing, results for more than one disease can be obtained from a single test.
S-2

TABLE OF CONTENTS

We have obtained U.S. and, directly or through our partners, selected international regulatory approvals for infectious disease tests as follows:

Product (Assay)	U.S. International
DPP HIV 1/2	
DPP HIV-Syphilis	
DPP Syphilis Screen & Confirm	
DPP Zika	
DPP Leishmaniasis	
STAT-PAK HIV 1/2	
STAT-PAK Chagas	
SURE CHECK HIV 1/2	
SURE CHECK HIV 1/2 Self Test	

Organic growth in our core infectious disease business is being driven by:

- growth in the overall market for lateral flow infectious disease tests, which we estimate will increase at an compound annual growth rate of 10.7% through 2022 (see —Industry above);

- our increased market penetration in existing markets and channels, including in the United States, Brazil, Africa and Europe;

- our registration of existing and new products in unchartered countries and regions, such as Latin America and Southeast Asia;

- our entry into new market segments, such as international HIV Self-Testing; and

advances in our product pipeline in sexually transmitted disease and fever and tropical disease, with key products including a multiplex test for HIV and syphilis in the U.S. market and tests for chikungunya, dengue, malaria and Zika.

We market and sell both individual and multiplex tests for sexually transmitted infectious diseases, such as HIV and syphilis. HIV and syphilis continue to be major global public health issues. According to World Health Organization estimates:

- HIV has claimed more than 35 million lives, including 940,000 in 2017. Approximately 36.9 million were living with HIV at the end of 2017, and 1.8 million were newly infected during 2017.

- There were 18.0 million prevalent cases of syphilis as of 2012, and 5.6 million new infections were estimated to occur annually.

Elimination of mother-to-child transmission, or MTCT, of both HIV and syphilis is a global health priority. In 2013, 1.9 million pregnant women were infected with syphilis worldwide. Congenital syphilis contributes significantly to infant mortality, accounting for 305,000 annual perinatal deaths worldwide in 2013. Globally, more than 1.4 million pregnant women were infected with HIV as of 2015, and MTCT of HIV is estimated to have resulted in over 150,000 infant cases in 2015.

We are seeking to address the global concerns related to HIV and syphilis co-infection through the development of a novel, multiplex test for both HIV and syphilis. We have developed a DPP HIV-Syphilis multiplex test and received regulatory approvals covering a number of international markets, including Brazil, Europe, Malaysia and Mexico. In the United States we have completed a clinical trial and filed a Pre-Market Approval Application with the FDA, which is in the review process. We believe we are well-positioned to be the first company to introduce a multiplex rapid test for HIV and syphilis.

We also market and sell tests for selected fever and tropical diseases, such as Chagas, leishmaniasis and Zika. The market for lateral flow testing for tropical and fever disease includes established markets for disease such as dengue and malaria, which the World Health Organization estimates together account for more than 600 million infections worldwide annually. There are also a number of emerging markets for lateral flow tests for diseases such as burkholderia, chikungunya, ebola, lassa, leptospirosis, Marburg, rickettsia and Zika. We are developing tests, using the DPP platform, to detect all of the aforementioned tropical and fever diseases, as stand-alone or multiplex assays.

S-3

TABLE OF CONTENTS

Since 2015 we have received over \$9 million of funding from some of the world's leading health organizations, which has helped us accelerate the expansion of our pipeline of infectious disease tests. Our collaborators have included Bill & Melinda Gates Foundation, The Paul G. Allen Family Foundation, Oswaldo Cruz Foundation (Fiocruz) and FIND, as well as U.S. government agencies such as Centers for Disease Control and Biomedical Advanced Research and Development Authority (U.S. Department of Health and Human Services). Many of the tests in our infectious disease pipeline are approaching commercialization, and several have received initial regulatory approvals:

Product	Collaborator	Phase I Feasibility	Phase II Development	Phase III Verification & Validation	Phase IV Clinical/ Regulatory	Phase V Commercial Launch
DPP HIV-Syphilis (US)	Self-funded				Submitted FDA Q1 2018	
DPP Dengue (Int'l)	Fiocruz				Submitted ANVISA ¹ Q3 2018	
DPP Dengue NS1 (Int'l)	Fiocruz			Ongoing		
DPP Zika (US/Int'l)	Fiocruz					Received FDA EUA ² , ANVISA, CE mark
DPP Chikungunya (Int'l)	Fiocruz					Received ANVISA, Malaysia
DPP Dengue-Zika-Chik (Int'l)	Fiocruz				Submitted ANVISA Q3 2018	Received Malaysia
DPP Malaria (Int'l)	Bill & Melinda Gates Foundation			Ongoing		
DPP Ebola (US, Int'l)	Centers for Disease Control				Submitted FDA EUA Q1 2018	
DPP Fever Panel (Africa)	The Paul G. Allen Family Foundation				Field Testing: Africa, South America	
DPP Fever Panel (Asia)	FIND		Ongoing			

(1) Agência Nacional de Vigilância Sanitária (Brazil)

(2) Emergency Use Authorization

Collaborations

We are building additional revenue streams by leveraging our patented DPP technology and scientific expertise through collaborations. Leading global healthcare organizations have chosen to collaborate with us based on our deep scientific expertise with our proven DPP technology platform and capabilities, our successful record of developing

DPP tests with a diverse set of collaborators including global commercial companies, governments and non-governmental organizations, and our extensive experience in obtaining regulatory approvals in the United States (FDA), Brazil (ANVISA), the European Union (CE mark) and Mexico (COFEPRIS), as well as from the World Health Organization (Prequalification, or PQ).

Product	Collaborator	Phase I Feasibility	Phase II Development	Phase III Verification & Validation	Phase IV Clinical/ Regulatory	Phase V Commercial Launch
DPP Undisclosed Biomarker	AstraZeneca			Ongoing		
DPP Cancer	Undisclosed			Ongoing		
Infectious Disease Portfolio	lumiraDx	Initiated Q3 2018				
DPP Concussion	Perseus Science		Ongoing			
DPP Bovine Tuberculosis	USDA		Ongoing			
DPP Hepatitis C Ab	FIND		Ongoing			
DPP Hepatitis C Ag	FIND	Initiated Q3 2018				

By leveraging our DPP technology platform, we are creating opportunities to expand into new markets such as cancer diagnostics, concussion and traumatic brain injury, and veterinary and we are broadening the application of our technology from point-of-care diagnostics to include companion diagnostics. Research and development costs related to the collaborations are fully funded by our collaborators.

TABLE OF CONTENTS

Sales Channels

Our products are sold globally, both directly and through distributors, to hospitals and clinics, physician offices, clinical laboratories, public health organizations, government agencies and consumers. Historically, we marketed and sold our products only into a handful of countries and regions. In recent years we have hired a small number of sales executives to begin building our own channels in key markets such as the United States, Europe, Latin America, Africa and Southeast Asia. With sales growth as an underlying objective, we are focused on increasing sales in existing geographies, expanding sales into new geographies, and broadening sales coverage in key markets.

Automation of U.S. Manufacturing

We are automating our U.S. manufacturing processes and expanding our manufacturing capacity. In late June 2018, we received delivery of our first automated line of manufacturing equipment, which we expect will commence production during the fourth quarter of 2018. This automated manufacturing line will be used for DPP test production and will allow assembly of various configurations of DPP tests on the line. The automated line will have an annual capacity of between five and ten million tests, depending on the test configuration, and will use vision-guided, robotic operation to improve inspection and quality control. As we transition from total manual to automated assembly, we believe the reduced variable costs can help drive product margin improvement.

Corporate Information

Our principal executive offices are located at 3661 Horseblock Road, Medford, New York 11763. Our telephone number is (631) 924-1135. Our website address is www.chembio.com. The information contained in, or accessible through, our corporate website does not constitute part of this prospectus supplement or the accompanying prospectus.

S-5

TABLE OF CONTENTS

Offering

Common stock offered
shares

Common stock to be outstanding after this offering
shares

Over-allotment option of common stock
shares

Use of proceeds

We estimate we will receive net proceeds from this offering of \$ million, after deducting underwriting discounts and commissions and estimated offering expenses. If the underwriters option to purchase additional shares is exercised in full, we estimate our net proceeds will be \$ million.

We intend to use \$5.5 million of our net proceeds from this offering to fund the Proposed Acquisition. We will use the remainder of the net proceeds (a) to support our business growth strategy, including increasing the size of our global sales force, broadening our U.S. manufacturing automation, expanding and improving our facilities, and advancing our product development efforts, and (b) for other general corporate purposes, which may include acquiring additional complementary businesses, technologies and products. See Use of Proceeds.

The Nasdaq Capital Market symbol

CEMI

Risk Factors

Investing in the common stock involves substantial risks. See the Risk Factors section of this prospectus supplement for a description of certain of the risks you should consider before investing in the common stock.

The number of shares of common stock to be outstanding following this offering is based on 14,461,184 shares outstanding as of October 15, 2018 and excludes as of that date 711,968 shares issuable upon the exercise of options with a weighted-average exercise price of \$5.62 per share, 20,725 shares underlying restricted stock units, and 20,667 shares reserved for future issuance under our equity incentive plan.

Unless otherwise indicated, this prospectus supplement reflects and assumes no exercise of outstanding stock options or of the underwriters over-allotment option.

S-6

TABLE OF CONTENTS

RISK FACTORS

An investment in common stock involves a high degree of risk. Before investing in common stock, you should carefully consider the risks described below and under "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, as well as all of the other information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. If any of the possible adverse events described below or in those sections actually occur, our business, business prospects, cash flow, results of operations or financial condition could be harmed, the trading price of common stock could decline, and you might lose all or part of your investment in common stock. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our operations and results.

We may not generate the expected benefits of the Proposed Acquisition, and the Proposed Acquisition could disrupt our ongoing business, distract our management and increase our expenses.

We entered into the Purchase Agreement with the expectation that the Proposed Acquisition will result in various benefits, including securing global commercial rights and reducing cost of goods. Achieving the anticipated benefits of the Proposed Acquisition is subject to a number of uncertainties, including whether our business and the business of opTricon can be integrated in an efficient and effective manner. We may not be able to accurately forecast the performance or ultimate impact of the Proposed Acquisition.

It is possible that the integration process could take longer than anticipated and could result in the loss of valuable employees, additional and unforeseen expenses, the disruption of our ongoing business, processes and systems, or inconsistencies in standards, controls, procedures, practices, policies and compensation arrangements, any of which could adversely affect our ability to achieve the anticipated benefits of the Proposed Acquisition. There may be increased risk due to integrating financial reporting and internal control systems. The integration process is subject to a number of uncertainties, and no assurance can be given that the anticipated benefits, expense savings and synergies will be realized or, if realized, the timing of their realization. Failure to achieve these anticipated benefits could result in increased costs or decreases in the amount of expected revenues and could adversely affect our future business, financial condition, operating results and prospects.

We will incur non-recurring expenses in connection with the Proposed Acquisition, including legal, accounting and other expenses. In general, these expenses are payable by us whether or not the Proposed Acquisition is completed. Additional unanticipated costs may be incurred following consummation of the Proposed Acquisition in the course of the integration of our business and the business of opTricon. We cannot be certain that the realization of efficiencies related to the integration of the two businesses will offset the transaction and integration costs in the near term or any losses from undiscovered liabilities not covered by an indemnification from the sellers of opTricon.

We will have broad discretion as to the use of the net proceeds from this offering, and we may not use the net proceeds effectively.

This offering is not conditioned upon the closing of, and we are not required to use the net proceeds therefrom to consummate, the Proposed Acquisition. Accordingly, none of the net proceeds from this offering will be designated for a specific use. Under these circumstances, we will have broad discretion in the application of the net proceeds, and we may spend the net proceeds in ways that do not improve our results of operations or enhance the value of common stock or with which stockholders disagree. Our failure to apply these funds effectively could have a material adverse effect on our business and financial condition and could cause the price of common stock to decline. Pending the use of the net proceeds, we may invest the net proceeds in a manner that does not produce income or that loses value.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

Since the price per share of the common stock being offered is substantially higher than the net tangible book value per share of the common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. If you purchase shares in this offering you will suffer immediate and substantial dilution of \$ per share in the net tangible book value of the common stock. See Dilution below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

S-7

TABLE OF CONTENTS

FORWARD-LOOKING STATEMENTS AND STATISTICAL DATA

Special Note Regarding Forward-Looking Statements

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference in these documents contain or incorporate by reference forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act. These forward-looking statements represent plans, estimates, objectives, goals, guidelines, expectations, intentions, projections and statements of our beliefs concerning future events, business plans, objectives, expected operating results and the assumptions upon which those statements are based. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate or imply future results, performance or achievements, and are typically identified with words such as may, could, should, will, would, believe, anticipate, estimate, expect, intend, plan, or words or phrases of similar meaning. We caution that the forward-looking statements are based largely on our expectations and are subject to a number of known and unknown risks and uncertainties that are subject to change based on factors which are, in many instances, beyond our control. Actual results, performance or achievements could differ materially from those contemplated, expressed, or implied by the forward-looking statements.

The following factors, among others, could cause our financial performance to differ materially from that expressed in such forward-looking statements:

- our ability to obtain or maintain necessary regulatory approvals for some of our products;
- the timely development of competitive new products and services, and the acceptance of those products and services by new and existing customers;
- the lack of availability of alternative third-party suppliers for certain important product components;
- the timely development of competitive new products and services, and the acceptance of these products and services by new and existing customers;
- the willingness of users to substitute competitors' products and services for our products and services;
- new developments in health treatments or new non-diagnostic products that reduce or eliminate the demand for our products;
- changes in consumer spending and savings habits;
- the strength of the U.S. economy in general and the strength of the local economies in which we operate;
- geopolitical conditions, including acts or threats of terrorism, actions taken by the United States or other governments in response to acts or threats of terrorism and/or military conflicts, which could impact business and economic conditions in the United States and abroad;
- the effects of, and changes in, trade, monetary and fiscal policies and laws, including interest rate policies;
- inflation, interest rate, market and monetary fluctuations;
- availability of resources for introduction and marketing of our products;
- technological changes;
- our ability to attract and retain key employees;
- continued funding of, and our ability to participate in, large testing programs in the United States and worldwide;
- uncertainty as to our future profitability;
- the impact of changes in financial services policies, laws and regulations, including those concerning taxes, banking, securities and insurance, and the application thereof by regulatory bodies;
- the effect of acquisitions we may make, including the failure to achieve expected revenue growth or expense savings;
- the growth and profitability of non-interest or fee income being less than expected; and
- unanticipated regulatory or judicial proceedings.

TABLE OF CONTENTS

Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading **Risk Factors** of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in these documents completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. We do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

Industry and Market Data

This prospectus supplement contains estimates, projections and other data concerning our industry, our business, and the markets for our products. Where expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by World Health Organization. We also include data that we have compiled, obtained, identified or otherwise derived from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. Other than World Health Organization, we do not expressly refer to the sources from which this data is derived. While we are not aware of any misstatements regarding any third-party data presented in, or underlying or supporting data presented in, this prospectus supplement, information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information.

USE OF PROCEEDS

We estimate that the net proceeds from this offering, after deducting underwriting discounts and commissions and estimated offering expenses, will total \$ million or, if the underwriters' option to purchase additional shares is exercised in full, \$ million.

We intend to use \$5.5 million of our net proceeds from this offering to fund the Proposed Acquisition, which is described above in **Prospectus Supplement Summary—Our Company—Recent Developments—Proposed Acquisition**. We will use net proceeds not applied in the Proposed Acquisition (a) to support our business growth strategy, including increasing the size of our global sales force, broadening our U.S. manufacturing automation, expanding and improving our facilities, and advancing our product development efforts, and (b) for other general corporate purposes, which may include acquiring complementary businesses, technologies and products other than the Proposed Acquisition. We assess acquisition opportunities on an ongoing basis, and we cannot assure you that we will make any acquisitions in the future.

Our expected use of the net proceeds represents our current intentions based upon our present plans and business conditions. The amounts and timing of our actual expenditures may vary significantly from our expectations depending upon numerous factors, including our operating costs and capital expenditures and the factors described or referenced under **Risk Factors**. Because we cannot currently specify with any certainty the particular uses of the net proceeds, our management will have broad discretion in the application of the net proceeds.

Pending use of the net proceeds, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing instruments, certificates of deposit, or direct or guaranteed obligation of the U.S. government.

S-9

TABLE OF CONTENTS**DILUTION**

If you invest in the common stock, you will experience dilution to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of the common stock immediately after this offering.

Our net tangible book value as of June 30, 2018 was \$18.8 million, or \$1.33 per share of common stock. Net tangible book value per share is equal to our total net assets minus intangible assets and goodwill, divided by the number of shares of common stock outstanding. After giving effect to our receipt of the net proceeds of this offering, after deducting underwriting discounts and commissions and estimated offering expenses, our as adjusted net tangible book value would have been \$ million, or \$ per share of common stock, as of June 30, 2018. This would represent an immediate increase in net tangible book value of \$ per share to existing stockholders and immediate dilution of \$ per share to investors purchasing shares in this offering. The following table illustrates this calculation:

Public offering price per share	\$
Net tangible book value per share as of June 30, 2018	1.33
Increase per share attributable to this offering	\$
As adjusted net tangible book value per share after this offering	
Dilution per share to new investors	\$

If the underwriters exercise their option in full to purchase an additional shares of common stock at the public offering price, our as adjusted net tangible book value per share after the offering would have been \$ million, or \$ per share of common stock, as of June 30, 2018. This would represent an increase in net tangible book value of \$ per share to existing stockholders and immediate dilution of \$ per share to new investors.

For purposes of the above illustration of dilution per share to investors participating in this offering, the number of shares of common stock to be outstanding following this offering is based on 14,173,620 shares outstanding as of June 30, 2018 and excludes:

- 665,093 shares issuable as of that date upon the exercise of outstanding options with a weighted-average exercise price of \$5.21 per share at June 30, 2018 and 711,968 shares issuable as of that date upon the exercise of outstanding options with a weighted-average exercise price of \$5.62 per share at October 15, 2018;
- no shares underlying restricted stock units at June 30, 2018 and 20,725 shares underlying restricted stock units at October 15, 2018;
- 287,564 shares of restricted stock issued on October 8, 2018; and
- 375,841 shares reserved for future issuance under our equity incentive plan at June 30, 2018 and 20,667 shares reserved for future issuance under our equity incentive plan at October 15, 2018.

The above assumes no exercise of outstanding options to purchase shares of the common stock. The exercise of outstanding options having an exercise price less than the offering price will increase dilution to new investors.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

TABLE OF CONTENTS**PRICE RANGE OF COMMON STOCK**

The common stock trades on The Nasdaq Capital Market under the symbol CEMI. The following table sets forth the high and low sales prices for common stock as reported by The Nasdaq Capital Market, for the periods indicated.

	High	Low
Year Ending December 31, 2018		
First Quarter	\$ 9.00	\$ 7.05
Second Quarter	11.10	7.80
Third Quarter	11.50	9.20
Fourth Quarter (through October 19, 2018)	10.50	9.20
Year Ended December 31, 2017		
First Quarter	\$ 6.65	\$ 5.25
Second Quarter	6.95	5.25
Third Quarter	6.70	5.85
Fourth Quarter	8.35	5.95
Year Ended December 31, 2016		
First Quarter	\$ 5.99	\$ 4.28
Second Quarter	9.12	5.87
Third Quarter	8.45	5.15
Fourth Quarter	7.42	6.60

As of October 19, 2018, the last sale price of common stock as reported on The Nasdaq Capital Market was \$9.65 per share. As of October 15, 2018, there were 124 holders of record of common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

DIVIDEND POLICY

We have never declared or paid cash dividends on the common stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board may deem relevant. We have not declared dividends on the common stock in the past and we currently anticipate that retained earnings, if any, in the future will be applied to our expansion and development rather than the payment of dividends.

TABLE OF CONTENTS

DESCRIPTION OF COMMON STOCK

We are authorized to issue (a) 100,000,000 shares of common stock, \$0.01 par value per share, and (b) 10,000,000 shares of preferred stock, \$0.01 par value per share, of which 30,000 shares of preferred stock were designated Series A Convertible Preferred Stock. As of October 15, 2018, no shares of preferred stock were outstanding and there were outstanding:

• 14,461,184 shares of common stock held by approximately 124 stockholders of record
• stock options exercisable, upon vesting, to acquire 711,968 shares of common stock; and
• 20,725 shares of common stock underlying restricted stock units.

The actual number of holders of common stock is greater than the number of record holders and includes holders who are beneficial owners but hold their shares in street name by brokers and other nominees. The number of holders of record also does not include stockholders that may hold shares in trust or by other entities.

Holders of common stock are entitled to one vote for each share held by them of record on our books in all matters to be voted on by the stockholders. Holders of common stock have no preemptive or subscription rights and are not subject to further calls or assessments. There are no redemption or sinking fund provisions applicable to the common stock. Under our corporate documents and Nevada law, the election of directors requires a plurality of the votes cast by holders of our outstanding common stock at the annual meeting while other fundamental corporate actions, such as mergers and sales of substantial assets, or amendments of our articles of incorporation require the approval of the holders of a majority of our outstanding common stock. The number of shares of our authorized common stock may be increased and altered from time to time in the manner prescribed by Nevada law upon the vote of at least a majority of the shares entitled to vote on the matter.

Our shares of common stock are traded on The Nasdaq Capital Market under the symbol CEMI. The transfer agent and registrar for the common stock is Action Stock Transfer Corp.

For more information regarding our capital stock, including a summary of the rights of the common stock and our preferred stock, please see Description of Common Stock beginning on page 5 of the accompanying prospectus and Description of Preferred Stock beginning on page 7 of the accompanying prospectus.

TABLE OF CONTENTS

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership and disposition of common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of common stock.

This discussion is limited to Non-U.S. Holders that hold common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers or traders in securities;
- controlled foreign corporations, passive foreign investment companies, and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell common stock under the constructive sale provisions of the Code;
- tax-qualified retirement plans; and
- qualified foreign pension funds as defined in Section 897(1)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for U.S. federal income tax purposes holds common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

TABLE OF CONTENTS

Definition of Non-U.S. Holder

For purposes of this discussion, a Non-U.S. Holder is any beneficial owner of common stock that is neither a U.S. person nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and all substantial decisions of which are subject to the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Distributions

As described in the section titled Dividend Policy, we do not anticipate paying any cash dividends in the foreseeable future. However, if we do make distributions of cash or property on common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under —Sale or Other Taxable Disposition.

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable tax treaties.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

Subject to the discussions below regarding backup withholding and FATCA, a Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of common stock unless:

-

the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);

the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or

S-14

TABLE OF CONTENTS

common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by certain U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder will not be subject to U.S. federal income tax if common stock is regularly traded, as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on common stock will not be subject to backup withholding, provided the Non-U.S. Holder certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above or the Non-U.S. Holder otherwise establishes an exemption. Proceeds of a disposition of common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, common stock paid to a foreign financial institution or a non-financial foreign entity (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any substantial United States owners (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain specified United States persons or United States-owned foreign entities (each as

S-15

TABLE OF CONTENTS

defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on common stock, and, beginning on January 1, 2019, will apply to payments of gross proceeds from the sale or other disposition of such stock.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in common stock.

S-16

TABLE OF CONTENTS**UNDERWRITING**

We are offering the shares of common stock described in this prospectus supplement through the underwriters listed below. Subject to the terms and conditions set forth in the underwriting agreement between us and Canaccord Genuity LLC and BTIG, LLC, as representatives of the underwriters, we have agreed to sell to the underwriters, and the underwriters have severally agreed to purchase from us, the respective number of shares of common stock shown opposite their name below:

<u>Underwriter</u>	Number of Shares
Canaccord Genuity LLC	
BTIG, LLC	
Craig-Hallum Capital Group LLC	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed to purchase all of the shares sold under the underwriting agreement if any of them are purchased.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act and to contribute to payments the underwriters may be required to make for certain liabilities.

We have granted an option to the underwriters to purchase up to additional shares of common stock. This option is exercisable during the 30-day period after the date of this prospectus supplement. The underwriters may exercise this option to cover over-allotments made in connection with this offering. If this option is exercised, each of the underwriters will purchase approximately the same percentage of the additional shares as the number of shares of common stock to be purchased by that underwriter, as shown in the table above, bears to the total shown.

The underwriters are offering the shares subject to prior sale, when, as and if issued to and accepted by the underwriters, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The underwriters have advised us that they propose to offer the shares of common stock directly to the public at the public offering price set forth on the cover page of this prospectus supplement, and to dealers at the public offering price less a selling concession not in excess of \$ per share. After the public offering of the shares, the underwriters may change the offering price and other selling terms.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters, and the proceeds, before expenses, to us in connection with this offering.

Per Share	Total Without Exercise of Over- Allotment	Total With Exercise of Over- Allotment Option
----------------------	--	--

		Option	
Public offering price	\$	\$	\$
Underwriting discounts and commissions paid by us			
Proceeds, before expenses, to us			

The expenses of the offering payable by us in connection with the offering, other than the underwriting discounts and commissions and the expense reimbursement referred to below, are estimated to be approximately \$. We are responsible for all of our expenses related to the offering, whether or not it is completed.

In addition to the underwriting discounts and commissions to be paid by us, we have agreed to reimburse the underwriters for up to \$100,000 of their out-of-pocket expenses incurred in connection with the offering, including the reasonable fees and disbursements of counsel to the underwriters. In accordance with FINRA Rule 5110, this reimbursed fee is deemed underwriting compensation for this offering.

S-17

TABLE OF CONTENTS

Lock-Up Agreements

We and all of our current directors and executive officers are subject to lock-up agreements that, subject to certain exceptions, prohibit us and them from offering, pledging, selling, contracting to sell, selling any option or contracting to purchase, purchasing any option or contracting to sell, granting any option, right or warrant to purchase, or otherwise transferring or disposing of, directly or indirectly, any shares of common stock or any of our securities convertible into or exercisable or exchangeable for the common stock, or publicly disclosing the intention to make any offer, sale, pledge or disposition, or entering into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the common stock or such other of our securities, whether any such transaction described above is to be settled by delivery of the common stock or such other of our securities, in cash or otherwise or make any demand for or exercise any right with respect to the registration of any shares of the common stock or any security convertible into or exercisable or exchangeable for the common stock without the prior written consent of Canaccord Genuity LLC and BTIG, LLC, as representatives of the underwriters. These restrictions will be in effect for a period of 90 days after the date of this prospectus supplement.

The lock-up agreements do not prohibit us from issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement. The lock-up provisions do not prevent us from selling securities to the underwriters pursuant to the underwriting agreement, or from granting options to acquire securities under our existing stock option plans or issuing shares upon the exercise or conversion of securities outstanding on the date of this prospectus supplement.

Price Stabilization, Short Positions and Penalty Bids

In connection with the offering, the underwriters may purchase and sell the common stock in the open market. These transactions may include stabilizing transactions, passive market making and purchases to cover syndicate short positions created in connection with the offering. Until distribution of the shares of the common stock is completed, rules of the Securities and Exchange Commission, or SEC, may limit the underwriters from bidding for and purchasing shares of the common stock. However, the underwriters may engage in transactions that stabilize the price of the shares of the common stock, such as bids or purchases to peg, fix or maintain that price. A stabilizing transaction is a bid for or the purchase of common stock on behalf of an underwriter in the open market for the purpose of fixing or maintaining the price of the shares of common stock. Stabilizing transactions may cause the price of shares of the common stock to be higher than the price that might otherwise prevail in the open market.

If an underwriter creates a short position in the common stock in connection with the offering (i.e., if it sells more shares of the common stock than are listed on the cover page of this prospectus supplement), the underwriter may reduce that short position by purchasing shares of the common stock in the open market. A covering transaction is the bid for or purchase of common stock on behalf of an underwriter to reduce a short position incurred by the underwriter in connection with the offering. A short position is more likely to be created if the underwriter is concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase shares in this offering. Similar to other purchase transactions, an underwriter's purchases to cover the short sales may have the effect of raising or maintaining the market price of our shares or preventing or retarding a decline in the market price of our shares. As a result, the price of our shares may be higher than the price that might otherwise prevail in the open market.

An underwriter may also impose a penalty bid, whereby the underwriter may reclaim selling concessions allowed to syndicate members or other broker-dealers in respect of the common stock sold in the offering for their account if the underwriter repurchases the shares in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the common stock, which may be higher than the price that might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the shares of the common

stock in that it discourages resales of those shares of the common stock.

In connection with the offering, the underwriters may also engage in passive market making transactions in the common stock on The Nasdaq Capital Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of the common stock in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

S-18

TABLE OF CONTENTS

The underwriters have advised us that these transactions may be effected on The Nasdaq Capital Market or otherwise. Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of shares of the common stock. In addition, neither we nor the underwriters make any representation that the underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by the underwriters of the offering, or by their affiliates. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on such websites and any information contained in any other website maintained by the underwriters or any of their affiliates is not part of this prospectus supplement, the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part, has not been approved or endorsed by us or the underwriters in their capacities as underwriters and should not be relied upon by investors.

Disclaimers About Non-U.S. Jurisdictions

United Kingdom

The underwriters:

have only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of Financial Services and Markets Act 2000 (as amended) (FSMA)) to persons who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 or in circumstances in which section 21 of FSMA does not apply to us; and

have complied with and will comply with all applicable provisions of FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Switzerland

The securities will not be offered, directly or indirectly, to the public in Switzerland and this prospectus supplement and the accompanying prospectus do not constitute a public offering prospectus as that term is understood pursuant to article 652a or 1156 of the Swiss Federal Code of Obligations.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), an offer of our securities may not be made to the public in a Relevant Member State other than:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the relevant dealer or dealers nominated by us for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive;

provided that no such offer of our securities shall require us or the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement prospectus pursuant to Article 16 of the Prospectus Directive.

For the purposes of this description, the expression an offer of our securities to the public in relation to any of our securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe for the securities, as the expression may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that member state, and the expression Prospectus Directive means European Union Directive 2003/71/EC (as amended by Directive 2010/73/EU) and includes any relevant implementing measure in each Relevant Member State.

S-19

TABLE OF CONTENTS

Neither this prospectus supplement nor the accompanying prospectus is a prospectus for the purposes of the Prospectus Directive. This prospectus supplement and the accompanying prospectus have been prepared on the basis that any offer of our securities in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of securities. We have not authorized and do not authorize the making of any offer of securities through any financial intermediary on our behalf, other than offers made by the underwriters and their respective affiliates, with a view to the final placement of the securities as contemplated in this document. Accordingly, no purchaser of the securities, other than the underwriters, is authorized to make any further offer of securities on our behalf or on behalf of the underwriters.

Canada

The securities may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the prospectus supplement or the accompanying prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Relationship with Chembio

In the ordinary course of business, the underwriters and their affiliates may provide various investment banking, financial advisory and other services to us for which they may receive customary compensation. In the course of their business, the underwriters and their affiliates may actively trade our securities for their own account or for the accounts of customers, and, accordingly the underwriters and their affiliates may at any time hold long or short positions in such securities.

Listing

The common stock is listed on The Nasdaq Capital Market under the symbol CEMI.

Transfer Agent

The transfer agent and registrar for the common stock is Action Stock Transfer Corp.

TABLE OF CONTENTS

LEGAL MATTERS

The validity of the shares of common stock being offered will be passed upon for us by Ballard Spahr LLP, Las Vegas, Nevada. Certain other legal matters in connection with this offering will be passed upon for us by K&L Gates LLP, Boston, Massachusetts. Certain legal matters in connection with this offering will be passed upon for the underwriters by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements and schedule as of December 31, 2017 and 2016 and for the years then ended, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2017 incorporated by reference in this prospectus supplement and the accompanying prospectus have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3, of which this prospectus supplement and the accompanying prospectus are a part, under the Securities Act, to register the shares of common stock offered by this prospectus supplement. This prospectus supplement does not, however, contain all the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the securities offered by this prospectus supplement, reference is made to the registration statement. Statements contained in this prospectus supplement concerning the provisions of such documents are necessarily summaries of such documents and each such statement is qualified in its entirety by reference to the copy of the applicable document filed with the SEC.

We file periodic reports, proxy statements and other information with the SEC. Our filings with the SEC are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Our filings with the SEC are also available to the public on our website at www.chembio.com, as well as through document retrieval services. You may read and copy any periodic reports, proxy statements or other information we file at the SEC's public reference room in Washington, D.C., which is located at the following address: Public Reference Room, 100 F Street N.E., Washington, D.C. 20549. You can request copies of these documents, upon payment of a duplicating fee, by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the SEC's public reference rooms.

We incorporate by reference into this prospectus supplement the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus supplement and information that we file subsequently with the SEC will automatically update this prospectus supplement. We incorporate by reference the documents listed below and any filings we make with the SEC under Section 13(a), 13(c), 14, or 15(d) of the Exchange Act after the initial filing of the registration statement that contains this prospectus supplement and prior to the time that we sell all the securities offered by this prospectus supplement, provided, however, that we are not incorporating any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including any Compensation Committee report and performance graph and including information furnished under either Item 2.02 or Item 7.01 of any Current Report on Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

• our Annual Report on Form 10-K for the year ended December 31, 2017 with the SEC, filed on March 8, 2018;
• our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 9, 2018, and for the quarter ended June 30, 2018, filed with the SEC on August 8, 2018.

our Current Reports on Form 8-K filed with the SEC on February 8, 2018, February 9, 2018, February 13, 2018, February 27, 2018, May 16, 2018, July 19, 2018, July 30, 2018, August 13, 2018, September 17, 2018 and October 22, 2018;

the portions of our Proxy Statement on Schedule 14A filed with the SEC on March 28, 2018 that have been incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2017;

S-21

TABLE OF CONTENTS

the description of the common stock contained in our Form 8-A filed with the SEC on June 6, 2012 pursuant to Sections 12(b) and 12(g) of the Exchange Act; and
the description of our Preferred Purchase Rights contained in our Form 8-A filed with the SEC on March 8, 2016, including any amendment to that form that we may file in the future for the purpose of updating the description of our Preferred Purchase Rights.

You may request a copy of these filings (other than an exhibit to a filing unless that exhibit is specifically incorporated by reference into that filing) at no cost, by writing to or telephoning us at the following address and telephone number:

Chembio Diagnostics, Inc.
3661 Horseblock Road
Medford, New York 11763
(631) 924-1135
ATTN: Investor Relations

S-22

TABLE OF CONTENTS

PROSPECTUS

\$50,000,000

Common Stock
Preferred Stock
Warrants
Units

We may offer from time to time common stock, preferred stock, warrants and units. We may also issue any of the common stock, preferred stock, warrants or units upon the conversion, exchange or exercise of any of the securities listed above. The aggregate initial offering price of the securities that we offer will not exceed \$50,000,000.

We will offer the securities in amounts, at prices and on terms to be determined by market conditions at the time of the offering. We will provide the specific terms of these securities in supplements to this prospectus. You should read this prospectus and the accompanying prospectus supplement carefully before you invest.

Our common stock is listed on the Nasdaq Capital Market under the symbol CEMI.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis.

You should refer to the risk factors included or incorporated by reference herein and that may be included in a prospectus supplement, and you should carefully consider that information before investing in our securities.

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

The date of this prospectus is October 3, 2018.

TABLE OF CONTENTS

TABLE OF CONTENTS

	Page
<u>ABOUT THIS PROSPECTUS</u>	<u>1</u>
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>2</u>
<u>ABOUT CHEMBIO</u>	<u>4</u>
<u>RISK FACTORS</u>	<u>4</u>
<u>USE OF PROCEEDS</u>	<u>4</u>
<u>DESCRIPTION OF COMMON STOCK</u>	<u>5</u>
<u>DESCRIPTION OF PREFERRED STOCK</u>	<u>7</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>9</u>
<u>DESCRIPTION OF UNITS</u>	<u>10</u>
<u>PLAN OF DISTRIBUTION</u>	<u>11</u>
<u>LEGAL MATTERS</u>	<u>13</u>
<u>EXPERTS</u>	<u>13</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>13</u>

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, utilizing the shelf registration process. Under this shelf process, we may sell, either separately or together, any combination of the securities described in this prospectus in one or more offerings for cash. We may also issue any of the common stock, preferred stock, warrants or units upon conversion, exchange or exercise of any of the securities mentioned above. The aggregate amount of securities that we may offer under the registration statement is \$50,000,000, denominated in U.S. dollars or the equivalent in foreign currencies, currency units or composite currencies.

This prospectus provides you with a general description of the securities that we may offer. Each time we sell or otherwise issue securities pursuant to this prospectus, we will provide a prospectus supplement that will contain specific information about the offering and the specific terms of the securities being offered. The prospectus supplement also may add, update or change information contained in this prospectus. You should read both this prospectus and the applicable prospectus supplement, together with the additional information provided in any free writing prospectus or described under the heading **Where You Can Find More Information**.

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the SEC website, our website, or at the SEC offices, which are referred to in this prospectus under the heading **Where You Can Find More Information**.

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any prospectus supplement or any applicable free writing prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading **Risk Factors** contained in this prospectus, the applicable prospectus supplement and any applicable free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

The words **we**, **our**, **us**, and **Chembio** refer to Chembio Diagnostics, Inc., unless we indicate otherwise.

Our logo is one of our trademarks. This prospectus also includes or incorporates by reference trademarks, tradenames, and service marks that are the property of other organizations. For convenience, our logo appears in this prospectus without the TM symbol, but those uses are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights to this trademark.

TABLE OF CONTENTS

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplements contain or incorporate by reference forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements represent plans, estimates, objectives, goals, guidelines, expectations, intentions, projections and statements of our beliefs concerning future events, business plans, objectives, expected operating results and the assumptions upon which those statements are based. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate or imply future results, performance or achievements, and are typically identified with words such as may, could, should, will, would, believe, anticipate, estimate, expect, words or phrases of similar meaning. We caution that the forward-looking statements are based largely on our expectations and are subject to a number of known and unknown risks and uncertainties that are subject to change based on factors which are, in many instances, beyond our control. Actual results, performance or achievements could differ materially from those contemplated, expressed, or implied by the forward-looking statements.

The following factors, among others, could cause our financial performance to differ materially from that expressed in such forward-looking statements:

- our ability to obtain or maintain necessary regulatory approvals for some of our products;
- the timely development of competitive new products and services, and the acceptance of these products and services by new and existing customers;
- the lack of availability of alternate third-party suppliers for certain important product components;
- the timely development of competitive new products and services, and the acceptance of these products and services by new and existing customers;
- the willingness of users to substitute competitors' products and services for our products and services;
- new developments in health treatments or new non-diagnostic products that reduce or eliminate the demand for our products;
- changes in consumer spending and savings habits;
- the strength of the United States economy in general and the strength of the local economies in which the Company conducts operations;
- geopolitical conditions, including acts or threats of terrorism, actions taken by the United States or other governments in response to acts or threats of terrorism and/or military conflicts, which could impact business and economic conditions in the United States and abroad;
- the effects of, and changes in, trade, monetary and fiscal policies and laws, including interest rate policies of the Board of Governors of the Federal Reserve System, or the Federal Reserve Board; inflation, interest rate, market and monetary fluctuations;
- availability of resources for introduction and marketing of our products;
- technological changes;
- our ability to attract and retain key employees;
- continued funding of, and our ability to participate in, large testing programs in the U.S. and worldwide;
- uncertainty as to our future profitability;
- the impact of changes in financial services policies, laws and regulations, including laws, regulations and policies concerning taxes, banking, securities and insurance, and the application thereof by regulatory bodies;
- the effect of acquisitions we may make, including, without limitation, the failure to achieve the expected revenue growth and/or expense savings from such acquisitions;

TABLE OF CONTENTS

the growth and profitability of non-interest or fee income being less than expected; and
unanticipated regulatory or judicial proceedings.

Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading "Risk Factors" of this prospectus and in our SEC filings. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should read this prospectus, any accompanying prospectus supplement, the documents we have filed with the SEC that are incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. We do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

TABLE OF CONTENTS

ABOUT CHEMBIO

We are a leading point-of-care diagnostics company focused on detecting and diagnosing infectious diseases. Our business commenced in 1985.

Our principal executive offices are located at 3661 Horseblock Road, Medford, New York 11763. Our telephone number is (631) 924-1135. Our website address is www.chembio.com. The information contained in, or accessible through, our corporate website does not constitute part of this prospectus.

RISK FACTORS

An investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves a high degree of risk. Before acquiring any of such securities, you should carefully consider the risk factors incorporated by reference in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and any subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K that we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of securities as set forth in the applicable prospectus supplement.

TABLE OF CONTENTS

DESCRIPTION OF COMMON STOCK

General

This section of the prospectus describes the material terms and provisions of our common stock. When we offer to sell or otherwise issue shares of our common stock, we will describe the specific terms of the offering and the shares in a supplement to this prospectus. This summary does not purport to be exhaustive and is qualified in its entirety by reference to our articles of incorporation, as amended, our bylaws, as amended, and the applicable provisions of Nevada law.

Our authorized capital stock includes 100,000,000 shares of our common stock, par value \$0.01 per share. As of September 13, 2018, there were outstanding:

• shares of common stock held by approximately 124 stockholders of record

• 14,173,620 shares of common stock and

• stock options exercisable, upon vesting, to acquire 711,968 shares of common stock.

The actual number of stockholders is greater than the number of record holders and includes stockholders who are beneficial owners but hold their shares in street name by brokers and other nominees. The number of holders of record also does not include stockholders that may hold shares in trust or by other entities.

Our authorized common stock may be increased and altered from time to time in the manner prescribed by Nevada law upon the vote of at least a majority of the shares entitled to vote on the matter. Our shares of common stock are traded on the Nasdaq Capital Market under the symbol CEMI.

Holders of our common stock are entitled to one vote for each share held by them of record on our books in all matters to be voted on by the stockholders. Holders of our common stock are entitled to receive dividends as may be legally declared from time to time by the board of directors, and in the event of our liquidation, dissolution or winding up, to share ratably in all assets remaining after payment of liabilities and amounts owed with respect to any preferred stock or other senior securities. Declaration of dividends on common stock is subject to the discretion of the board of directors and will depend upon a number of factors, including our future earnings, capital requirements, financial condition, and/or restrictions, if any, imposed by debt instruments or senior securities. We have not declared dividends on our common stock in the past and we currently anticipate that retained earnings, if any, in the future will be applied to our expansion and development rather than the payment of dividends.

The holders of common stock have no preemptive or subscription rights and are not subject to further calls or assessments. There are no redemption or sinking fund provisions applicable to the common stock. Under our corporate documents and Nevada law, the election of directors requires a plurality of the votes cast by holders of our outstanding common stock at the annual meeting while other fundamental corporate actions, such as mergers and sales of substantial assets, or amendments of our articles of incorporation require the approval of the holders of a majority of our outstanding common stock.

Transactions with Interested Persons

Under Nevada law, a transaction with the Company (i) in which a Company director or officer has a direct or indirect interest, or (ii) involving another corporation, firm or association in which one or more of the Company's directors or officers are directors or officers of the corporation, firm or association or have a financial interest in the corporation, firm or association, is not void or voidable solely because of the director's or officer's interest or common role in the transaction if any one of the following circumstances exists:

the fact of the common directorship, office or financial interest is known to the board of directors or a committee of the board of directors and a majority of disinterested directors on the board of directors (or on the committee) authorized, approved or ratified the transaction;

the fact of the common directorship, office or financial interest is known to the stockholders and disinterested stockholders holding a majority of the shares held by disinterested stockholders authorized, approved or ratified the transaction;

TABLE OF CONTENTS

- the fact of the common directorship, office or financial interest is not known to the director or officer at the time the transaction is brought to the board of directors for action; or
- the transaction was fair to the Company at the time it is authorized or approved.

Control Share Acquisition Provisions

Nevada law precludes an acquirer of the shares of a Nevada corporation who crosses one of three ownership thresholds (20%, 33 1/3% or 50%) from obtaining voting rights with respect to those shares unless the disinterested holders of a majority of the shares of the Company held by disinterested stockholders vote to accord voting power to those shares. Nevada permits a corporation to opt out of the application of these control share acquisition provisions by so providing in the articles of incorporation or bylaws. The Company has opted out of the application of these control share acquisition provisions in its bylaws, as amended.

Combinations with Interested Stockholders

Under Nevada law, except under certain circumstances, a corporation is not permitted to engage in a business combination with any interested stockholder for a period of two years following the date such stockholder became an interested stockholder. An interested stockholder is a person or entity who owns 10% or more of the outstanding shares of voting stock. Nevada permits a corporation to opt out of the application of these business combination provisions by so providing in the articles of incorporation. The Company did not opt out of the application of these business combination provisions in its articles of incorporation, as amended.

Stockholder Rights Agreement

On March 8, 2016, the Company entered into a Rights Agreement (the Rights Agreement) between the Company and Action Stock Transfer Corp., as Rights Agent. Pursuant to the Rights Agreement, the Company declared a dividend distribution of one Preferred Share Purchase Right (a Right) for each outstanding share of our common stock, par value \$0.01, in the manner described below. The board of directors set the payment date for the distribution of the Rights as March 8, 2016, and the Rights were distributed to our shareholders of record on that date. The Rights Agreement also provides that Rights are issued with respect to any shares of our common stock that are newly issued after March 8, 2016, such as with respect to the Company's underwritten public offering in February 2018. The description and terms of the Rights are set forth in the Rights Agreement.

Rights Initially Not Exercisable. The Rights are not exercisable until a Distribution Date (as defined in the Rights Agreement). Until a Right is exercised, the holder thereof, as such, has no rights as a shareholder of the Company, including, without limitation, the right to vote or to receive dividends.

Separation and Distribution of Rights. The Rights are to be evidenced by the certificates for shares of common stock registered in the names of the holders thereof, and not by separate rights certificates until the earlier to occur of (i) the close of business on the tenth business day following a public announcement that an Acquiring Person (as defined in the Rights Agreement) has acquired a Combined Ownership (as defined in the Rights Agreement) of 20% or more of the outstanding shares of the common stock or (ii) the close of business on the tenth business day (or such later date as may be determined by action of the board of directors prior to such time as any person or group of affiliated or associated persons becomes an Acquiring Person) after the date that a tender or exchange offer or intention to commence a tender or exchange offer by any person is first published, announced, sent or given within the meaning of Rule 14d-4(A) under the Securities Exchange Act of 1934, as amended, the consummation of which would result in any person having Combined Ownership of 20% or more of the outstanding shares of the common stock.

Transfer Agent

The transfer agent and registrar for the Company's common stock is Action Stock Transfer Corp.

6

TABLE OF CONTENTS

DESCRIPTION OF PREFERRED STOCK

General

This section of the prospectus describes the material terms and provisions of our preferred stock. When we offer to sell or otherwise issue shares of our preferred stock, we will describe the specific terms of the offering and the shares in a supplement to this prospectus. The prospectus supplement will also indicate whether the terms and provisions described in this prospectus apply to the particular series of preferred stock. This summary does not purport to be exhaustive and is qualified in its entirety by reference to our articles of incorporation, as amended, our bylaws, as amended, and the applicable provisions of Nevada law.

Our authorized capital stock includes 10,000,000 shares of our preferred stock, par value \$0.01 per share. Under our Articles of Incorporation, as amended, we may issue shares of preferred stock in one or more series, as may be determined by our board of directors or a duly authorized committee. Our board of directors or a committee thereof also may establish, from time to time, the number of shares to be included in each series and may fix the designation, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereof, and may increase or decrease the number of shares of any series without any further vote or action by the stockholders.

Our board of directors is authorized to determine or fix from time to time by resolution the following terms for each series of preferred stock, which will be described in a prospectus supplement:

- the distinctive serial designation of such series and the number of shares to constitute such series;
- the class or voting rights, if any;
- the dividend rate;
- whether dividends are cumulative and, if so, the date from which dividends cumulate;
- the payment date for dividends;
- redemption rights, the applicable redemption prices and such other conditions of redemption;
- amounts payable to holders on our liquidation, dissolution or winding up;
- the amount of the sinking fund, if any;
- whether the shares will be convertible or exchangeable into other equity securities, and, if so, the prices and terms of conversion and such other terms and conditions of such conversion or exchange; and
- any other voting powers, designations, preferences, limitations, restrictions, and relative rights.

The preferred stock will be, when issued, fully paid and non-assessable. Holders of preferred stock will not have any preemptive or subscription rights to acquire more stock of the Company.

The transfer agent, registrar, dividend disbursing agent and redemption agent for shares of each series of preferred stock will be named in the prospectus supplement relating to such series.

The rights of holders of the preferred stock offered may be adversely affected by the rights of holders of any shares of preferred stock that may be issued in the future. The board of directors may cause shares of preferred stock to be issued in public or private transactions for any proper corporate purpose. Examples of proper corporate purposes include issuances to obtain additional financing in connection with acquisitions or otherwise, and issuances to our officers, directors and employees pursuant to benefit plans or otherwise.

Rank

Unless otherwise specified in the prospectus supplement relating to the shares of any series of preferred stock, such shares will rank on an equal basis with each other series of preferred stock and prior to the common stock as to

dividends and distributions of assets.

Dividends

The holders of each series of preferred stock will be entitled to receive cash dividends if declared by our board of directors out of funds we can legally use for payment. The prospectus supplement will indicate the dividend rates and the dates on which we will pay dividends as to each series of preferred stock. The rates may be fixed or

7

TABLE OF CONTENTS

variable or both. If the dividend rate is variable, the formula used to determine the dividend rate will be described in the prospectus supplement. We will pay dividends to the holders of record of each series of preferred stock as they appear on the record dates fixed by our board of directors.

Conversion or Exchange

The applicable prospectus supplement for any series of preferred stock will state the terms, if any, on which shares of that series are convertible or exchangeable into shares of our common stock or another series of our preferred stock. The terms of any such conversion or exchange and any such preferred stock will be described in the prospectus supplement relating to such series of preferred stock.

Redemption

If so specified in the applicable prospectus supplement, a series of preferred stock may be redeemable at any time, in whole or in part, at our option or at the option of the holder thereof. It also may be mandatorily redeemed subject to a mandatory redemption.

Unless we default in the payment of the redemption price, dividends will cease to accrue after the redemption date on shares of preferred stock called for redemption and all rights of holders of such shares will terminate, except for the right to receive the redemption price.

Liquidation Preference

Upon any voluntary or involuntary liquidation, dissolution or winding up of the Company, holders of each series of preferred stock will be entitled to receive distributions upon liquidation in the amount set forth in the prospectus supplement relating to such series of preferred stock. Such distributions will be made before any distribution is made on common stock or on any other securities ranking junior to the preferred stock with respect to liquidation.

If the liquidation amounts payable relating to the preferred stock of any series and any other securities ranking on a parity regarding liquidation rights are not paid in full, the holders of the preferred stock of such series and such other securities will share in any such distribution of our available assets on a ratable basis in proportion to the full liquidation preferences. Holders of such series of preferred stock will not be entitled to any other amounts from us after they have received their full liquidation preference.

Voting Rights

The holders of shares of preferred stock will have no voting rights, except as otherwise stated in the prospectus supplement and the certificate of designation establishing such series, or as required by applicable law.

TABLE OF CONTENTS

DESCRIPTION OF WARRANTS

In this section, we describe the general terms and provisions of the warrants for the purchase of preferred stock or common stock that we may issue. Warrants issued pursuant to this prospectus may be issued independently or together with any preferred stock or common stock. Warrants sold with other securities may be attached to or separate from the other securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent who will be specified in the warrant agreement and in the prospectus supplement. The warrant agent will act solely as our agent in connection with the warrants of that series and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

This summary of some of the terms and other provisions of the warrants that may be issued is not complete and is qualified in its entirety by reference to the applicable warrant agreement and related warrant certificate and the prospectus supplement, which both will be filed with the SEC. You should refer to this prospectus, the prospectus supplement, the free writing prospectus, and the warrant agreement, including the forms of securities warrant certificate representing the securities warrants, relating to the specific warrants that we may offer for the complete terms of the warrant agreement and the warrants. For more information on how you can obtain copies of the applicable warrant agreement, if we offer warrants, see [Where You Can Find More Information](#). We urge you to read the applicable warrant agreement and the applicable prospectus supplement and any other offering material in their entirety.

The applicable prospectus supplement related to an issuance of warrants will describe the following terms, where applicable, of the warrants in respect of which this prospectus is being delivered:

- the title of the warrants;
- the aggregate number of the warrants;
- the price or prices at which the warrants will be issued;
- the currency or currencies (including composite currencies) in which the price or prices of the warrants may be payable;
- the designation, amount and terms of the offered securities purchasable upon exercise of the warrants;
- if applicable, the date on and after which the warrants and the offered securities purchasable upon exercise of the warrants will be separately transferable;
- the terms of the securities purchasable upon exercise of such warrants and the procedures and conditions relating to the exercise of such warrants;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;
- the price or prices at which and currency or currencies in which the offered securities purchasable upon exercise of the warrants may be purchased;
- the date on which the right to exercise the warrants shall commence and the date on which the right shall expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any; and
- any other material terms of the warrants.

The prospectus supplement relating to any warrants to purchase equity securities may also include, if applicable, a discussion of certain U.S. federal income tax and ERISA considerations.

Each warrant will entitle its holder to purchase the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement and warrant agreement.

TABLE OF CONTENTS

After the close of business on the expiration date, unexercised warrants will become void. We will specify the place or places where, and the manner in which, warrants may be exercised in the applicable prospectus supplement.

Upon receipt of payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement or free writing prospectus, we will, as soon as practicable, forward the purchased securities. If less than all of the warrants represented by the warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants.

Prior to the exercise of any warrants to purchase preferred stock or common stock, holders of the warrants will not have any of the rights of holders of the preferred stock or common stock purchasable upon exercise, including, the right to vote or to receive any payments of dividends on the preferred stock or common stock purchasable upon exercise.

DESCRIPTION OF UNITS

In this section, we describe the general terms and provisions of the units that we may offer. We may issue units consisting of one or more of the securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date.

The applicable prospectus supplement will specify the following terms of any units in respect of which this prospectus is being delivered:

- the terms of the units and of any of the common stock, preferred stock and warrants comprising the units, including whether and under what circumstances the units may be traded separately;
- a description of the terms of any unit agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units or the securities comprising those units; and
- whether the units will be issued fully registered or in global form.

The description in the applicable prospectus supplement and other offering material of any units we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable unit agreement, which will be filed with the SEC if we offer units. For more information on how you can obtain copies of the applicable unit agreement if we offer units, see [Where You Can Find More Information](#). We urge you to read the applicable unit agreement and the applicable prospectus supplement and any other offering material in their entirety.

TABLE OF CONTENTS

PLAN OF DISTRIBUTION

We may sell the securities described in this prospectus to or through one or more agents, underwriters, dealers or directly to purchasers on a continuous or delayed basis.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time, at market prices prevailing at the times of sale, at prices related to such prevailing market prices or at negotiated prices.

Each time that we use this prospectus to sell our securities, we will also provide a prospectus supplement. For each series of securities, the applicable prospectus supplement will set forth the terms of the offering including:

- the public offering price;
- the name or names of any underwriters, dealers or agents;
- the purchase price of the securities;
- the proceeds from the sale of the securities to us;
- any underwriting discounts, agency fees, or other compensation payable to underwriters or agents;
- any discounts or concessions allowed or reallowed or repaid to dealers; and
- the securities exchanges on which the securities will be listed, if any.

If we use underwriters in the sale of securities, the securities will be acquired by the underwriters for their own account. The underwriters may then resell the securities in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale or thereafter. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters. The obligations of the underwriters to purchase the securities will be subject to certain conditions. The underwriters will be obligated to purchase all the securities offered if they purchase any securities. The public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time. If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement used by the underwriter to make resales of the securities to the public.

If we use dealers in the sale of securities, we will sell securities to such dealers as principals. The dealers may then resell the securities to the public at varying prices to be determined by such dealers at the time of resale. We may solicit offers to purchase the securities directly, and we may sell the securities directly to institutional or other investors, who may be deemed underwriters within the meaning of the Securities Act with respect to any resales of those securities. The terms of these sales will be described in the applicable prospectus supplement. If we use agents in the sale of securities, unless otherwise indicated in the prospectus supplement, they will use their reasonable best efforts to solicit purchases for the period of their appointment. Unless otherwise indicated in a prospectus supplement, if we sell directly, no underwriters, dealers or agents would be involved. We will not make an offer of securities in any jurisdiction that does not permit such an offer.

We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover overallocments, if any, in connection with the distribution. Any underwriter may engage in overallocation, stabilizing transactions, short covering transactions and penalty bids in accordance with SEC orders, rules and regulations and applicable law. To the extent permitted by applicable law and SEC orders, rules and regulations, an overallocation involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. To the extent permitted by applicable law and SEC orders, rules and regulations, short covering transactions involve purchases of the common stock in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the common stock originally sold by

the dealer is purchased in a covering transaction to cover short positions. Those activities may cause the price of the common stock to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

Any underwriters who are qualified market makers on the Nasdaq Capital Market may engage in passive market making transactions in the common stock on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or

TABLE OF CONTENTS

sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

Underwriters, dealers and agents that participate in any distribution of securities may be deemed to be underwriters as defined in the Securities Act. Any discounts, commissions or profit they receive when they resell the securities may be treated as underwriting discounts and commissions under the Securities Act of 1933, as amended. Only underwriters named in the prospectus supplement are underwriters of the securities offered in the prospectus supplement. We may have agreements with underwriters, dealers and agents to indemnify them against certain civil liabilities, including certain liabilities under the Securities Act, or to contribute with respect to payments that they may be required to make.

We may authorize underwriters, dealers or agents to solicit offers from certain institutions whereby the institution contractually agrees to purchase the securities from us on a future date at a specific price. This type of contract may be made only with institutions that we specifically approve. Such institutions could include banks, insurance companies, pension funds, investment companies and educational and charitable institutions. The underwriters, dealers or agents will not be responsible for the validity or performance of these contracts.

Each series of securities will be a new issue of securities and will have no established trading market, other than our common stock, which is listed on the Nasdaq Capital Market. Unless otherwise specified in the applicable prospectus supplement, the securities will not be listed on any exchange. It has not presently been established whether the underwriters, if any, of the securities will make a market in the securities. If the underwriters make a market in the securities, such market making may be discontinued at any time without notice. No assurance can be given as to the liquidity of the trading market for the securities.

Agents, dealers and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents, dealers or underwriters may be required to make in respect thereof. Agents, dealers or underwriters may be customers of, engage in transactions with, or perform services for us and our subsidiaries in the ordinary course of business.

TABLE OF CONTENTS

LEGAL MATTERS

Certain matters concerning this prospectus and future offerings will be passed upon for us by Haynes and Boone, LLP, Denver, Colorado. As of the date of this prospectus, certain partners of Haynes and Boone, LLP held 29,497 shares of Common Stock.

The validity of the securities offered hereby has been passed upon for us by Ballard Spahr LLP.

Additional legal matters may be passed upon for us or any underwriters or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements and schedule as of December 31, 2017 and 2016 and for the years then ended, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2017 incorporated by reference in this Prospectus have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is a part of a registration statement on Form S-3 filed by us with the SEC under the Securities Act.

This prospectus does not contain all the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the securities offered by this prospectus, reference is made to the registration statement. Statements contained in this prospectus concerning the provisions of such documents are necessarily summaries of such documents and each such statement is qualified in its entirety by reference to the copy of the applicable document filed with the SEC.

We file periodic reports, proxy statements and other information with the SEC. Our filings with the SEC are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Our filings with the SEC are also available to the public on our website at www.chembio.com, as well as through document retrieval services. You may read and copy any periodic reports, proxy statements or other information we file at the SEC's public reference room in Washington, D.C., which is located at the following address: Public Reference Room, 100 F Street N.E., Washington, D.C. 20549. You can request copies of these documents, upon payment of a duplicating fee, by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the SEC's public reference rooms.

We incorporate by reference into this prospectus the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus and information that we file subsequently with the SEC will automatically update this prospectus. We incorporate by reference the documents listed below and any filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act, after the initial filing of the registration statement that contains this prospectus and prior to the time that we sell all the securities offered by this prospectus, provided, however, that we are not incorporating any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including any Compensation Committee report and performance graph and including information furnished under either Item 2.02 or Item 7.01 of any Current Report on Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K:

(a) Our Annual Report on Form 10-K for the year ended December 31, 2017, filed on March 8, 2018.

(b) Our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 9, 2018, and for the quarter ended June 30, 2018, filed with the SEC on August 8, 2018.

(c) Our Current Reports on Form 8-K filed on January 8, 2019; February 8, 2018; February 9, 2018; February 13, 2018; February 27, 2018; April 26, 2018; April 27, 2018; May 9, 2018; May 16, 2018; May 25, 2018; May 30, 2018; July 19, 2018; July 30, 2018; August 8, 2018; August 13, 2018; September 17, 2018.

TABLE OF CONTENTS

- (d) Portions of our Proxy Statement for the Annual Meeting of Stockholders, held on May 10, 2018, that have been incorporated by reference in our 2017 Annual Report on Form 10-K.
- (e) The description of our common stock contained in our Form 8-A as filed with the SEC on June 6, 2012 pursuant to Sections 12(b) and 12(g) of the Exchange Act.
- (f) The description of our Preferred Share Purchase Rights contained in our Form 8-A filed on March 8, 2016, including any amendment to that form that we may file in the future for the purpose of updating the description of our Preferred Share Purchase Rights.

You may request a copy of these filings (other than an exhibit to a filing unless that exhibit is specifically incorporated by reference into that filing) at no cost, by writing to or telephoning us at the following address and telephone number:

Chembio Diagnostics, Inc.
3661 Horseblock Road
Medford, New York 11763
(631) 924-1135
ATTN: Investor Relations

You should rely only on the information contained or incorporated by reference in this prospectus and the applicable prospectus supplement. We have not authorized anyone else to provide you with additional or different information. We may only use this prospectus to sell securities if it is accompanied by a prospectus supplement or free writing prospectus. We are only offering these securities in states where the offer is permitted. You should not assume that the information in this prospectus or the applicable prospectus supplement is accurate as of any date other than the dates on the front of those documents.

TABLE OF CONTENTS

\$25,000,000
Common Stock

PROSPECTUS SUPPLEMENT

Joint Book-Running Managers

Canaccord Genuity BTIG

Lead Manager

Craig-Hallum Capital Group

October , 2018